Sustainable Value Co-Creation in Welfare Service Ecosystems

Transforming temporary collaboration projects into permanent resource integration

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Preface

Welcome to the QUIS18 proceedings book on the theme of "Re-imagining service to enhance human life and society," which is a fruit of the successful QUIS18 conference held from June 20 to 23 in Hanoi, Vietnam in 2023. This book consists of six categories: Service Design and Innovation, Customer Experience and Journey Mapping, Technology-Enabled Service Delivery, Service Innovation and Ecosystems, Marketing Strategies for Customer Engagement, and Service Quality and Operations Optimization. This compilation of papers brings together a diverse range of research and insights in the field of service management.

In an ever-evolving world of business, organizations today face the challenge of delivering exceptional service experiences to meet the ever-growing expectations of customers. This book aims to address this challenge by presenting cutting-edge research and practical applications in key areas that shape the service landscape.

The first category, Service Design and Innovation, explores the principles and practices of service design thinking, emphasizing user-centered approaches, service blueprinting, and the integration of emerging technologies. Through a collection of case studies, readers will gain valuable insights into successful service design projects across various sectors, highlighting the impact of innovation on business performance.

Customer Experience and Journey Mapping, the second category, delves into the emotional dimensions of customer experiences and provides frameworks for mapping customer journeys. The papers in this section shed light on the challenges and opportunities presented by digital interactions, personalization, and social media engagement and provide strategies for managing customer touchpoints to create positive and memorable interactions.

Technology-Enabled Service Delivery, the third category, explores the role of technology, such as artificial intelligence, mobile applications, and digital transformation, in enhancing service delivery and customer experiences. The papers in this section delve into chatbots, machine learning algorithms, and data analytics, emphasizing their implications for organizations, employees, and customers in this rapidly evolving technological landscape.

Service Innovation and Ecosystems, the fourth category, highlights the importance of business model and process redesign in driving organizational success. By examining lean thinking, service automation, and collaboration, this section showcases the transformative potential of innovation and ecosystem thinking, urging organizations to embrace new models and practices to stay competitive.

The fifth category, Marketing Strategies for Customer Engagement, provides insights into effective marketing strategies that foster customer engagement and loyalty. The papers explore the impact of social media, storytelling, content marketing, and customer relationship management systems while addressing ethical considerations associated with customer data usage.

Finally, the sixth category, Service Quality and Operations Optimization, focuses on service quality dimensions, measurement scales, and strategies for improving service operations. The papers in this section delve into service recovery, continuous improvement methodologies, service guarantees, and pricing strategies while also highlighting the impact of technology-driven service innovation on operational efficiency.

The papers presented in this conference proceedings book showcase the latest advancements and emerging trends in service management. They offer valuable insights for academics, researchers, and practitioners seeking to deepen their understanding of service design, customer experience, technology-enabled service delivery, service innovation, marketing strategies, and service quality optimization.

We extend our heartfelt gratitude to the authors who have contributed their research and expertise to this publication. We hope that the papers collected in this book inspire further exploration, spark new ideas, and stimulate meaningful conversations and collaborations among scholars and professionals in the field of service management.

We would also like to express our appreciation to the conference organizers, reviewers, and editorial team who have worked diligently to ensure the quality and relevance of the selected papers. Their dedication has been instrumental in bringing together this valuable resource.

We hope that this conference proceedings book serves as a catalyst for advancements in service management and contributes to the development of innovative practices that create exceptional service experiences. May the knowledge and insights shared within these pages guide organizations toward the path of success in a rapidly changing business landscape.

Editorial Team

Paper Categorization

1. Service Design and Innovation (20 papers):

This category delves into the principles and practices of service design thinking, methods, and their impact on business performance. The papers showcase a range of case studies that highlight successful innovative service design projects across various sectors, including healthcare, finance, and hospitality. They discuss the importance of adopting a user-centered approach to service design, emphasizing empathy, co-creation, and iterative prototyping. The role of service blueprinting in mapping and optimizing service processes is explored, along with strategies for fostering a culture of service innovation within organizations. Furthermore, the papers shed light on the significance of integrating emerging technologies such as Internet of Things (IoT), augmented reality, and virtual reality in creating immersive service experiences.

2. Customer Experience and Journey Mapping (21 papers):

This category focuses on customer experience management and journey mapping as powerful tools for understanding and improving customer interactions. The papers delve into the emotional dimensions of customer experiences, examining the role of affective factors in shaping customer perceptions and behaviors. They explore various methods and frameworks for mapping customer journeys, including both qualitative and quantitative approaches. Additionally, the papers highlight the challenges and opportunities presented by digital interactions, personalization, and social media engagement in enhancing customer experiences. Strategies for managing customer touchpoints across multiple channels are discussed, along with the role of design thinking in driving customer-centric innovation. Overall, the papers in this category contribute to a deeper understanding of the factors that influence customer experiences and provide valuable insights for organizations seeking to create positive and memorable customer interactions.

3. Technology-Enabled Service Delivery (17 papers):

This category explores the ways in which technology, particularly artificial intelligence, mobile applications, and digital transformation, enables service delivery and enhances customer experiences. The papers examine the role of chatbots and virtual assistants in providing personalized and efficient customer support. They also delve into the use of machine learning algorithms for personalized recommendations, enhancing customer engagement, and improving decision-making processes. Mobile applications are highlighted as a means of creating seamless and convenient service experiences, enabling customers to access services anytime and anywhere. Furthermore, the papers discuss the critical role of data analytics in understanding customer behavior, anticipating their needs, and making data-driven service decisions. The implications of technology-enabled service delivery for organizations, employees, and customers are explored, shedding light on both the opportunities and challenges presented by this rapidly evolving landscape.

4. Service Innovation and Ecosystems (18 papers):

This category focuses on service innovation and the importance of business model and process redesign in driving organizational success. The papers highlight the significance of lean thinking and service automation in improving efficiency and reducing waste in service operations. They also emphasize the role of service ecosystems and collaboration in fostering innovation, exploring the dynamics of value co-creation among multiple stakeholders. The concept of open innovation is discussed, along with strategies for managing innovation networks and leveraging external knowledge sources. Moreover, the papers shed light on the application of service design principles in the context of smart cities, where innovative services and technologies are integrated to enhance urban living. Overall, this category provides insights into the transformative potential of service innovation and ecosystem thinking, urging organizations to embrace new models and practices to stay competitive in a rapidly changing business landscape.

5. Marketing Strategies for Customer Engagement (10 papers):

This category examines marketing strategies aimed at understanding customer needs, preferences, and segmentation to drive customer engagement and loyalty. The papers explore the impact of social media on branding, reputation management, and customer relationships. They highlight the importance of building authentic and meaningful connections with customers through storytelling, content marketing, and influencer marketing. The role of customer relationship management (CRM) systems in delivering personalized experiences and enhancing customer retention is discussed, along with strategies for leveraging customer data to drive targeted marketing campaigns. The papers also delve into the ethical considerations associated with customer data collection and usage, emphasizing the need for transparency and trust in customer relationships. Overall, this category provides valuable insights into effective marketing strategies that foster customer engagement and loyalty in an increasingly digital and interconnected world.

6. Service Quality and Operations Optimization (11 papers):

This category focuses on service quality dimensions, measurement scales, and strategies for improving service operations. The papers examine the various dimensions of service quality, including reliability, responsiveness, assurance, empathy, and tangibles, and explore different measurement scales and frameworks for assessing and monitoring service quality. They delve into strategies for service recovery, handling customer complaints, and turning negative experiences into positive ones. Continuous improvement methodologies, such as Lean Six Sigma and Total Quality Management, are discussed in the context of service operations optimization. The papers also shed light on the role of service guarantees and pricing strategies in managing customer expectations and enhancing perceived value. Additionally, the impact of technology-driven service innovation on service operations is explored, highlighting the potential of automation, robotics, and artificial intelligence in streamlining processes and improving operational efficiency. Overall, this category offers valuable insights into the key determinants of service quality and strategies for optimizing service operations to deliver exceptional customer experiences.

1. "2903 - Volunteer Service Participation in the Covid-19 situation actor distance and procrastination behavior view" - **Service Innovation and Ecosystems**
2. "7532 - Consumer Acceptance of Online Grocery Shopping During Covid-19 Pandemic" - **Customer Experience and Journey Mapping**
3. "4067 - The Impact of the Government Support System related to COVID-19 on Innovation Efficiency in the Service Industry" - **Service Innovation and Ecosystems**
4. "3591 - Understanding the Impact of COVID-19 on Well-being in the Tourism Sector: A Bibliometric Analysis" - **Customer Experience and Journey Mapping**
5. "1649 - Post-covid-19 service management strategies: The need for access to B2B2C customer experience" - **Service Design and Innovation**
6. "4826 - Spillover Effects of Virtual Tours on Tourism in China during the Pandemic Age" - **Technology-Enabled Service Delivery**
7. "4989 - The Effect of Designers' Participation on Industrial Design Performance in Product Development Stage" - **Service Design and Innovation**
8. "4353 - From Access to Ownership: A Study of E-Scooter Service Customers" - **Customer Experience and Journey Mapping**
9. "7876 - What is the most important among quantity, quality, and timeliness" - **Service Quality and Operations Optimization**
10. "3118 - Drivers of firm's co-creation with users" - **Service Innovation and Ecosystems**
11. "8352 - Impact of the relational motive to co-create value on service quality" - **Service Quality and Operations Optimization**
12. "5292 - Enabling value cocreation in caregivers through Transformative Service Initiatives" - **Service Design and Innovation**
13. "3987 - Sequential Perspective to Service Scripting" - **Service Design and Innovation**

14. "1525 - An Approach for Well-Being-Oriented Self-Career Management Skills" - **Service Innovation and Ecosystems**

15. "1969 - The Effects of Perceived Organizational Safety and Health Cultures on Frontline Service Employees' Work Engagement and Turnover Intention" - **Service Quality and Operations Optimization**

16. "4659 - Digital Service Transformation in Healthcare" - **Technology-Enabled Service Delivery**

17. "4590 - Orchestrating Meso Level Actor Engagement" - **Service Innovation and Ecosystems**

18. "4292 - A TSR framework for investigating vulnerability contexts" - **Service Innovation and Ecosystems**

19. "4275 - Transformative value and actors co-creation" - **Service Innovation and Ecosystems**

20. "4167 - Richard Metters - Determinants of Operations Management Faculty Salary" - **Service Quality and Operations Optimization**

21. "7834 - Hồ Ngọc Lợi - Using Standardized Patients to Assess Communication Skills of Medical Students Year 2" - **Service Quality and Operations Optimization**

22. "8455 - Stefan Mang and Christina Haderer - The increased importance of digital servitization for manufacturers – a central European comparison" - **Technology-Enabled Service Delivery**

23. "7995 - Phuong Dao - Adaptations to service design due to customer behavioral changes during the Covid pandemic" - **Service Design and Innovation**

24. "7612 - Hung Dao, Aristeidis Theotokis and Josko Brakus - Like a Robot The Effect of Political Ideology on Consumer Response to Employee Agency Control" - **Customer Experience and Journey Mapping**

25. "7505 - Benjamin Biesinger, Kerstin Sayer and Karsten Hadwich - The role of employees' identification with their own company" - **Service Quality and Operations Optimization**

26. "7218 - Samuel Kondert and Christian Brock - Old wine in new bottles An empirical investigation of sport consumer engagement in non-profit sport clubs" - **Marketing Strategies for Customer Engagement**

27. "9145 - Circularity and Circular Economy" - **Service Innovation and Ecosystems**

28. "7802 - Balancing Spotlight Between For-Profit and Non-Profit Market Orientation for the Service Sector" - **Service Innovation and Ecosystems**

29. "1285 - Silver Economy: A Research Agenda for Service Management" - **Service Design and Innovation**
30. "8586 - Designing and Orchestrating Large-Scale, Complex, and Challenging Service Ecosystems for Transformative Impact on Society" - **Service Innovation and Ecosystems**
31. "7800 - The Dark Side of Technology: Financial Literacy and Consumer Well-being in the Fintech Era" - **Technology-Enabled Service Delivery**
32. "4790 - All Welcome in Socially Sustainable Service: Social Inclusion of Senior Audiences in Performing Arts" - **Service Design and Innovation**
33. "4409 - Optimizing Donation Amount Options in Crowdfunding Platforms" - **Marketing Strategies for Customer Engagement**
34. "3778 - Sustainable Value Co-Creation in Welfare Service Ecosystems" - **Service Innovation and Ecosystems**
35. "3237 - Understanding Sustainable Service Ecosystems" - **Service Innovation and Ecosystems**
36. "5848 - Improving Hotel Operational Efficiency through ESG Investment" - **Service Quality and Operations Optimization**
37. "4384 - Transforming Service Ethics through Service Responsibility" - **Service Innovation and Ecosystems**
38. "4268 - Human Rights in Service Ecosystems" - **Service Innovation and Ecosystems**
39. "8034 - Transformative impacts on the transformers botanic garden volunteers in community groups" - **Service Innovation and Ecosystems**
40. "6581 - The relationship between corporate social responsibility and customer trust_The effects of customer commitment and corporate image" - **Marketing Strategies for Customer Engagement**
41. "9925 - Hospitality service interaction" - **Service Quality and Operations Optimization**
42. "9793 - Sustainable service ecosystem for a transformative change" - **Service Innovation and Ecosystems**
43. "9706 - Elucidation of an effective customer journey design" - **Customer Experience and Journey Mapping**
44. "6928 - Sustainable Communities The Role of Collaboration in Tackling the Energy" - **Service Innovation and Ecosystems**
45. "6475 - Do perceived switching costs influence customer dysfunctional behavior" - **Customer Experience and Journey Mapping**

46. "8107 - Efficiency in the cath lab Pursuing value-based improvements following a sociotechnical approach" - **Service Quality and Operations Optimization**
47. "3482 - Supporting climate-friendly consumer decisions A utility-based decision support approach" - **Service Innovation and Ecosystems**
48. "3070 - Well-being in service research review and foundational premises" - **Service Design and Innovation**
49. "3898 - Factors that shape customer satisfaction in medical tourism" - **Customer Experience and Journey Mapping**
50. "3890 - Determinants of fast fashion purchase intention" - **Marketing Strategies for Customer Engagement**
51. "3617-Customer experience centric transformation in business to business (B2B) firms" - **Service Design and Innovation**
52. "2724-Factors Influencing Green Hotel Consumption Behavior in Vietnam_The Roles of Environmental Concern and Knowledge, Green Perceived Value, and Green Trust" - **Marketing Strategies for Customer Engagement**
53. "1415-Corporate Sociopolitical Activism Strategies and their Effects on Consumer Attitudes" - **Marketing Strategies for Customer Engagement**
54. "482-Transformative customer experience journey among higher education exchange students" - **Customer Experience and Journey Mapping**
55. "260-Customer mindfulness and energy for co-creating well-being through transformative services" - **Service Design and Innovation**
56. "9555-Managing customer experience measurement - dimensions and effects" - **Customer Experience and Journey Mapping**
57. "9913-Exploring Customer Dignity in Service Encounters" - **Service Quality and Operations Optimization**
58. "8968-Livestream vs. Pre-recorded – Exploring Customer Behavior towards Digital Social" - **Technology-Enabled Service Delivery**
59. "6707-Determinants of student satisfaction in teacher competencies in the International Studies Bachelor Programme" - **Service Quality and Operations Optimization**
60. "6106-Staff Experience in the Frontline" - **Service Quality and Operations Optimization**
61. "6055-Get up, stand up A conceptualization of unacceptable services as counter-hegemonic practices" - **Service Design and Innovation**
62. "8895 - Can robotic agents serve customers like a human? A meta-analysis on customer responses to robotic vs. human agents" - **Technology-Enabled Service Delivery**

63. "7479 - Service Innovation Research: A bibliometric analysis using VOSviewer" - **Service Innovation and Ecosystems**

64. "4923 - Toward a Framework for Smart Customer Experience Based on Experience-Evaluate-Engage Iterations Using Customer Experience Data" - **Customer Experience and Journey Mapping**

65. "4203 - A Method Engineering Approach for Designing Context-aware Services" - **Service Design and Innovation**

66. "4227 - Seeking synergy in gastronomy innovation between industry and academia – an illustration within Culinary Arts Event Management" - **Service Innovation and Ecosystems**

67. "3862 - Machine-as-a-Service in Manufacturing Industries" - **Technology-Enabled Service Delivery**

68. "2229 - Examining the Antecedents and Consequences of Game Engagement in Esports" - **Customer Experience and Journey Mapping**

69. "2838 - Smart retail technologies and their impact on firms' performance" - **Technology-Enabled Service Delivery**

70. "2494 - Virtual Brand Experience and Metaphor of Brand Personalities across Reality-Fantasy Continuum" - **Customer Experience and Journey Mapping**

71. "2037 - Comply or resist: The use of service robots in biosecurity" - **Technology-Enabled Service Delivery**

72. "697 - Towards an Approach of Value-based Development of AI-based Business Models – Considering AI Ethics in the Innovation Process" - **Service Innovation and Ecosystems**

73. "231 - Service-Profit Chain in the Digital Age Digital Mindset as a Key Moderator" - **Service Design and Innovation**

74. "209 - Exploring the Use of Immersive Technology in Nursing Practice case study in Thailand" - **Technology-Enabled Service Delivery**

75. "192 - Understanding FLE–Robot–Customer Value Co-creation Orientations" - **Service Design and Innovation**

76. "5448 - Hustle behavior and employee well-being" - **Service Quality and Operations Optimization**

77. "5335 - Service robot acceptance and customer satisfaction" - **Customer Experience and Journey Mapping**

78. "5135 - The Paradox between the perceived Intended and Unintended Consequences of Using Digital Health Technologies" - **Technology-Enabled Service Delivery**

79. "5038 - Enhanced service experience design through NFT technology" - **Technology-Enabled Service Delivery**

80. "4917 - Designing data-driven service with data blueprinting" - **Service Design and Innovation**

81. "4479 - Towards Autonomous Stores: How varying degrees of in-store automation impact retail patronage" - **Technology-Enabled Service Delivery**

82. "2359 - Effects of Hotel Choice References on Revisit Intention" - **Customer Experience and Journey Mapping**

83. “Do Managerial Communications Improve Customer Satisfaction and eWOM? The Moderating Effect of Response Authenticity” - **Marketing Strategies for Customer Engagement**

84. “3304 - Exploring Trends in Self-service Innovation to Boost Social Engagement among the Elderly from 2000 to 2022” - **Service Innovation and Ecosystems**

85. “4790 - All welcome in socially sustainable service: Social inclusion of senior audiences in performing arts” - **Service Innovation and Ecosystems**

86. “1649 - Post-covid-19 service management strategies: The need for access to B2B2C customer experience - **Customer Experience and Journey Mapping**

87. “4227 - Seeking synergy in gastronomy innovation between industry and academia – an illustration within Culinary Arts Event Management” - **Service Quality and Operations Optimization**

88. “3778 - Sustainable Value Co-Creation in Welfare Service Ecosystems - Transforming Temporary Collaboration Projects into Permanent Resource Integration” - **Service Innovation and Ecosystems**

89. “103 - An examination of online consumer roles in co-creating value: an insight into online gaming communities” - **Customer Experience and Journey Mapping**

90. “6171 - Supercharging the service innovation process with data-driven analytics: A case study with YouTube content creators” - **Service Design and Innovation**

91. “8347 - Customer-centric approach of innovation measurement in B2B: a framework development” - **Service Design and Innovation**

92. “482 - Transformative customer experience journey among higher education exchange students” – **Customer Experience and Journey Mapping**

93. “301 - Strategic Marketing in times of the Service Revolution” - **Service Design and Innovation**

94. ‘9930 - From Survival to Sustainability, A Post-Covid Analysis on Service Supply Chain Adaptability in Emerging Economies” - **Marketing Strategies for Customer Engagement**

95. “8433 - The Role of Corporate Digital Responsibility in AI-enabled Service Design” - **Technology-Enabled Service Delivery**

96. “9479 - Engaging Citizens in Sustainable Energy Transition - A Design Science Research approach” - **Service Design and Innovation**

97. “9931 - Interplay between servitization and platforms: a longitudinal case study” - **Service Innovation and Ecosystems**

98. “9932 - A service ecosystem perspective of supply chain management” - **Service Innovation and Ecosystems**

Paper Summary

1. 2903 - Volunteer Service Participation in the Covid-19 situation actor distance and procrastination behavior view - This paper highlights the importance of resource recovery/creation alongside conservation for well-being during a pandemic, emphasizing the potential of community volunteer activities, and provides insights into shortening social distance and recreating past realities, contributing to Transformative Service Research.
2. 7532 - Consumer Acceptance of Online Grocery Shopping During Covid-19 Pandemic - This study explores the acceptance of online grocery shopping during the Covid-19 pandemic, considering factors such as usability, ease of use, social influence, facilitating conditions, hedonistic values, price values, and habits.
3. 4067 - The Impact of the Government Support System related to COVID-19 on Innovation Efficiency in the Service Industry - Analyzing the relationship between government support systems and innovation efficiency, this study investigates the impact of adopting such systems in response to COVID-19 on the service industry.
4. 3591 - Understanding the Impact of COVID-19 on Well-being in the Tourism Sector: A Bibliometric Analysis - Through a bibliometric analysis, this study identifies key themes regarding the impact of COVID-19 on tourism, aiming to provide insights into travel behavior and perceived well-being during times of travel restrictions and uncertainties.
5. 1649 - Post-covid-19 service management strategies: The need for access to B2B2C customer experience - This paper explores service management strategies in the post-COVID-19 era, emphasizing the importance of B2B2C aspects and resilience-building for service companies in uncertain times.
6. 4826 - Spillover Effects of Virtual Tours on Tourism in China during the Pandemic Age - By analyzing virtual tours on social media and their impact on tourist decisions, this study formulates a mathematical model to understand the spillover effects of online tourism videos on actual travel, highlighting the positive correlation between the number of tourism videos published and the number of tourists.
7. 4989 - The Effect of Designers' Participation on Industrial Design Performance in Product Development Stage - Designer participation in the product development stage has a moderating effect on industrial design performance, measured through hierarchical regression analysis.
8. 4353 - From Access to Ownership: A Study of E-Scooter Service Customers - Customers of access-based services may switch to product ownership for low-cost products due to perceived

benefits of ownership that exceed those of access, as shown through a study of e-scooter rental customers in Sweden.

9. 7876 - What is the most important among quantity, quality, and timeliness - This study evaluates the performance of start-ups using data envelopment analysis and Tobit regression analysis to determine the impact of public data and government policies on the development and commercialization of products and services.
10. 3118 - Drivers of firm's co-creation with users - The study identifies that innovative companies with an orientation towards customization, standardization, and engagement in innovation cooperation activities are more likely to co-create with users, emphasizing the importance of innovation strategy and customer-centric approaches for co-creation.
11. 8352 - Impact of the relational motive to co-create value on service quality - Examining the positive and negative effects of the relational motive to co-create value, the research focuses on improving communication and business knowledge while addressing adverse consequences such as biased judgments, acceptance of bad performance, and blurring of roles between service providers and clients in IT projects.
12. 5292 - Enabling value cocreation in caregivers through Transformative Service Initiatives: Transformative service initiatives can improve informal caregivers' knowledge and understanding but should incorporate additional design features to address latent needs.
13. 3987 - Sequential Perspective to Service Scripting: Investigating the use of verbal scripting in sequential face-to-face encounters and exploring how scripting strategies influence customer perceptions of performance.
14. 1525 - An Approach for Well-Being-Oriented Self-Career Management Skills: A co-creative dialogue approach in a career coaching service promotes well-being-oriented self-career management skills among university students.
15. 1969 - The Effects of Perceived Organizational Safety and Health Cultures on Frontline Service Employees' Work Engagement and Turnover Intention: Organizational health and safety cultures can enhance work engagement and reduce turnover intention among frontline service employees during the pandemic.
16. 4659 - Digital Service Transformation in Healthcare: Examining the role of new digital team capabilities and organizational digital readiness on team efficacy and hospital performance in the English National Healthcare System.
17. 4590 - Orchestrating Meso Level Actor Engagement: Exploring the orchestration of meso-level engagement among interdependent actors in complex service systems.

18. 4292 - A TSR framework for investigating vulnerability contexts: Investigating appropriate methods and protocols for studying vulnerable participants and their contexts in Transformative Service Research.
19. 4275 - Transformative value and actors co-creation: Examining the drivers behind individuals' motivation to participate in volunteering activities and the positive impact on individuals, communities, and the environment.
20. 4167 - Determinants of Operations Management Faculty Salary: Published work in top-tier journals and loyalty through job moves contribute to higher salaries for operations management faculty, while teaching and service awards have no significant impact; female full professors are paid less than male colleagues, even accounting for publications.
21. 7834 - Using Standardized Patients to Assess Communication Skills of Medical Students Year 2: This study examines the competence of standardized patients in assessing communication skills of second-year medical students.
22. 8455 - The increased importance of digital servitization for manufacturers – a central European comparison: This research investigates the growing significance of digital servitization for manufacturers in Central European countries across different industry sectors.
23. 7995 - Adaptations to service design due to customer behavioral changes during the Covid pandemic: This study explores the adaptations to service design in response to customer behavioral changes during the Covid pandemic, focusing on software companies offering digital technologies.
24. 7612 - Like a Robot The Effect of Political Ideology on Consumer Response to Employee Agency Control: This research examines the influence of political ideology on consumer responses to strict employee agency control practices, highlighting differences based on political beliefs.
25. 7505 - The role of employees' identification with their own company: This study investigates how customer-oriented organizational culture affects employees' cooperative behavior, considering the role of employee identification with their own company and customers.
26. 7218 - Samuel Kondert and Christian Brock - Old wine in new bottles An empirical investigation of sport consumer engagement in non-profit sport clubs: This study explores the relationships between team reflexivity, team identification, eudaimonic well-being, and sport consumer engagement in non-profit sport clubs, highlighting the impact on behavioral loyalty and voluntary engagement.

27.9145 - Circularity and Circular Economy - This paper develops a conceptual framework for the transition from a goods-centric perspective to a circular society, encompassing sustainable business practices and societal perspectives.
28.7802 - Balancing Spotlight Between For-Profit and Non-Profit Market Orientation for the Service Sector - This study provides an integrated framework for market orientation in for-profit and non-profit service organizations, highlighting the role of service innovation in bridging the gap between the two sectors.
29.1285 - Silver Economy: A Research Agenda for Service Management - With an aging population, this paper explores the implications of the silver economy, focusing on developing products and services for older people to promote healthy and productive lives.
30.8586 - Designing and Orchestrating Large-Scale, Complex, and Challenging Service Ecosystems for Transformative Impact on Society - This study discusses how digital platforms can enable the orchestration of service ecosystems that promote social innovation and well-being, bridging resource integration and transformative social change.
31.7800 - The Dark Side of Technology: Financial Literacy and Consumer Well-being in the Fintech Era - Examining the negative consequences of Fintech, this study investigates the impact of financial literacy and contextual factors on consumer well-being, aiming to design resilient Fintech services.
32.4790 - All Welcome in Socially Sustainable Service: Social Inclusion of Senior Audiences in Performing Arts - Through a social inclusion perspective, this study addresses the challenges of senior audiences' participation in performing arts, emphasizing the importance of creating inclusive and cohesive environments.
33.4409 - Optimizing Donation Amount Options in Crowdfunding Platforms - This study explores effective pricing strategies for nonprofit fundraising campaigns on crowdfunding platforms, identifying critical factors and ideal price levels for fundraising success.
34.3778 - Sustainable Value Co-Creation in Welfare Service Ecosystems - Discussing the role of user-orientation and shared responsibility in promoting sustainable value co-creation in welfare service ecosystems, this paper emphasizes the need for a user-oriented approach.
35.3237 - Understanding Sustainable Service Ecosystems - This paper aims to understand how organizational activity at the meso level can nurture sustainable service ecosystems that contribute to well-being outcomes, offering a novel framework based on case study data.
36.5848 - Improving Hotel Operational Efficiency through ESG Investment - Examining the impact of Environmental, Social, and Governance (ESG) standards on hotel operational

efficiency, this study suggests that ESG investment can enhance efficiency and serve as a crisis management strategy.

37. 4384 - Transforming Service Ethics through Service Responsibility - This study develops a conceptual framework for transforming service ethics through service responsibility, focusing on well-becoming and the development of norms for resilient and regenerative service systems.

38. 4268 - Human Rights in Service Ecosystems - This study integrates the perspectives of human rights and service ecosystems to examine systemic issues and stakeholder responsibilities, proposing the Serving Human Rights Framework (SHRF) for achieving sustainable development goals.

39. 8034 - Transformative impacts on the transformers botanic garden volunteers in community groups - This research explores value co-creation practices and transformative learning experienced by volunteers in UK Botanic Gardens, expanding the understanding of volunteer well-being outcomes and the transformative charity experience framework.

40. 6581 - The relationship between corporate social responsibility and customer trust_The effects of customer commitment and corporate image - This study investigates the effects of customer commitment and corporate image on the relationship between corporate social responsibility (CSR) and customer trust, highlighting the mediating role of customer commitment and corporate image.

41. 9925 - Hospitality service interaction - The interaction between employees with disabilities (EWDs) and customers during service delivery assists EWDs in building confidence and emphasizes the ethical significance of supporting socially responsible businesses.

42. 9793 - Sustainable service ecosystem for a transformative change - This paper proposes a conceptual framework, the Albergo Diffuso (AD) model, to explore sustainable service ecosystems through transformative collaboration and sustainable value co-creation, contributing to responsible resource integration and service ecosystem design.

43. 9706 - Elucidation of an effective customer journey design - This research develops a theoretical model on effective customer journey design (CJD) in omni-channel services, highlighting its impact on omni-channel service journey quality and customer experience quality, particularly for consumers with high touchpoint frequency.

44. 6928 - Sustainable Communities The Role of Collaboration in Tackling the Energy - This research focuses on sustainable communities (SCs) in Germany, Greece, Italy, and Sweden, exploring how they respond to the energy crisis and emphasizing the role of collaboration in SC development.

45. 6475 - Do perceived switching costs influence customer dysfunctional behavior - This research examines the relationship between perceived switching costs and dysfunctional customer behavior, finding that different switching costs impact customer repurchase intentions and self-determination, leading to increased likelihood of dysfunctional behavior and negative word of mouth.

46. 8107 - Efficiency in the cath lab Pursuing value-based improvements following a sociotechnical approach - This study develops methods to support healthcare managers in analyzing the value-based improvements in cardiac catheterization laboratories, improving efficiency, reducing costs, and enhancing patient care.

47. 3482 - Supporting climate-friendly consumer decisions A utility-based decision support approach - This research explores the effectiveness of a utility-based decision support approach in encouraging climate-friendly consumer behavior by considering subjective utilities of climate-friendly actions, resulting in positive effects on goal commitment and perceived decision improvement.

48. 3070 - Well-being in service research review and foundational premises - This paper provides a comprehensive overview of well-being research in the service industry, offers foundational premises on well-being, and maps a research agenda.

49. 3898 - Factors that shape customer satisfaction in medical tourism - This study identifies important factors, such as service quality, price, and staff behavior, that contribute to the success of medical tourism industry in Thailand and provides suggestions for improving professional behavior of medical staff.

50. 3890 - Determinants of fast fashion purchase intention - This study assesses the determinants of fast fashion purchase intention in affiliate marketing, highlighting the influence of online reviews, affiliate channels' fame, perceived risk level, and consumer trust as a mediator in the relationship between purchase intention and channels' reputation.

51. 3617-Customer experience centric transformation in business to business (B2B) firms-This study explores the shift from a transactional and product-centric approach to a customer experience (CX) centric approach in B2B firms, providing a conceptual framework, dimensions for CX change, and guidelines for practitioners.

52. 2724-Factors Influencing Green Hotel Consumption Behavior in Vietnam_The Roles of Environmental Concern and Knowledge, Green Perceived Value, and Green Trust-This research investigates the impact of environmental concern, knowledge, green perceived value, and green trust on green purchase behavior in the Eco-friendly hotel industry in Vietnam, highlighting the mediating role of purchase intention and the moderating role of price sensitivity.

53. 1415-Corporate Sociopolitical Activism Strategies and their Effects on Consumer Attitudes-This study addresses the challenge companies face when engaging in corporate sociopolitical activism (CSA), proposing alternative options for companies to fulfill consumer expectations of involvement in sociopolitical issues without risking customer loss.
54. 482-Transformative customer experience journey among higher education exchange students-Examining the transformative experiences of exchange students in higher education, this research reveals the impact of living abroad and experiencing a novel cultural context on students' perceptions and meanings of reality.
55. 260-Customer mindfulness and energy for co-creating well-being through transformative services-This research investigates the interplay between customer resources (mindfulness, service co-creation energy, and co-creation experience) and their impact on customers' quality of life, highlighting the mediating effect of co-creation energy.
56. 9555-Managing customer experience measurement - dimensions and effects-Exploring customer experience management, this study focuses on customer experience measurement and its dimensions, highlighting its positive influence on implementation success, customer relationship performance, and financial performance.
57. 9913-Exploring Customer Dignity in Service Encounters-This study proposes a concrete conceptualization of customer dignity and identifies seven dimensions of customer dignity, shedding light on the importance of maintaining customer dignity in service interactions.
58. 8968-Livestream vs. Pre-recorded – Exploring Customer Behavior towards Digital Social-Examining digital social viewing strategies, this research highlights the impact of livestream and pre-recorded videos on customers' purchase intention and subscribe intention in the sports industry.
59. 6707-Determinants of student satisfaction in teacher competencies in the International Studies Bachelor Programme-This study analyzes the determinants of student satisfaction in teaching competencies in the International Studies Bachelor Programme, providing insights to enhance education quality and address specific issues.
60. 6106-Staff Experience in the Frontline-This study explores the nature of interactions between customers and service frontline personnel in nonstandard situations, aiming to understand employee experience from a reciprocal approach and bridging the gap between marketing and human resource management.
61. 6055-Get up, stand up A conceptualization of unacceptable services as counter-hegemonic practices-Examining socially unacceptable services, this research investigates why certain

services are stigmatized, explores the coexistence of different ways of being in society, and presents a new approach to understanding service exclusion.

62. 8895 - Can robotic agents serve customers like a human? A meta-analysis on customer responses to robotic vs. human agents. (Advancements in technology have led to the rise of robotic agents, but can they effectively serve customers like human employees?)

63. 7479 - Service Innovation Research: A bibliometric analysis using VOSviewer. (This paper critically reviews the existing literature on service innovation and aims to identify future research gaps and propose a research agenda.)

64. 4923 - Toward a Framework for Smart Customer Experience Based on Experience-Evaluate-Engage Iterations Using Customer Experience Data. (This paper explores the design of smart customer experiences through iterative processes of experience-evaluate-engage and highlights the importance of integrating customer experiences into product-service systems.)

65. 4203 - A Method Engineering Approach for Designing Context-aware Services. (Context-aware services require specific techniques and frameworks, and this ongoing research presents a method engineering approach for designing such services.)

66. 4227 - Seeking synergy in gastronomy innovation between industry and academia – an illustration within Culinary Arts Event Management. (This paper provides a historical review of food tourism and analyzes the relationship between academia and the tourist industry in the context of South African food offerings.)

67. 3862 - Machine-as-a-Service in Manufacturing Industries. (This paper discusses the concept of Machine-as-a-Service (MaaS) in manufacturing industries and presents future directions for its implementation.)

68. 2229 - Examining the Antecedents and Consequences of Game Engagement in Esports. (This study proposes a conceptual model that explores the factors influencing game engagement in esports and examines its outcomes.)

69. 2838 - Smart retail technologies and their impact on firms' performance. (This research focuses on smart retail technologies and their influence on the performance of firms in the physical retail space.)

70. 2494 - Virtual Brand Experience and Metaphor of Brand Personalities across Reality-Fantasy Continuum. (This paper explores customers' virtual brand experiences in the Metaverse and examines how they metaphorically perceive brand personalities.)

71. 2037 - Comply or resist: The use of service robots in biosecurity. (This exploratory study investigates the design characteristics, communication strategies, and deployment approaches

of service robots used for enforcing COVID-related control activities and their impact on customer compliance.)

72. 697 - Towards an Approach of Value-based Development of AI-based Business Models – Considering AI Ethics in the Innovation Process. (This study aims to develop a value-based design approach for AI business models by considering economic value, customer value, and ethical value, providing insights and method requirements for business managers.)

73. 231 - Service-Profit Chain in the Digital Age Digital Mindset as a Key Moderator: This paper explores how employees' digital mindset affects variables within the service profit chain in the context of digital transformation.

74. 209 - Exploring the Use of Immersive Technology in Nursing Practice case study in Thailand: This study investigates the implementation and effectiveness of immersive technology in nursing education, highlighting the need to address challenges and optimize learning outcomes.

75. 192 - Understanding FLE–Robot–Customer Value Co-creation Orientations: This research develops a co-creation orientation framework for service robots-FLE (Front-Line Employee) and customers, contributing to human-robotic integration in service theory and practice.

76. 5448 - Hustle behavior and employee well-being: This study examines the impact of hustle behavior on employee well-being, considering digital distraction and work-life boundaries across different economies.

77. 5335 - Service robot acceptance and customer satisfaction: This study explores how customers evaluate service experiences with service robots and examines the role of customers' emotional state in their service experience evaluation.

78. 5135 - The Paradox between the perceived Intended and Unintended Consequences of Using Digital Health Technologies: This research identifies and classifies the unintended negative outcomes of using digital healthcare technologies and provides guidance to mitigate their impact on healthcare providers.

79. 5038 - Enhanced service experience design through NFT technology: This study investigates the use of Non-Fungible Tokens (NFTs) in service design, considering their potential as multidimensional resources for customer experience enhancement.

80. 4917 - Designing data-driven service with data blueprinting: This paper introduces data blueprinting as an extension of service blueprinting to support the design of data-driven services, promoting transparency and responsible design practices.

81. 4479 - Towards Autonomous Stores: How varying degrees of in-store automation impact retail patronage: This research examines the impact of in-store automation on retail patronage,

focusing on autonomous or unstaffed stores and the shift towards self-service in the retail industry.

82. 2359 - Effects of Hotel Choice References on Revisit Intention: This study aims to examine the relationship between different hotel choice references and revisit intention.
83. Do Managerial Communications Improve Customer Satisfaction and eWOM? The Moderating Effect of Response Authenticity: As hotel managers are actively responding to customer reviews that are critical for hotel choices, many researchers are investigating the effects of managerial responses.
84. 3304 - Exploring Trends in Self-service Innovation to Boost Social Engagement among the Elderly from 2000 to 2022" - This study examines elderly self-service technology from 2000 to 2022 to discover prospects for enhancing social engagement.
85. 4790 - All welcome in socially sustainable service: Social inclusion of senior audiences in performing arts" - The aim of this study is to understand and offer solutions for physical and social challenges within the leisure sphere – specifically attendance in performing arts by senior audiences – from a social inclusion perspective.
86. 1649 - Post-covid-19 service management strategies: The need for access to B2B2C customer experience - This paper is the first to identify important keywords in service management in the era of beyond COVID-19 and introduce B2B2C aspects of the strategy. In addition, this paper contributes to the literature by expanding research in the fields of service management, customer experience, and new service development.
87. 4227 - Seeking synergy in gastronomy innovation between industry and academia – an illustration within Culinary Arts Event Management - The research addresses the relevance of food offerings in a contemporary South African context and analyses the bridges – or lack thereof – between academia and the tourist industry.
88. 3778 - Sustainable Value Co-Creation in Welfare Service Ecosystems - Transforming Temporary Collaboration Projects into Permanent Resource Integration - The aim of this paper is to discuss the unexploited forces of user-orientation and shared responsibility to promote sustainable value co-creation during service innovation projects in welfare service ecosystems.
89. 103 - An examination of online consumer roles in co-creating value: an insight into online gaming communities - This research looks at how gamification uses social media platforms as a vehicle to facilitate this sharing phenomenon. It aims to answer gaps in the literature to better understand how consumer roles within the online gaming community manifests itself, and how this might lead to building a theoretical framework of value co-creation to positively shape brand communities.

90. 6171 - Supercharging the service innovation process with data-driven analytics: A case study with YouTube content creators - Service innovation relies on service providers establishing new ways for customers to create value, and new technology has created new methods, such as data-driven innovation, for advancing service propositions. However, the value of data needs to be explored. This study explores how “YouTubers” use data-driven innovation to create content and track their progress in the platform to create content.

91. 8347 - Customer-centric approach of innovation measurement in B2B: a framework development - This study tries to answer these research questions: What types of efforts do B2B companies put into innovation and perceived by their customer? which innovation dimension can be measured using a model that starts out from the perception of customers? How Swedish business customers judge the feature of innovation through incremental level of service innovation?

92. 482 - Transformative customer experience journey among higher education exchange students – The purpose of the current study is to increase the understanding of the transformative customer experience journey (TCXJ) by capturing customer’s lifeworld, transformative and sense-making of customer experience journey (CXJ) using interpretative phenomenological analysis (IPA) as a method for a relative longer period across the different stages (pre, during, and post) of customer journey (CJ).

93. 301 - Strategic Marketing in times of the Service Revolution - This article examines the implications of the service revolution and its intelligent automation (IA) of service for firms and their strategies.

94. 9930 - From Survival to Sustainability, A Post-Covid Analysis on Service Supply Chain Adaptability in Emerging Economies - This paper explores the impact of the pandemic on business and lifestyle norms, with a focus on the service supply chain in emerging economies. The study investigates emerging consumer trends such as social distancing, hygiene, and remote consumption, and their implications for new service operation models.

95. 8433 - The Role of Corporate Digital Responsibility in AI-enabled Service Design - This research identifies four key considerations that are shown to impact the Corporate Digital Responsibility (CDR) practices of service firms when designing AI-enabled service offerings, namely: transparency, the degree of consumer choice and autonomy, ethical and fair treatment of consumers and the degree of human control. The paper explores each of these AI-design considerations in full and in doing so, identifies that not all service environments share the same types of CDR concerns.

96. 9479 - Engaging Citizens in Sustainable Energy Transition - A Design Science Research approach - The main goal of the study is to enable cities with different engagement backgrounds within their community to develop a plan suited and adapted to its reality, priorities, and necessities.

97. 9931 - Interplay between servitization and platforms: a longitudinal case study - The objective of this study is to empirically investigate the roles of platforms in a manufacturer's servitization journey, aiming to answer two research questions. First, how does servitization evolve? Second, how do platforms affect the transition between the stages of servitization?

98. 9932 - A service ecosystem perspective of supply chain management - This study explores how to transition to SC service ecosystems from traditional SCs by adopting a longitudinal case study approach. We identify two stages of the SC service ecosystem (i.e., a modular SC service ecosystem and a regenerative SC service ecosystem).

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Volunteer Service Participation during the COVID-19 pandemic: Actor distance and procrastination behaviour view

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ABSTRACT

The formation of well-being during an infectious disease pandemic was examined in two quantitative studies (n=728, n=1048). Resource conservation to avoid infection was intended to maintain well-being; however, it eventually tended to reduce it. Therefore, during a pandemic, in addition to conservation, an attitude of resource recovery/creation is required to form well-being. Community volunteer activities have the potential to grasp this attitude. There is a low tendency to procrastinate regarding aspects of shortening social distance and bringing reality closer to what was possible in the past (regaining the past). These findings provide additional perspectives for Transformative Service Research.

INTRODUCTION

The COVID-19 pandemic, which began in December 2019, provided an opportunity to reconsider the central concepts of service research: resource integration (Lusch and Vargo, 2014) and actor engagement (Brodie et al., 2011; Hollebeek et al., 2020). In the early stages, many cities were under lockdown, which forced a halt in the integration of resources for the formation of life values that had previously taken place (Holden, 2020). While evaluations regarding the forced lockdown policy have still not reached a consensus, it can be assumed that for many citizens, it was necessary to maintain the human viability of tomorrow owing to the fear of a small, invisible virus. Invisible fear created a sense of conservation of resources among people, and they avoided sharing resources with others than what was necessary.

However, when people perceived that the prolonged fight against COVID-19 would persist into mid-2020, the 'resource conservation behaviours' originally undertaken to enhance one's own well-being, that is, not suffering from COVID-19 (Hobfoll, 1989), were contradicted by an attitude that was extremely damaging to social relationships. Therefore, some citizens actively found social engagement, despite the fear of infection, and started volunteer activities as community service providers (Kanemura et al., 2022). This was a way to revive community activities stalled by the pandemic and develop the potential of integrating local resources for the future.

Vaccinations progressed in many countries by 2022 and COVID-19 was found to have relatively mild effects after repeated mutations. Hence, a growing movement to regain relationships with local communities, weakened by resource conservation, emerged. Local communities were value constellations of people's lives (Gallan et al., 2019; Patrício et al., 2011), and people understood that the weakening of their foundations undermined their basic well-being. Attachment to a local area (Morgan, 2010) and a sense of contribution to the local community (Harp et al., 2016) are pro-social behaviours (Politi et al., 2021). These are important attitudes that lead to the recovery and creation of resources that enable citizens to engage in value co-creation to enhance future livelihood value.

Thus, during the pandemic, people faced resource conservation and resource restoration motivations. These were relevant to the resource conservation (Hobfoll, 1989, 2002) and prosocial behaviour theories (Penner, 2002; Yue and Yang, 2021), which included two concepts of resource restoration and creation. This study focused on human multi-dimensional distance awareness and attitudes toward activities as cognitions that bridged these two opposing concepts. The former was the actor-distancing theory (Finsterwalder, 2021) and the latter was the procrastination behaviour theory (Azimi et al., 2020; Steel, 2010). Study 1 demonstrated how resource conservation behaviour affected citizens' well-being during the COVID-19 pandemic. Study 2 focused on volunteering as a resource recovery/creation behaviour and aimed to empirically explain why people chose this social service regarding the actor-distance theory and procrastination behaviour.

THEORETICAL BACKGROUND

Resource conservation and pro-sociality as resource restoration/creation

COVID-19 has caused a great deal of stress among people. When people contracted an infectious disease, their own physical resources were damaged, and they also felt anxious that they might transmit the virus to others, which could have damaged their emotional resources and positive emotions (Kakavand et al., 2020). To avoid damage to the positive emotional resources in their lives, people adopted resource-preserving attitudes and behaviours.

Hobfoll (1989) stated that humans strived to minimise the loss of their resources in stressful situations. Resources are considered objects, personalities, situations, energy, and the means of acquiring them itself. Smith (2013) applied this theory to value co-destruction research in services and reported that when a service failure on the part of the so-called provider had negative effects, such as the loss of various resources on the customer, they may invest further resources to minimise them and create secondary resource losses. The study focused on certain coping behaviours and the effects that actors experienced when they actually lost resources.

In contrast, Losada-Otalora (2021) reported that in the context of knowledge management, in workplaces with high levels of interpersonal conflict, employees tended to conceal knowledge that should be shared among members by being defensive to cope with stress. This was since they were motivated to maintain positive emotional resources, which were inherently necessary for work. The fact that useful knowledge was not shared negatively affected value formation (Echeverri and Skålén, 2011; Plé and Chumpitaz Cáceres, 2010). This implied that it was highly compatible with the service research perspective.

Returning to the context of people's lives during the COVID-19 pandemic, actual exposure to COVID-19 would be a greater health problem. Therefore, it was important to avoid contracting the disease, an issue of anticipated resource loss rather than actual resource loss. In Japan, the government proposed a code of conduct known as the '3C', in which citizens were asked to encourage behaviours that avoided 'closed spaces', 'crowded places' and 'close-contact settings' situations to avoid contracting COVID-19 (Ministry of Health, Labour and Welfare, 2020).

Their pro-sociality towards the community in which they live was related to their attachment to that community. Solidarity was estranged by the physical restrictions on interaction caused by the COVID-19 pandemic (Choi et al., 2021) and was expected to enhance one's own well-being by restoring it (Shirahada and Wilson, 2022). Pro-sociality was linked to altruistic motivations to care for others, which increased community resilience and contributed to one's own well-being (Politi et al., 2021) .

Actor distance theory

Actor distance is the temporal, hypothetical, physical, and social distance of an object from a point centred on the self in the here and now. Actors can change their resource integration according to the gap between their perceived and desired distance (Finsterwalder, 2021). Till date, resource integration has been based on the inter-definability of actors at the micro level (Kjellberg et al., 2019). Furthermore, various aspects of practice (Echeverri and Skålén, 2011) and institutional norms (Baron et al., 2018; Goto et al., 2022; Vargo and Lusch, 2017) at the meso- and macro-levels have been considered influential to resource integration. However, research analysing the nature of resource integration based on the concept of distance and its diversity is lacking. In the context of a society-wide decline in active volunteering due to the COVID-19 pandemic, this study quantitatively investigated the actors who became involved in volunteering based on the actor distancing theory.

Procrastination theory

Procrastination behaviour is the voluntary delay of an intended action, despite the expectation that the delay will have worse consequences (Steel, 2007). This behavioural tendency is generated in the relationship between the demands of self-management and self-regulation (Nenkov et al., 2008) and the clashing temptations (Steel, 2007). The stagnation of social activities due to the COVID-19 pandemic reduced the opportunity to shape one's own well-being. Maintaining the same life pattern may have negative consequences for both the mind and body in the medium and long term. In contrast, the fact that there were no imposed instructions and that people were aware of the convenience of online life may have been factors that promoted procrastination behaviour. However, this was different from procrastination as an act of laziness without self-regulation (Klingsieck, 2013), which was found in student surveys. Rather, this study integrated the idea of procrastination behaviour into behavioural practices for prosocial activities, based on a sense of contribution to the local community. It investigated the extent to which actors who initiated volunteer activities possessed this awareness of procrastination behaviour. Subsequently, the relationship between the actor-distance characteristics of volunteering and procrastination behaviour was analysed.

STUDY 1

Data collection

The sample consisted of residents who lived in a specific district of City A in Japan, which had a population of approximately 0.1 million people. Data acquisition was conducted jointly by the local council and the Japan Advanced Institute of Science and Technology (JAIST) in March 2021. The survey was conducted both via mail and online. Local councils were established in 2019 as a forum where nearly 20 groups, including neighbourhood associations and community centres, worked together to think regarding local issues and the future. They aimed to improve the local community with their own hands. Discussions were held to formulate a regional vision regarding 'pandemic prevention', 'health', 'history and culture', 'the environment', and 'education and information'. The survey was conducted as part of a regional visioning project; the council compiled and managed the survey data and the JAIST was responsible for the analysis. Approval was obtained from the Life Science Committee of JAIST (Approval No.: Person 02-022) as the data were collected from human participants. The results have been partially reported to the public.

Measurement

Table 1 lists the questionnaire items used. Resource restoration orientation was defined regarding attachment and awareness of contribution to a specific area and participation in a specific area, based on the fact that sociability was linked to an altruistic motivation to care for others, which increased community resilience and, in turn, contributed to one's own well-being (Politi et al., 2021).

TABLE 1: Questionnaire items of study 1

Variables	Questionnaire items
Resource conservation orientation (α=.69, AVE=.31, CR=.69)	・Avoiding close proximity and vocalisation with others. ・I try not to go to places where a lot of people are gathered. ・I try not to go to places with poor ventilation. ・Avoiding unnecessary trips out of the house. ・Acting with an awareness of social distance. [Multiple selections]
Resource recovery orientation (α=.79, AVE=.58, CR=.80)	・What would you like to contribute to the community in the future? ・Would you like to take part in a local project in the future? ・Do you feel proud of or attached to the local community? [4-point Likert scale pre-coded single response format]

Frequency of contact with family and friends Frequency of participation in hobbies and pastimes	· How have opportunities to see family and friends changed as a result of the COVID-19 pandemic? · How have your hobbies and recreational opportunities changed as a result of the COVID-19 pandemic? [The number of respondents who answered 'zero' or 'decreased to 20% of the previous level' or 'decreased to 40% of the previous level' or 'decreased to 60% of the previous level' or 'decreased to 80% of the previous level' or 'unchanged from the previous level' or 'increased from the previous level' was indicated in a 7-point pre-coded single response format.]
Use of remote communication tools	· Do you use video calling (LINE, ZOOM, etc.)? [4-point scale pre-coded single response format]
Well-being (α=.69, AVE=.53, CR=.75)	· Comparing before and after the COVID-19 pandemic, what is your current physical health status?. · Comparing before and after the COVID-19 pandemic, what is your current state of mental health?. · Please tell us how satisfied you are with the way you live now. [5-point Likert scale pre-coded single response format]

Analysis

Stata version 17 was used for analysis. The overall analytical framework was a structural equation modelling analysis to determine the value of the path coefficient. For reasons of paper width, specific mediation analysis, such as the Sobel test, was not conducted.

Results

Figure 1 shows the results of the structural equation model analysis. Resource conservation orientation had a significant negative impact on the frequency of participation in hobbies, which indirectly had a negative impact on well-being. Since the frequency of participation in hobbies had a significant positive impact on the frequency of contact with family and friends, it could be inferred that opportunities for participation in hobbies played an important role in maintaining and improving people's quality of life through interaction with others. This was supported by the significant positive impact of the same factor on well-being.

However, resource recovery/creation orientation had a significant positive impact on well-being. Interestingly, of the two response behaviours to COVID-19 pandemic stress, resource conservation had an indirect negative impact on citizens' well-being, while resource recovery/creation orientation had a positive impact on well-being as a complementary factor to its negative impact.

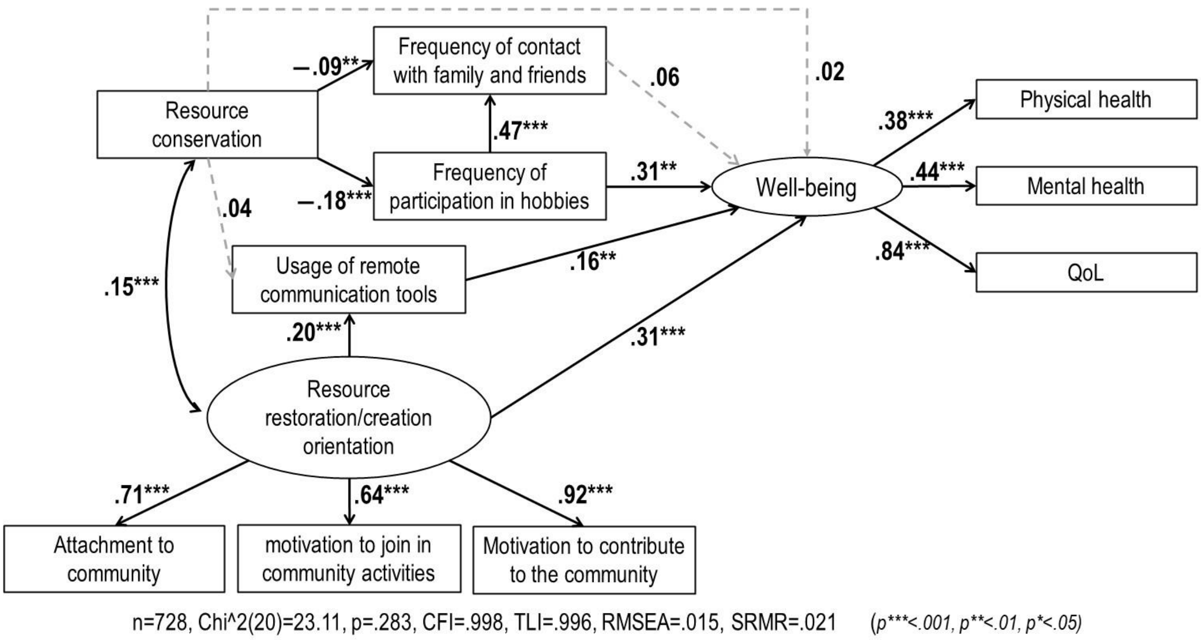

FIGURE 1: Result of the structural equation modelling analysis

Use of telecommunication tools was considered a specific behaviour based on resource conservation orientation; however, the path coefficient was not significant. Rather, the orientation to actively recover resources significantly influenced the use of telecommunications. As resource recovery/creation orientation was based on the possession of pro-sociality, it could be considered that a positive attitude towards others resulted in the use of telecommunication tools.

STUDY 2

Data collection

Data were collected via a survey panel of Macromill, a major Japanese Internet research company. Online surveys provided a more demographically diverse sample than other methods, with comparable data reliability (Buhrmester et al., 2011). However, there were concerns regarding double responses (Wright, 2017). Macromill's system did not allow double responses, and did not register responses with significantly short response times to prevent spurious responses. In addition, as a manipulation check to prevent inappropriate answers, questions were created in which the same content was presented in different ways.

The survey was conducted between 15 and 18 February 2022. The study wanted to survey those who had engaged in altruistic activities during the COVID-19 pandemic. Hence, an inclusion criteria was set: those who had done at least one community volunteer activity (e.g. activities useful to the community) in the past year. Based on this criteria, a questionnaire survey was conducted, and 1104 responses were obtained. After manipulation checks, 1048 responses were considered valid. Approval was obtained from the Life Science Committee of JAIST (Approval No.: Person 03-032) as the data were collected from human participants.

Measurement

Table 2 lists the questionnaire items. Actor distances were designed according to Finsterwalder’s study (Finsterwalder, 2021), and the questionnaire was designed based on four perspectives. For procrastination behaviour, the questionnaire was designed based on Pro-10. Actor distance is a new concept and there are no well-established questions. Therefore, a reliability analysis was conducted, and only items above 0.60 were retained. Subsequently, an exploratory factor analysis was conducted.

TABLE 2: Questionnaire items and results of the factor analysis

Actor distancing (alpha .64 | alpha (F1) .72 | alpha (F2) .56)	A-F1	A-F2
Through the activity, I feel psychologically close to the people who live in this city.	.88	
I have a good time with similar-minded people through the activity.	.63	
The activity (to varying degrees) is to restore daily life in this city before the COVID-19 pandemic.		.67
The activity is designed to maintain the quality of life in the city, even if the COVID-19 pandemic (to varying degrees) becomes more severe.		.52
The target of the volunteer service sometimes contact me without unawareness of the physical distance.		.42
The activity can also be conducted online.		

During the activity, I try to avoid the 3Cs. (R)		
The activity does not require much time for preparation or implementation.	-	
Inter-factorial correlation		
A-F1		.47
Procrastination (alpha .71 | alpha(F1) .76 | alpha (F2) .54)	**P-F1**	**P-F2**
Even after I make a decision to do the activity I delayed acting upon it.	.73	
Regarding the activity, I am continually saying 'I will do it tomorrow'	.69	
When I should be doing the activity, I did another.	.64	
I put off making decisions.	.59	
I will think about continuing that activity when the opportunity arises.	.50	
At the end of the day, I know I could have spent the time better.	.45	
I am not very good at meeting deadlines.	.42	
I do routine maintenance (e.g., changing the car oil) on things I own as often as I should. (R)		.64
I usually make decisions as soon as possible. (R)		.51
I generally return phone calls promptly. (R)		.41
Inter-factorial correlation		
P-F1		.28

(R): Reverse item

Analysis

Exploratory factor analysis (Promax rotation with Kaiser's normalisation) was performed on the variables related to actor distancing and procrastination behaviour using SPSS version 17 and Stata version 17, respectively. Subsequently, a cluster analysis (Ward's method) was conducted on the basis of the factor scores to characterise the volunteer activities regarding actor distancing. The characteristics of the clusters were used to define the characteristics of volunteering and analyse the extent to which the participants had a tendency to procrastinate in participating in that volunteering activity. After normality was assessed, an analysis of variance was performed. The results suggested that the characteristics of volunteer activities that motivated citizens to volunteer as a resource investment behaviour during the COVID-19 pandemic may prevent them from experiencing procrastination.

Results

As a result of the exploratory factor analysis, two factors were extracted regarding volunteer services during the COVID-19 pandemic from the perspective of actor distance theory. These were F1 (activities that contributed to reducing social distance from others) and F2 (activities that contributed to regaining life before the COVID-19 pandemic). Based on these results, cluster analysis was conducted, and five clusters were defined based on the dendrogram. The characteristics are shown in Table 3. From the top, the table shows the clusters with the strongest tendency to engage in activities to reduce social distance. Cluster 3 had the highest average value within the F1 cluster, and F2 was also relatively high. This could be interpreted as ‘an activity to regain the pre-COVID-19 routine and strongly reduce social distance with others’. In contrast, Cluster 4 had the lowest mean value for F1. This could be interpreted as ‘an activity that has nothing to do with regaining the pre-COVID-19 routine, but was conducted while maintaining a large social distance from others’. Thus, each cluster was characterised.

TABLE 3: Characteristics of each cluster

Cluster #. (sample size, % of total)	Mean of A-F1 (SD)	Mean of A-F2 (SD)	Characteristics of the cluster
Cluster 3 (n=167, 16%)	1.21 (.18)	.76 (.69)	An activity that brings back the pre-COVID-19 routine and strongly reduces social distance with others.
Cluster 5 (n=234, 22%)	.21 (.45)	.72 (.34)	An activity that attempts to regain the pre-COVID-19 routine and mildly reduces social distance.
Cluster 2 (n=266, 25%)	.35 (.24)	-.33 (.46)	An activity that has little to do with pre-COVID-19 routine and aims to reduce social distance.
Cluster 1 (n=202, 19%)	-.46 (.20)	-.19 (.27)	An activity that has nothing to do with regaining the pre-COVID-19 routine, but is conducted while maintaining social distance from others.
Cluster 4 (n=179, 17%)	-1.40 (.62)	-.94 (.56)	An activity that has nothing to do with regaining the pre-COVID-19 routine, but is conducted while maintaining a large social distance from others.

The exploratory factor analysis revealed that procrastination behaviour had a two-factor structure. P-F1 was defined as the simple average of P-F1 as procrastination behaviour when participating in volunteer activities, while P-F2 indicated the person's state procrastination tendency. Once the composite scored P-F1 was normally distributed, as confirmed by Stata 17 (sk-test), an analysis of variance was conducted.

A one-way analysis of variance (ANOVA) with procrastination tendency as the dependent variable and clusters with volunteer characteristics as factors showed significant differences ($F(4, 965)=6.04$, $p<.001$, eta squared=.02). Multiple comparisons with Dunnett's C test showed significant differences between clusters 1 and 2, 1 and 3, 1 and 4, and 2 and 5 ($p<.05$). Cluster 1 had higher procrastination behaviour than the other clusters. Cluster 1 was a volunteering activity characterised (by the participants) by conducting an activity that was different from the pre-COVID-19 routine context, without reducing social distance. In contrast, the clusters with lower procrastination behaviour were activities to shorten social distance and regain the pre-COVID-19 routine context, which were activities to increase the possibility of the participants' own future value co-creation. Interestingly, these differences were clearly evident.

DISCUSSION AND CONCLUSION

Study 1 showed that the insecurity of the COVID-19 pandemic motivated citizens to conserve resources for their basic livelihoods, which was partly an action to maintain their own well-being. However, it had a negative impact on well-being due to the restriction of their social activities. In contrast, the attitude of developing one's own life resources for the future, such as attachment to the local area and a sense of contribution to local activities, activated communication that could be done even during the COVID-19 pandemic, such as remote communication, and had a positive impact on well-being.

Based on these results, Study 2 conducted a nationwide survey in Japan among those who had participated in volunteer activities that contributed to community activities during the COVID-19 pandemic. This study analysed their perceptions of the content of the activities and their procrastination tendencies when engaged in them. It was found that, as a way of volunteering in which citizens could participate with relatively little procrastination, it was important for activities to have characteristics that included either elements that restored/created their previous daily routines or enhanced social relationships.

This study's contribution to service research is threefold. First, it demonstrated that while resource conservation behaviour functioned as a psychological defence response to stress from the external environment, it also undermined social resource integration opportunities and functioned negatively for well-being formation. In particular, in the case of Japan, the 3C motto permeated citizens, which may have led to the avoidance of resource integration as a norm for people, rather than a forced cessation of resource integration as in the lockdown, and a sustained awareness of resource conservation. Hence, it is necessary to motivate resource restoration and creation, separate from resource conservation, as a way of providing services during infectious disease outbreaks that cause difficulties in social contact.

Second, the concepts that created the actor distancing theory were operationalised, and quantitative research was conducted along with the characteristics of volunteer activities. Although the questionnaire needs to be refined in the future, actor distancing will be an indicator to consider which activities with distance characteristics were likely to motivate people to engage in an infectious disease outbreak. Of the four constructs in this study, aspects related to physical and social distance were highly reliable. It could be inferred that the relationship between resource integration and concept of distance became clearer when applied to other service activities.

Third, community volunteering as a resource recovery/creation activity showed the characteristics that motivated participants to participate quickly. In this study, procrastination, a behaviour that traditionally appeared as a failure of individual self-regulation, was used in the context of the motivation for prosocial behaviour (a volunteering activity). During the COVID-19 pandemic, we were exposed to services that provided various benefits, even when physical contact was avoided. The limited minimum needs were met as consumers adapted to them. However, a wider range of livelihood needs, previously met by the local community, were gradually unmet, as long as nothing was done. Therefore, the COVID-19 pandemic showed us the need to consider situations where people 'voluntarily delayed their intended action, even though they expected that delay (the action) would have worse consequences'. The results of the quantitative analysis showed lower procrastination behaviour awareness in volunteers who were perceived as having either 'the aim of getting back to their previous routine' or reducing social distance'.

These points highlight an important perspective on well-being formation through resource integration in situations of infectious disease outbreaks. This provides an additional perspective for transformative services research.

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Consumer Acceptance of Online Grocery Shopping During Covid-19 Pandemic During Covid-19 Pandemic

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Purpose of the study

The study intends to find out the customers' acceptance of online grocery shopping during the Covid-19 pandemic by using UTAUT 2 theory. UTAUT 2 theory originated from technology acceptance model (TAM) – which was first introduced by Davies (1989). He proposed two determining factors for acceptance of new technology, namely usability and ease of use. TAM focuses on the nature of the new technology. With the development of TAM into a unified theory of acceptance and use of technology (UTAUT), this theory began to absorb other factors outside of innovation itself. In addition to usability and ease of use, UTAUT adds social influence and facilitating conditions (Venkatesh et al., 2003). Venkatesh et al. (2012) then developed the theory further into UTAUT2, which added three additional factors to the previous model. They are hedonistic values, price values, and habits. Online grocery shopping has its own unique characteristics, which may hinder its acceptance. Grocery shopping is bulky and requires swift delivery to maintain the items' freshness. Thus, online grocery shopping tends to result in higher delivery costs. The Covid-19 pandemic has also brought a unique circumstance in customers' shopping behavior. They are scared to shop for products directly at retail outlets due to the risk of being infected by the new coronavirus. This study explores the acceptance of online grocery shopping which became more popular during the Covid-19 pandemic.

Methodology

We conducted an online survey to collect the data. The measure consists of 26 items adapted from previous studies. The variable of performance expectancy (PE) consists of 3 items adapted from Celik (2016), e.g. 'Shopping apps is a tool that is useful for online grocery shopping'. The variable of effort expectancy (EE) consists of 4 items adapted from Celik (2016), e.g. 'I find it easy to understand the use of shopping apps'. The variable of social influence (SI) consists of 3 items adapted from Shaw and Sergueeva (2019), e.g. 'People who are important to me think that I should use shopping apps to buy my grocery'. The variable of facilitating conditions (FC) consists of 4 items adapted from Shaw and Sergueeva (2019), e.g. 'If I were to use a smartphone to purchase for grocery online: I'm sure my smartphone/ gadget will work well.' The variable of price value (PV) consists of 3 items adapted from Tak and Panwar (2017), e.g. 'Grocery products on shopping apps are reasonably priced.' The variable of hedonic motivation (HM) consists of 3 items adapted from Tak and Panwar (2017), e.g. 'Using grocery shopping apps is enjoyable.' The variable of habit (H) consists of 3 items adapted from Duarte and Pinho (2019), e.g. 'The use of online shopping apps has become a habit for me.' The variable of intention to use (ITU) consists of 3 items adapted from Celik (2016), Shaw and Sergueeva (2019), and Yang and Forney (2013), e.g. 'I intend to make grocery purchase(s) through online shopping apps in the next one month.' The scale is a 5-points Likert scale. The survey utilizes purposive sampling. The respondents targeted are those who are at least 15 years old, purchasers of groceries, and resided in the Greater Jakarta Areas (consisting of the cities of Jakarta, Bogor, Depok, Tangerang, and Bekasi). The survey collected 335 usable responses from the population. The hypotheses were tested using variance-based structural equation modeling.

Findings

The test on the measurement model indicates that it fulfills the criteria of internal reliability, convergent validity, and discriminant validity. Further, the results show that perceived effectiveness, social influence, hedonic motivation, and habit influence the intention to use online grocery shopping. Other variables in the UTAUT 2 model do not influence the intention to use.

Table 1. Result of Structural Model

Path	β	SD	t value	Results
EE -> ITU	0,104	0,079	1,323	Not Supported
FC -> ITU	0,104	0,061	1,696	Not Supported
H -> ITU	0,207	0,062	3,345	Supported
HM -> ITU	0,174	0,063	2,756	Supported
PE -> ITU	0,195	0,078	2,515	Supported
PV -> ITU	0,092	0,069	1,322	Not Supported
SI -> ITU	0,111	0,051	2,191	Supported

Research limitations/ Implications

The influence of perceived effectiveness on intention to use indicate that consumers see online grocery shopping as a solution to fulfilling their needs during the Covid-19 pandemic. The influence of social influence, hedonic motivation, and habit show that they can become critical angles for grocery businesses to induce consumers' online shopping. On the contrary, effort expectancy, facilitating conditions, and perceived value do not influence the intention to use online grocery shopping. They may indicate that the process to conduct online grocery shopping is still too impractical. This should become a big concern for the online grocery businesses. Effort expectancy is the variable coming from the earlier theory of technology acceptance (TAM), and therefore considered as an important variable for the success of the acceptance of a new innovation. Further, the existing facilitating conditions appear to be inadequate to affect the intention to use. Online grocery shopping needs more facilitating conditions as it is still in the early phase of consumer acceptance. Lastly, the favorability of price value in online grocery shopping are hindered by the higher cost of product delivery. The limitation of the study lies in the inability to utilize random sampling.

Originality/ value

The study brings fresh insight into applying UTAUT 2 theory in the context of online grocery shopping characterized by bulky goods and the need for swift delivery. The Covid-19 pandemic also create a special context in which the consumers are forced to accept the new technology as way of survival. Future studies may attempt to test the same model in context of post-pandemic era.

Keywords

Online grocery shopping, UTAUT 2, Covid-19 pandemic, intention to use

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The Impact of the Government Support System related to COVID-19 on Innovation Efficiency in the Service Industry

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ABSTRACT

How does adopting the government support system in response to COVID-19 affect innovation in the service industry? Using the concept of innovation efficiency measured by ratio of innovation output to input, this study analyzes the relationship between the use of the government support system and innovation efficiency. After calculating innovation efficiency using data envelopment analysis (DEA), Mann-Whitney U test is performed to verify the difference in the efficiency depending on the use of the government support system.

INTRODUCTION

One of the main characteristics of the service industry, which is distinguished from the manufacturing industry, is inseparability or simultaneity, and consumers participate in the production and consumption of the service (Orava & Tuominen, 2002). In addition to government regulations such as prohibition and quarantine due to the spread of COVID-19, people's face-to-face avoidance has had a significant impact on the downturn in the service industry (Lea, 2020). The government has implemented various support policies to overcome such a slump in the service industry (Messabia et al., 2022), but its effectiveness has not been sufficiently verified yet. This study verifies the effect of companies' use of government support systems in response to COVID-19 on the innovation efficiency of the service industry.

MODEL

This study utilizes the concept of 'innovation efficiency', which represents the ratio of input to output for innovation, to verify the difference in innovation efficiency by the use of government support systems in the service industry (Hollanders & Celikel-Esser, 2007). Input-oriented data envelopment analysis (DEA) is adopted to calculate the innovation efficiency of each firms, with adopting two input factors (innovation cost and the number of R&D employees) and one output factor (sales of innovative products) (Shin et al., 2022). Mann-Whitney U test is performed to test the difference in innovation efficiency depending on the use of government support systems. Though types of government support system are diverse, not many companies have used, and thereby only the government support system used by at least 10 companies are analyzed. In this study, therefore, five government support systems are utilized: tax support (tax reduction, extension of payment deadline, tariff refund, customs clearance support, etc), direct funding support (no obligation to repay; employment security subsidies, paid time off expense support, direct support for COVID-19 affected industries, etc), financial support (with obligation to repay; investment and financing, emergency management stabilization funds, special guarantees, trade receivables insurance, etc), infrastructure support (non-face-to-face infrastructure such as telecommuting working from home, video conferencing, etc), and human resource support (recruitment, education, and training of R&D personnel, etc). The research model is shown as figure 1. Additionally, the difference in innovation efficiency by implementation of telecommuting is performed to further examine the results of the difference in the efficiency by infrastructure support. This study also calculates innovation efficiency using R&D expenditure instead of innovation cost as an input factor, and verify the differences in innovation efficiency by the use of government support system to check the robustness. Firms with input or output value equals to 0 are excluded, and total 367 samples are utilized in the main analysis and 364 samples are utilized to confirm the robustness.

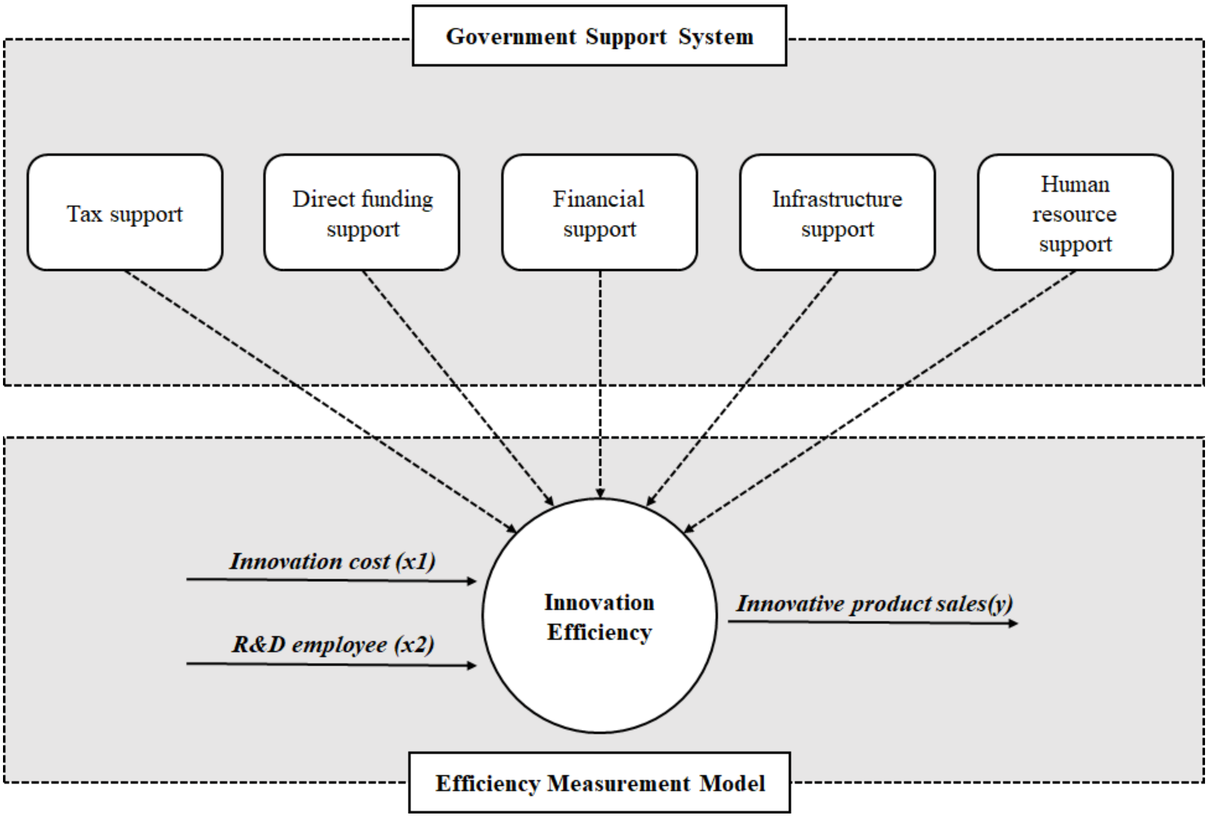

Figure 1: Research Model

RESULTS

While the difference in innovation efficiency depending on the use of tax support and direct funding support has not been verified, the difference in innovation efficiency by the use of financial support, infrastructure support, and human resource support is significantly verified. First, in the case of financial and infrastructure support, it is verified that companies that received support are significantly less efficient than companies that did not. On the other hand, in the case of human resource support, it is confirmed that the companies that utilized human resource support achieve significantly higher efficiency than the companies that did not. Therefore, it is verified that the impact of the government support system on the innovation efficiency may vary depending on the type of support. The results are shown in table 1, and figure 2, 3, and 4 shows the box-and-whisker plot of the difference in innovation efficiency.

Table 1: Results of Mann-Whitney U test by the use of government support system

Government support system	Group	N	Mean rank	Rank sum	Mann-Whitney U	p-value
Tax support	1 (No)	349	184.35	64,339.5	3,017.5	.778

	2 (Yes)	18	177.14	3,188.5		
Direct funding support	1 (No)	284	187.28	53,187	10,855	.274
	2 (Yes)	83	172.78	14,341		
Financial support	1 (No)	325	189.06	61,445	5,180	.011
	2 (Yes)	42	144.83	6,083		
Infrastructure support	1 (No)	355	186.45	66,191	1,259	.016
	2 (Yes)	12	111.42	1,337		
Human resource support	1 (No)	331	176,40	58,389.5	3,443.5	.000
	2 (Yes)	36	253,85	9,138.5		

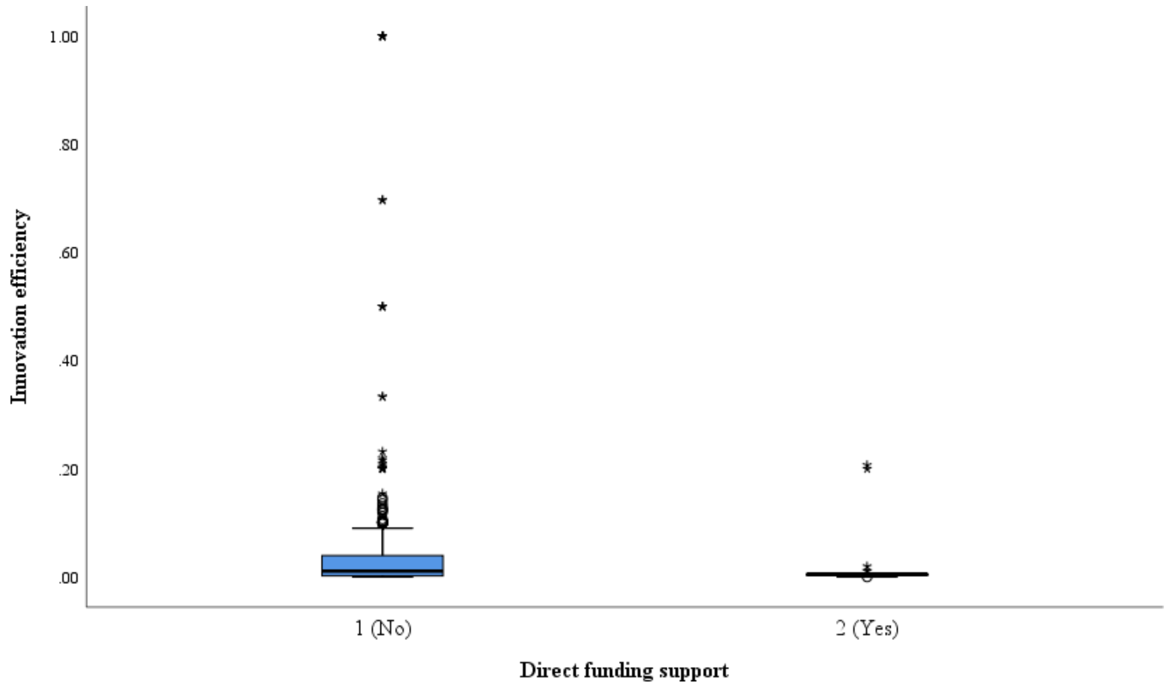

Figure 2: Difference in innovation efficiency by financial support

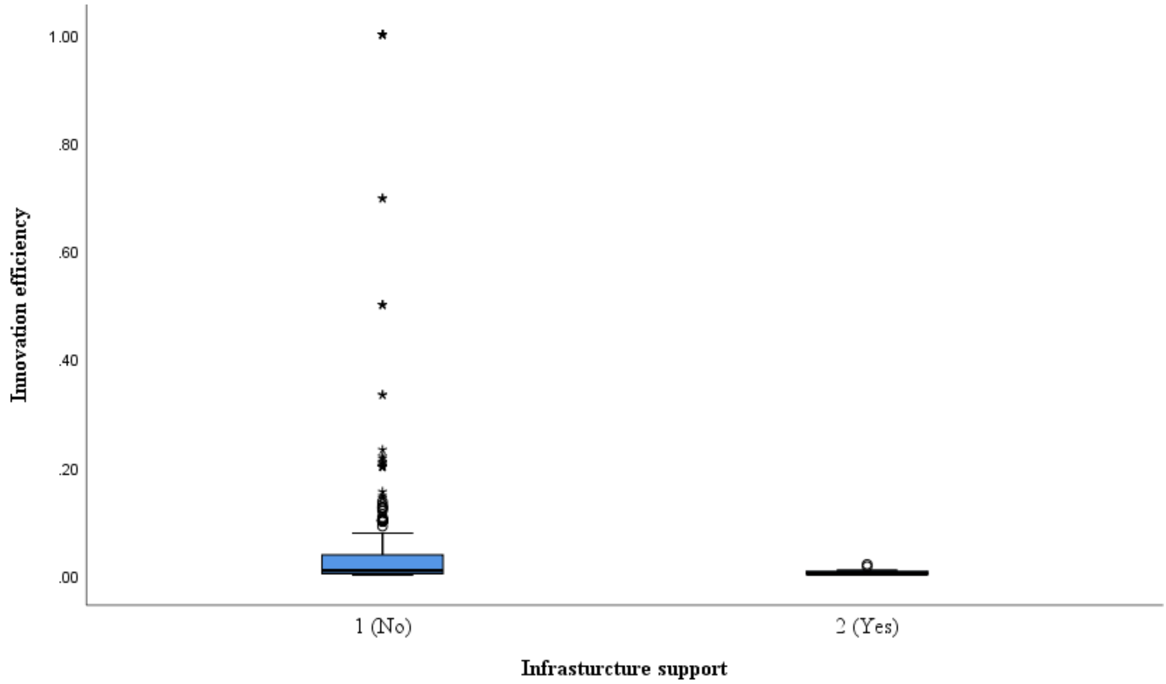

Figure 3: Difference in innovation efficiency by infrastructure support

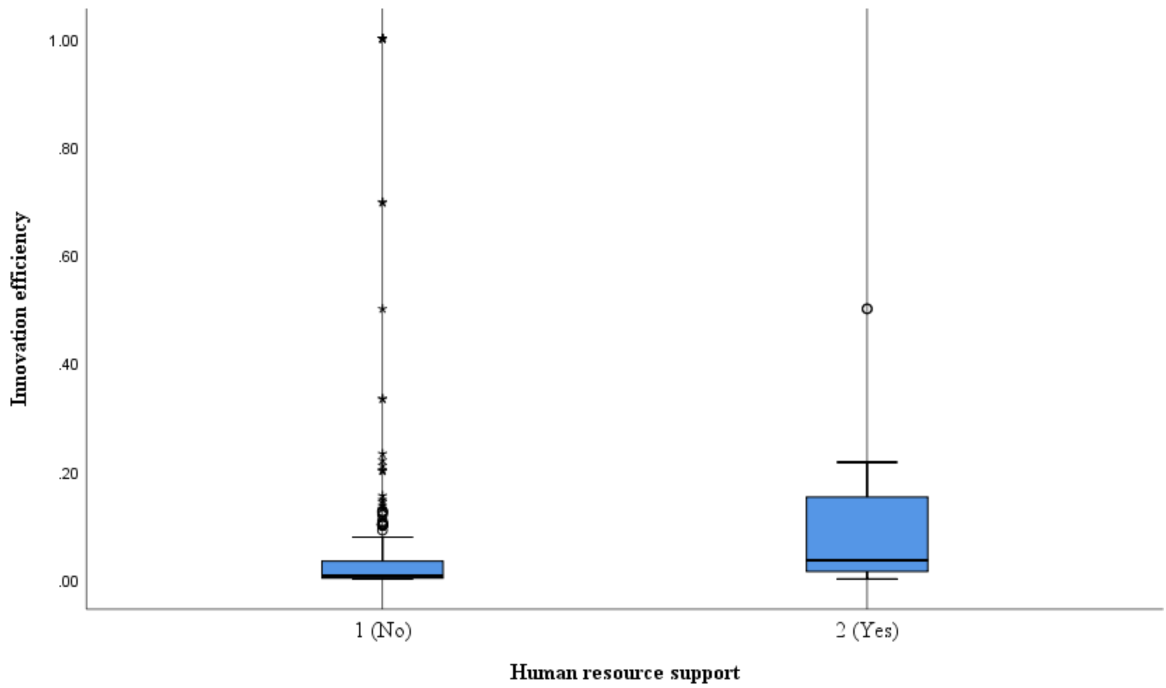

Figure 4: Difference in innovation efficiency by human resource support

In order to further verify the impact of non-face-to-face infrastructure support on innovation efficiency, additional analysis on the difference in the efficiency by implementation of telecommuting as a response to COVID-19 is performed. It is verified that firms implementing work from home are significantly less efficient than those did not. The results could be explained by the nature of service; service requires some degree of interaction with customers and thus, face-to-face is required. Therefore, it suggests that implementation of telecommuting as a response to COVID-19 could have a negative impact on innovation in the service industry. The results are shown as table 2 and figure 5.

Table 2: Results of Mann-Whitney U test by implementation of telecommuting

Firm response to COVID-19	Group	N	Mean rank	Rank sum	Mann-Whitney U	p-value
Telecommuting	1 (No)	193	202.03	38,991	13,312	.001
	2 (Yes)	174	164.01	28,537		

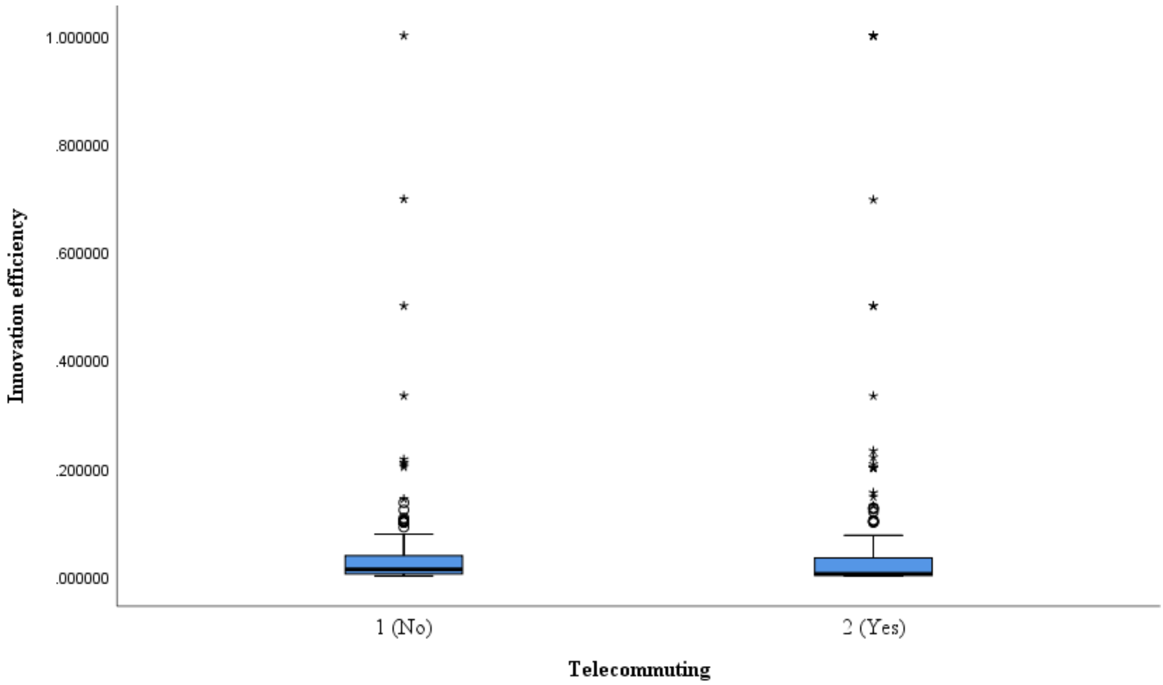

Figure 5: Results of Mann-Whitney U test by implementation of telecommuting

After calculating innovation efficiency using R&D expenditure instead of innovation cost as an input factor, Mann-Whitney U test is performed to verify the difference in innovation efficiency by government support system. The analysis shows the same results as the previous analysis, and the robustness is confirmed.

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Understanding the Impact of COVID-19 on Well-being in the Tourism Sector A Bibliometric Analysis

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ABSTRACT

The COVID-19 pandemic has reached its third anniversary. While most people have resumed their normal lives, the virus remains an ongoing global health risk. One of the most affected service sectors during the pandemic has been tourism. While tourism performance indicators indicate a sense of optimism, many questions remain unanswered how the pandemic has altered people's travel behavior and perceived well-being in times of continuous uncertainties of travel restrictions. Based on a bibliometric literature review, the purpose of this study is to identify key themes regarding the impact of COVID-19 on tourism. The study also aims to provide a comprehensive future research agenda.

INTRODUCTION

The infectious coronavirus disease known as COVID-19 was first reported in Wuhan, China, in 2019 and subsequently spread globally to become the fifth documented pandemic since the 1918 flu pandemic (Moore, 2021). While COVID-19 has caused massive disruption across industries (Kabadayi et al., 2020), tourism has been one of the worst affected sectors due to border closures and/or travel restrictions imposed by governments worldwide (UNWTO, 2020). As the vaccination rollout has increased globally over the last two years, countries have gradually begun to lift travel restrictions, and tourism has slowly restarted in many parts of the world. While past research demonstrates that travelling can induce multiple well-being benefits, the pandemic has forced travelers to change their travel behavior for a number of reasons. First, government measures such as social distancing, lockdowns, and wearing masks restricted people's mobility and social interactions. Second, tourists have become more reluctant to book travel services far in advance of their travel dates due to a high-risk perception (Bulchand-Gidumal and Melián-González, 2021). Third, the pandemic has caused a sudden impact on people's mental health and well-being. Some people developed fear, anxiety, depression, and negative emotions. As research on the impact of COVID-19 on tourism is increasing, many questions remain unanswered how the pandemic has altered people's holiday decision-making and perceived well-being in times of continuous uncertainties regarding travel restrictions. As media reports indicate, the virus still kills 9000 to 1,000 people a day worldwide (Johnson, 2023). As such, it is critical to understand the short- and long-term factors affecting the willingness to travel and its impacts on well-being. Accordingly, this study pursues the goal of understanding the transformation of tourist behaviour during the pandemic and the effect on individuals' well-being. Based on a bibliometric literature review, we identify six themes affecting the willingness to travel and its impacts on well-being. The results provide important directions for future research.

LITERATURE REVIEW

Well-being and COVID-19

The topic of well-being has received much attention over the last decades. Recognized as a key priority of *Transformative Service Research* (Anderson et al., 2013), well-being is associated with a number of health-, social-, job-, education-, family-, and economically-related benefits (Maccagnan et al., 2019). While there is no consensus in the literature about its definition or conceptualization, scholars point out that well-being is a broader concept that includes both individual and collective dimensions, which are inherently interconnected (Tuzovic et al., 2021). The pandemic has not only affected consumers' subjective well-being perceptions. As public health measures such as lockdowns and social distancing helped to slow the spread of the virus, paradoxically, the level of perceived crowding can impact consumers' well-being. Studies indicate that well-being during the pandemic is a collective concept comprised of multiple domains (macro-, meso-, and micro) of a service system (Tuzovic et al., 2021).

Tourism and COVID-19

Generally speaking, research has shown that tourism has positive outcomes on individuals' well-being, such as increased life satisfaction, improved health status, reduced stress by escaping the day-to-day routine, and enhanced subjective well-being (Brandão et al., 2021; Hook et al., 2021; Io & Peralta, 2022). Such findings align with the recognition of well-being as an increasingly relevant dimension in the tourism and service industry. In particular, the well-being of consumers and employees becomes core for tourism development and management. The COVID-19 pandemic significantly impacted management within the tourism industry and the general well-being of travelers. The pandemic threatened the psychological and physical well-being of individuals. Such unknown context influenced holiday decision-making and perceived well-being in times of uncertainty of travel restrictions. The tourism industry ought to address these (and other) challenges by delineating and implementing strategies that take the safety and well-being of travelers at the core, while ensuring the sustainability of the industry.

METHODOLOGY

A bibliometric literature review approach is applied to explore the emerging literature on COVID-19 in tourism and hospitality with a focus on well-being impacts. Bibliometric analysis is a statistical analysis of publications and citations to evaluate their impact and learn about the past, present, and future directions of an area of research (Khare and Jain, 2022)

Data were collected from the Web of Science and the Scopus databases on June 1, 2022. The keywords used were "COVID* OR corona* OR pandemic* AND Touris* OR Travel* OR hospitality AND Well-being OR wellbeing OR "quality of life". The keywords were found in the TITLE-ABS-KEY fields. A total of 738 articles were retrieved after applying the inclusion criteria of English language, peer reviewed, and published between January 1, 2020, and June 1, 2022. Further, each article was manually checked for its relevance and a total of 126 articles was used for the bibliometric analysis. Next, we used VOSviewer to identify the interlinkages between the keywords and uncover the intellectual structure of the papers by producing a keyword co-occurrence network (van Eck and Waltman, 2010).

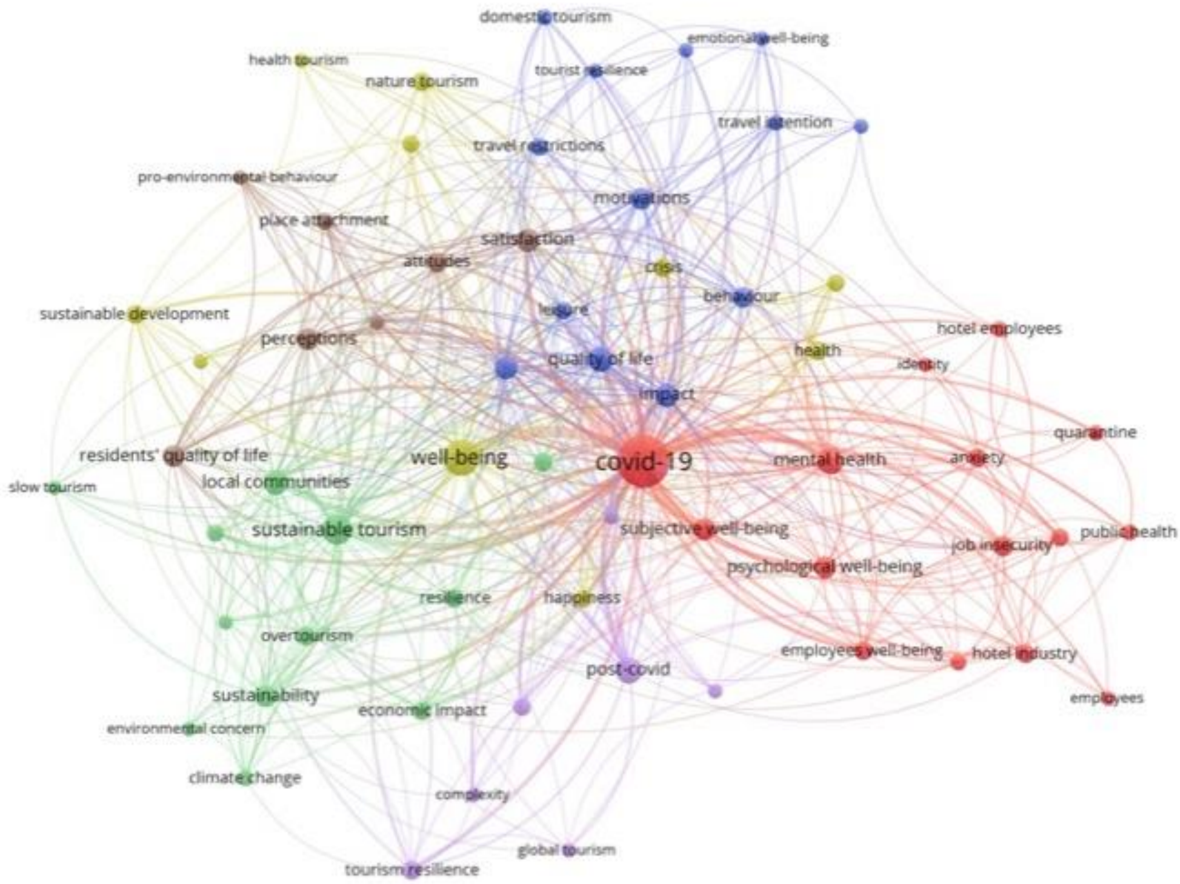
FINDINGS

The keyword co-occurrence network is shown in Figure 1. There is a total of six clusters, which are presented in different colours. The words with the highest frequency are covid-19; well-being; sustainable tourism; post-covid; mental health; quality of life; local communities; experience; impact; satisfaction; psychological well-being; and sustainability. Table 1 shows the six major themes that emerged from the analysis and selected keywords that can represent these clusters. Importantly, these clusters are connected and their boundaries are fuzzy.

Table 1: Cluster themes

Cluster name	Most important keywords
The impact of COVID-19 on the relationship between tourism employees and organizations and the effect on employees' mental health and well-being	COVID-19, mental health, psychological well-being, subjective well-being, job insecurity, anxiety, employees' well-being
The impact of COVID-19 on tourist decision-making, motivations, intentions, behavior, and tourists quality of life and well-being	Behaviour, impact, experience, quality of life, motivations, leisure, travel restrictions, tourist resilience
Managing change in tourism: sustainable tourism, climate change, crises management, resilience, local communities, and residents' well-being	Sustainable tourism, local communities, sustainability, lockdown, overtourism, resilience, economic impact, residents' well-being
Nature and health tourism in Covid times: impact on tourists well-being and happiness	Well-being, sustainable development, crisis, nature tourism, visitors restoration happiness, health tourism
Future of tourism post-COVID: resilience, economic impact, challenges, and tourism recovery	Post-covid, tourism resilience, intentions, challenges, complexity, tourism recovery
The impact of COVID-19 on tourists' perceptions, attitudes, behaviors, and effects on residents' quality of life.	Attitudes, satisfaction, perceptions, residents' quality of life, place attachment, image, pro-environmental behaviour

Figure 1: Network visualization of keywords



CONCLUSION

Findings from the bibliometric search showed the many impacts of COVID-19 on the well-being of tourists, residents, and tourism workers. Still, there is a need to further analyse the changes COVID-19 has imposed to tourism and how the industry should respond and change.

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Service Management in the Beyond COVID-19 Era

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The COVID-19 pandemic has caused massive social upheaval around the world. Large-scale lockdowns at the national level have been implemented in most countries, and people were forced to stay at home and reduce social contact. Due to lockdown, social distancing, and telecommuting, digitalization progressed rapidly in various fields, and changed service customer experiences, consumer purchasing decisions and the market participants' behavior. The unprecedented pandemic has changed the world, changing people's minds, and emerging new business models and new competitors and new competition. Besides the chaos caused by COVID-19, regional conflicts, economic volatility, and supply chain disruptions have made the world 'the age of hyper uncertainty'. In the midst of uncertainty, the market does not grow, and the gap between the rich and the poor gets bigger, leading to the growth of a small number of well-off companies, and a large number of difficult companies. Companies that capture changes in the world quickly and accurately get the opportunity to realize higher sales than before, otherwise face big crisis in the market and can no longer survive.

Throughout the pandemic, service industry experienced the collapse of the existing strategies and new countermeasures are needed to cope with changes. So, it is essential to understand the nature of the changes caused by COVID-19 and to predict and prepare for a new normal era. Unless scholars and managers change perspectives, the theory will no longer be valid and companies will not be able to survive. However, many of these points have not yet been applied to paradigm shifts. Academia should not put new things on top of old cakes, but store, eat, and bake new cakes at the same time. Theories can have continuous validity based on reality only when new knowledge is summoned, and these theories can help the world in understanding new things. should navigate without anchoring at the port and challenge existing theories by allowing the latest phenomenon to be applied to the paradigm shift. Meanwhile, companies need to adapt and recover from change and grow economically, psychologically, and socially. Managers should analyze the latest market and consumer behavior to create an ecosystem where services can be sold and make sure to form it sustainable and resilient.

In order to derive service management strategies for the beyond COVID-19 era, we selected following keywords: Mental well-being, social distancing, digitalization, personalization, new normal resilience, glocalization, and social value. We analyzed the core features of the COVID-19 pandemic as fundamental psychological changes in consumer behavior, accelerated digitalization and hyper-connected society, hyper-personalization through sophisticated customer experience analysis, changes in the consumption value chain and the competitiveness of the end market, building secure resilience to reduce uncertainty, globalization due to supply chain changes, and the importance of social value.

Above all, the dynamics between sellers and buyers in the market have changed, the hegemony of power has shifted from sellers to buyers, and issues about buyers have become more important in service management. In the era of beyond COVID-19, the key is whether it is possible to understand from the perspective of customers and consumers and provide services suitable for buyers. Consumers are extremely sensitive. There is no eternal consumer. They continue to evolve, pursue individual interests, flock to rapidly changing businesses, and turn to services that do not grow and develop. It is essential to think about ‘how to win customers and keep them for life’. According to the competition principle, service companies that satisfy customers survive, and if the service is bad and the customer is not satisfied, the company cannot survive. Service companies that have adapted quickly, focusing on fundamental changes in consumer behavior in markets where uncertainty is mounting, realize higher sales than before, while those that do not are in a major crisis in the market. Service management strategies must be found from the market place to create a differentiated competitive advantage in services. It is better to try the first mover than to be a late pursuer.

It should also be noted that during the pandemic, the world has become a Hyper-connected society. In a hyper-connected society, people and people, people and machines are connected. Furthermore, with the development of digital technology and AI, machines are connected to each other, and new communication strategies have emerged. It is necessary to change the perspective of how to view the market according to technological innovation. Due to rapid digitalization, it has become important for all service companies, including B2C and B2B, to directly communicate with end consumers as well as participants in the value chain. In particular, B2B services will evolve into a model of platform, not a network. In order for B2B services to initiate new changes in the market, it is difficult to find an answer in the existing market. In order to respond to the rapidly changing market, a customer-centered strategy called B2B2C is needed. Therefore, this paper seeks a strategy that enables service companies to strengthen customer relationships through real-time and interactive strengths and effectively interact with potential customers to strengthen corporate competitiveness away from short-sighted management. Accordingly, the seven keywords of beyond COVID-19 era were examined from the perspective of B2B, B2C, and B2B2C (Business to Business to Customer). After all, the competitiveness of the service can be found in the end market. Looking into customers' customers is the way to find new ideas for service management strategies that suit customers' wishes and needs.

This paper is the first to identify important keywords in service management in the era of beyond COVID-19 and introduce B2B2C aspects of the strategy. It analyzes changes in the service industry due to the COVID-19 pandemic and seeks strategies to increase competitiveness and build resilience. In addition, this paper contributes to the literature by expanding research in the fields of service management, customer experience, and new service development. From a management perspective, it presents insights for service companies to explore ways to lead the market and sustain growth by building resilience beyond the uncertainty of the beyond COVID-19 era.

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Spillover Effects of Virtual Tours on Tourism in China during the Pandemic Age

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ABSTRACT

Due to the travel restrictions during the pandemic era in China, there has been a boom in virtual tours on social media such as Bilibili, which lead us to think about the spillover effects of it on tourism. In this study, we formulate a mathematical model that encompasses key factors that online tourism videos can influence tourists' decisions of traveling and conduct data analysis to verify the validity of the model.

Inspired by Pei and Mayzlin (2021), we redefine a model to simulate tourists' decision-making results based on the Bayes theorem under the impact of tourism videos. Taking factors including the utility level of traveling to specific destinations and the affiliated level of video uploaders into account, we develop a mathematical model to segment people into different clusters and quantify their travel desire. After numerical analysis, we figure out the dominant variable which implies the positive impact of watching tourism videos. We also conduct a regression analysis to check the validity of our model. By integrating a unique dataset containing 6 cities, 5 years quarterly span of Bilibili's tourism videos and the corresponding tourist number from the official website, we run a linear regression model using R and find that there is a generally positive correlation between the number of tourism videos published and the number of tourists.

METHODS

2.1 Hypothesis

People who have seen travel videos are more likely to make the decision to travel than those who have not.

2.2 Mathematical modelling

Using Bayes Theorem, we would like to discuss the key factors that will impact tourists' travel decisions in the post-pandemic era. Notations required are clarified here:

- λ: The probability that an individual hasn't seen the travel video before
- ρ: The probability that the individual wants to travel to the destination based on his/her prior belief. ρ∈[0,1]
- T: The event that the individual wants to travel to the destination. On prior belief: P(T)=ρ
- F: The event that the individual doesn't want to travel to the destination. On prior belief: P(F)=1-ρ
- a: The amount of positive distortion to the signal due to influencer's affiliation level. a∈[0,1]
- γ: The initial level of precision of the influencer's prior belief on the destination. Assume that an independent influencer should have a similar prior belief with the individual, i.e. γ > 0.5
- P(g | T,a) = γ+a(1-γ), P(g | F,a) = aγ+(1-γ)
- g: The event that the influencer justifies the destination worth a visit.
- b: The event that the influencer doesn't justify the destination worth a visit.
- G: The event that the video conveys a positive signal to the audience
- B: The event that the video conveys a negative signal to the audience
- Assume that P(G | g) = P(B | b) = 1, which means the audience will precisely receive the signal that the influencer wants to convey
- p: The price of going to the destination
- v: The utility of going to the destination justified by the individual
- k: The ratio of p/v

2.3 Regression analysis

We build a regression model to analyze the correlation between the number of tourists and the number of videos uploaded as well as the number of plays quarterly.

$$NumTourist \;=\; \beta_1\, NumPlays + \;\beta_2\, NumUploads \;+\; \alpha_i + \gamma_t + \eta AfterCOVID \;+\; \epsilon_{it}$$

For α_i *and* γ_t, we use dummy variable as fixed effects.

$$\alpha_i \;=\; I(Beijing) \;+\; I(Hangzhou) \;+\; \ldots \;+ I(Sanya)$$

$$\gamma_t \;=\; I(2018Q1) \;+\; I(2018Q2) \;+\; \ldots \;+\; I(2022Q4)$$

RESULTS

3.1 Results of the math modelling

Derivation process:

If the individual hasn't seen the travel video, he/she will travel to the destination iff $\rho > p/v$, i.e.

$\rho > k$

If the individual has seen the travel video, the probability of wanting to travel to the destination becomes: P(T | G) and P(T | B)

$$P(T \mid G) = \frac{P(G \mid T)*P(T)}{P(G \mid T)*P(T) + P(G \mid F)*P(F)} = \frac{[\gamma+a(1-\gamma)]\rho}{[\gamma+a(1-\gamma)\ ]\rho + [1-\gamma)+a\gamma](1-\rho)}$$

$$P(T \mid B) = \frac{P(B \mid T)*P(T)}{P(B \mid T)*P(T) + P(B \mid F)*P(F)} = \frac{(1-\gamma)\rho}{(1-\gamma)\ \rho + \gamma(1-\rho)}$$

If the video conveys a positive signal, the individual will travel to the destination iff $P(T \mid G) > k$,

i.e. $\rho > \rho(a)$, where

$$\rho(a) = \frac{k(1-\gamma(1-a))}{(1-k)(\gamma+a(1-\gamma)) + k(1-\gamma(1-a))}$$

If the video conveys a negative signal, the individual will travel to the destination iff $P(T \mid B) >$

k, i.e. $\rho > \rho(b)$, where

$$\rho(b) = \frac{k\gamma}{(1-k)(1-\gamma) + k\gamma}$$

ρ(b) dominates ρ(a):

Theoretical proof:

If the video conveys positive signals, people will be more likely to travel to the destination in common sense. Here we assume that if the influencer is affiliated, the videos he or she posted must convey positive signals. To be more specific, under the same affiliation level, the same level of precision, and the same ratio of p/v, people will be more likely to visit the destination if they watched a video with positive signals instead of negative ones. In other words, if we fix a, γ, and k, ρ(a) will always be less than ρ(b).

Numerical roof:

Table 1: Fix a = 0.5, γ = 0.8, observe the change in k, k∈[0,1]

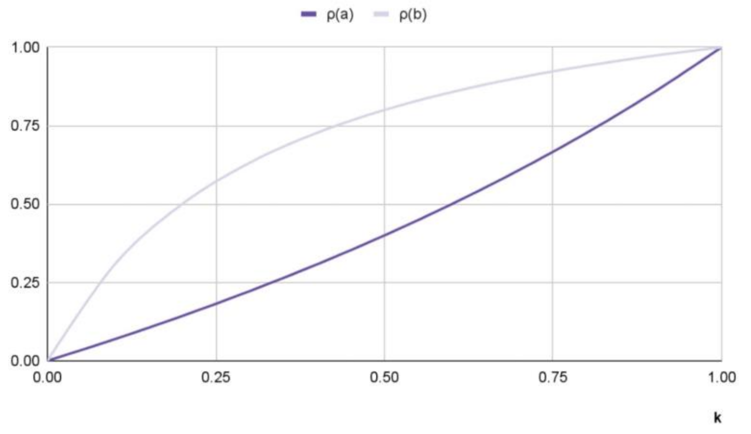


Table 2: Fix a = 0.6, k = 0.5, observe the change in γ, γ∈ (0.5,1]

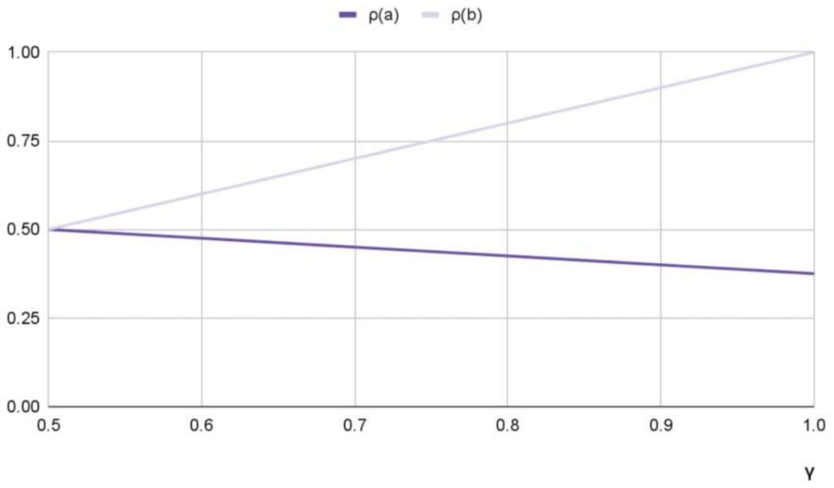
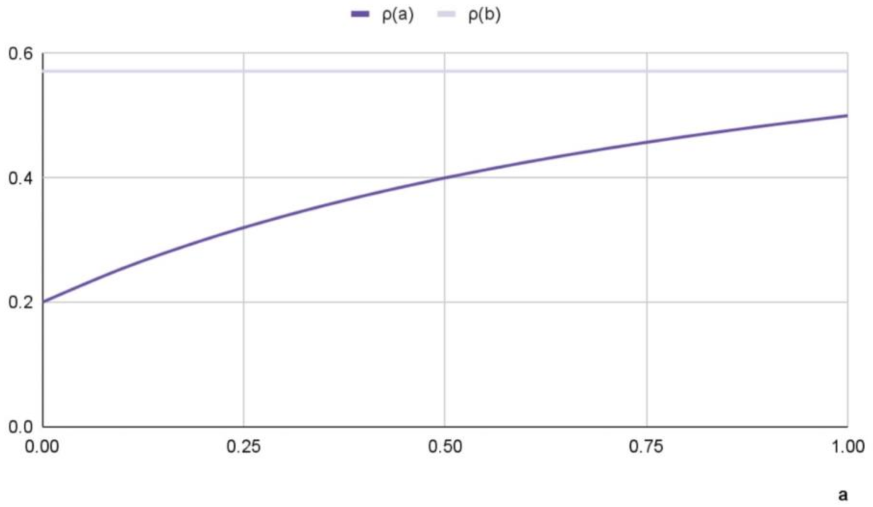


Table 3: Fix k = 0.5, γ = 0.8, observe the change in a, a∈[0,1]



3.2. Results of regression analysis

For nearly all quarters, the α_i, γ_t, and η are derived with a slightly positive number. However, for $\beta_1$and β_2, numbers fluctuated at about 0, which indicates the relationship between the number of tourists and the number is not so clear.

We first put the corresponding data into R and get α_i, γ_t, and η. Then, we put α_i and γ_t into the equation and do the regression analysis. Based on this, we collected the number of travel videos and the number of views by quarters from 2018 to 2022 in 6 representative cities from Bilibili, and collected the corresponding number of tourists in government by quarter.

DISCUSSION

4.1 Discussion of the math modelling

Based on the probability of traveling we have computed above, we find that the viewers' decision-making results didn't only depend on their prior beliefs, but were also affected by (1) a: the affiliated level of the uploader, (2) k: the ratio of p/v, where p refers to the price of going to the destination, and v refers to the utility of going to the destination justified by the viewer.

(3) γ: The initial level of precision of the uploader's prior belief on the destination. It can be deduced from the data sampling that tourism videos conveying positive signals will outweigh the opposite ones considering affiliation. Therefore, in most cases, short videos will lead to a higher level of willingness to travel.

Table 4: Tree Diagram of the math modeling

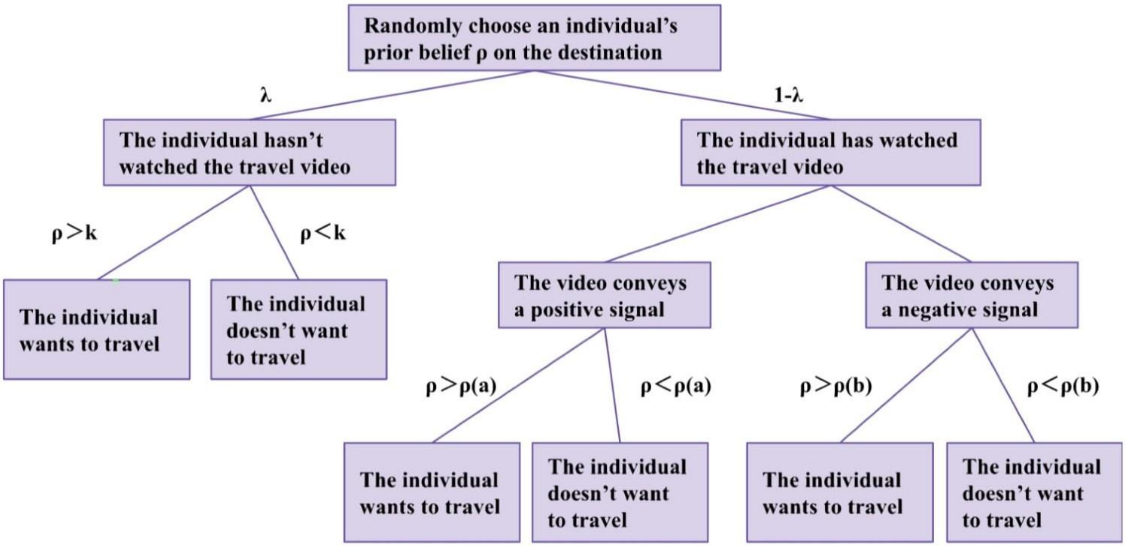
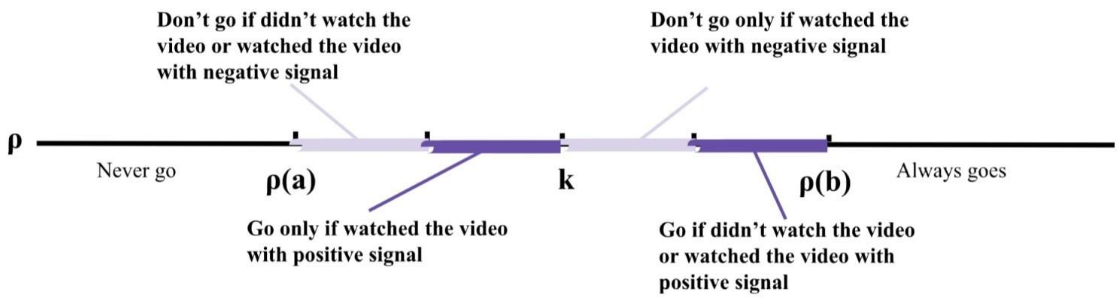


Table 5: Number axis of the math modelling

Assume that ρ is uniformly distributed, then:



4.2 Discussion of regression analysis

In this model, we used dummy variable to get the fixed effect of city, time, and after covid or not. However, there are several aspects that need to improve.

4.2.1 Other events need to be considered

The outcome of the model is not so significant. This may result from the fact that the number of tourists is closely associated with some more factors, including political reasons, big events, and others that may greatly attract or excludes tourists. However, we are not able to quantitively count the influence factor of every possible reason but only focus on several biggest ones.

4.2.2 Other online video platforms need to be considered

Travel video is only one method of media that tourists would receive. Online live videos, short videos, and online promotional sales are all good ways to attract tourists. Travel videos in Bilibili are a good example but can't represent all.

CONCLUSION

Theoretically, the ideal result of our hypothesis can be deduced from the mathematical model. With the impact of short videos conveying different sentiment signals, people will be segmented into different clusters with different willingness to travel, and most people will tend to have a higher travel desire in view of affiliation. However, the regression result doesn't have a clear result, which probably attributes to some other factors that can influence real-world tourism numbers, like Olympic Winter Games and others.

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The effectt of designers' participation on industrial design performance in the product development stage

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ABSTRACT

The study deals with the moderating effect of the designer's participation in the product development stage. We simplified the product development stage into three phases: 'Pre-Design,' 'Design,' and 'post-Design.' And the primary research method is Hierarchical regression analysis. The data selected quantitatively measured data from the "Industrial Design Statistical Survey". We conducted repeated analysis by varying the data set of major/medium, medium-sized, and small enterprises to see their differences. This study is an early-stage study that quantitatively measures the 'Design' process. Precedent studies on 'Industrial Design' are rarely quantitative due to difficulties in measuring the Qualitative character of industrial design.

INTRODUCTION

In 1984, Philip Kotler, a chair professor at the Kellogg School of Business, spoke about the value of industrial design. "The Value of industrial design as a 'potent/ variable is heralded in leading managerial textbooks and viewed widely as helping to provide a sustainable competitive advantage." Industrial design was recognized as a management factor that could create added value. However, nearly 25 years later, the area of 'design' is still abstract, and difficult to conduct quantitative research. In particular few studies quantitatively deal with industrial design and designers due to difficulties in data collection. Nevertheless, the participation of industrial designers in product development is essential and requires analysis. Therefore, this study presents the following questions.

- Is the effect of design investment on management performance affected by the level and scope of designer participation?
- Will the effect of design sourcing type on management performance be affected by the level and extent of designer participation?

This study examines the moderating effect of industrial designer participation in product development. We conducted a hierarchical regression analysis on 1,233 samples of manufacturing companies using design in the "Industrial Design Statistical Survey" through various industrial design-related variables.

LITERATURE

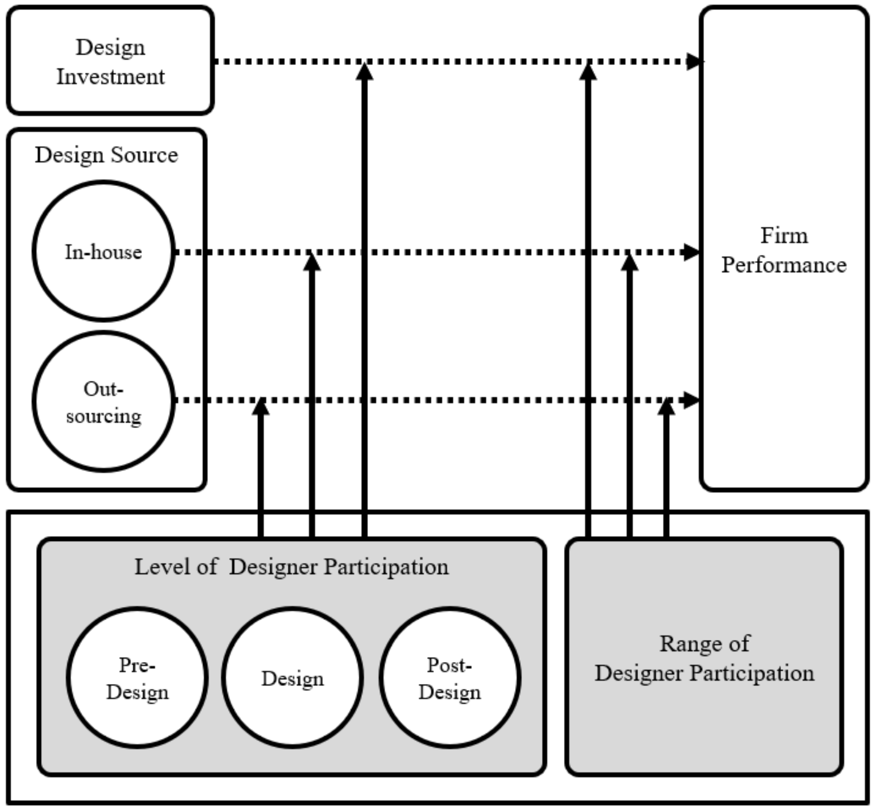
Product development process and design capabilities

The product development process is defined differently depending on the researcher.
Vink et al.(2008)classified the process into nine stages in the study of stakeholder contribution in the product development process, and Brockhoff (2003) classified it into seven stages in the study of customer participation. (Ahmadi and Wang, 1999) mentioned the industrial design process as an independent activity in the rocket development process and divided it into eight

stages. The industrial design process belongs to the product development process and is generally integrated with the engineering design stage, but it is a necessary process that requires separate knowledge and training. Eppinger and Ulrich (2015) emphasized that industrial design is a crucial task separate from engineering design, including concept development, product sketching, and prototype development.

In previous studies, design investment is a variable actively used concerning a company's design activities (Swink and Calantone, 2004; Hertenstein, Platt and Veryzer, 2005; Chiva and Alegre, 2009). R&D investment costs are disclosed on the financial statements and are frequently used, but design investment costs are not frequently used due to difficulties in collecting information. For this reason, existing studies collect respondents' judgments and opinions during surveys to estimate approximate design investment. We use design investment cost data. The design investment consists of financial figures for designer wages, purchase of design software and hardware, training costs for designers, and establishment of design facilities and laboratories. "Who does the design" is a significant decision-making issue in product development. In determining the design source of the product, whether to operate an Inhouse professional design department within the organization or entrust design to an external company can be an indicator of how a company establishes a strategy to utilize design (Maciver and O'Driscoll, 2010; Taha, Alli and Rashid, 2011; Czarnitzki and Thorwarth, 2012). The design source of a company can be classified into the outsourced or in-house design. Based on data reflecting the reality of Korean industrial design, we classified outsourcing targets into design-specialized firms and freelance designers (individuals). Moreover, product design outsourcing can be requested to design companies and freelancers simultaneously, depending on the project.

Figure 1: Research model



Operating profit excludes operating costs from sales and is suitable as a dependent variable for this study due to its low correlation with independent variables such as designer employment and design investment. Therefore we select operating profit as a dependent variable (Chiva and Alegre, 2009; Fernández- Mesa *et al.*, 2013). Moreover, based on previous studies, 'R&D investment' and 'labor cost' are adopted as control variables (Swink and Calantone, 2004; Hertenstein, Platt and Veryzer, 2013).

Designer participation in product development

Supplier and consumer involvement in product development positively impact product performance (Ahire and Dreyfus, 2000; Mullens *et al.*, 2005; Vink, Imada and Zink, 2008). Moreover, studies show that the operation of design departments and the employment of designers positively affect corporate performance (Ahmadi and Wang, 1999; Krishnan and Ulrich, 2001; Page and Herr, 2002; Hertenstein, Platt and Veryzer, 2013). Based on these studies, industrial designers, as stakeholders, can have a similar impact on the product development process as suppliers or consumers.

Table 1: Product Development Process and Reclassification

3 phase process	7 phases of Product Development Process	Weight*
Pre-design phase (Level 1)	Establishing Business Strategy	.18
	Market Research	.27
	Design Requirement and Ground rules	.45
Design phase (Level 2)	Design / Development Iterations	.61
	Production Engineering	.39
Post-design phase (Level 3)	Distribution / QC	.30
	Marketing Support	.24

This study defines the product development process in seven stages based on references, reclassifies it based on industrial design activities, and divides it into three levels: *pre-design*, *design*, and *post-design*. Using these levels, we analyse the 'designer participation level.'
The 'designer participation range' is a variable of how many stages designers participate in product development. Vink et al. (2008) defined the main responsible tasks for each product development stage and assigned job managers to derive the weight of their contribution level. According to research results, industrial designers are mainly involved in product concept development and prototype production among product development, but designers are also involved in the product development stage, production, and quality development stage. Referring to the Vink et al. (2008) study, we analysed the moderating effect of designer participation in the production process—the measurement indicators and units described in Table 2.

Table 2: Variable description

	Variables		Measure / Unit
Dependent Variables	Firm performance	Operating Profit	Log Operating profit
Independent Variables	Design Investment (DI)	Design Investment Rate	Design Investment / Sales
	Design Source	In-house Design (InD)	In-house design rate / % (0~100)

	Outsourcing to design firm (OFMD)	Outsourcing to design firm rate / % (0~100)
	Outsourcing to freelancer (OFLD)	Outsourcing to freelancer rate / % (0~100)
Moderating Variables	Designer Participations Level (Level)	0 or 1 (binary)
	Designer Participation Range (PR)	$\sum \text{Weights}$ * Level
Control Variable	Employees	Log / Labor cost
	R&D Cost	Log / R&D cost

METHODS

Regression analysis is a method of determining how the value of the dependent variable changes according to the independent variable based on the magnitude of the effect of the independent variable (predicted variable) on the dependent variable (Cook and Weisberg, 1999). Regression analysis can be subdivided into simple and multiple regression analysis according to the number of independent variables and linear or non-linear regression analysis according to the relationship between independent and dependent variables.
Hierarchical regression, a type of multiple regression analysis, is mainly performed when the amount of additional variance in which a particular independent variable explains the dependent variable is the focus of the study (de Jong, 1999). Through this process, the degree of the explanatory power of the model considering the control effect is compared based on the model that does not consider the control effect, and the effect of the variable representing the control effect on the dependent variable is verified.
In addition, this study uses logistic regression analysis to verify industrial design activities that are difficult to explain quantitatively (Demirtas, Anagun and Koksal, 2009). Logistic regression is used to model relations between a categorical (binary, ordinal, nominal) dependent variable and some independent variables (continuous or categorical). According to this method, the effects of independent variables on the probability that the dependent variable belongs to a category are measured. In addition, data were classified and repeatedly analyzed to examine differences according to the company's size in verifying the moderating effect of designer participation. The data used 1233 manufacturing samples from the 2018 Industrial Design Statistics Survey.

RESULT

In the product development stage, the moderating effect of designers' participation level and the range of participation was verified. Repeated analysis was conducted with total samples (n=1233), small businesses (n=726), medium-sized companies (n=376), and large companies (n=131), and the differences were compared. Model V results from the moderating effect of the range of designer participation. It results from analyzing how many phases designers participate in the product development process. The initial results are vast, so a summary table is presented.

Design investment and the moderating effect of design participation

As a result of the analysis of Model II~IV, which reviewed the level of designer participation in all samples, it was found that designer participation in the Pre-design (Model II) and Post-design (Model IV) stages had no significant moderating effect. However, it was found that there was a significant moderating effect when the range of designer participation was extensive. These results differ from Maciver and O'Driscoll (2010) study that designers will lead the production process stage, and designers will be able to help with every step with multiplayer. For a more detailed analysis, samples are divided into small, medium, and large companies (including medium-sized companies) to examine what differences are shown by company size.

All the moderating effects related to designer participation were insignificant in the small business sample (n=726) and the medium-sized business sample (n=376). These results are believed to have been challenging to extract results related to designer participation because the number of workers in SMEs was small, and many samples of companies still needed to hire separate designers. In other words, it was not statistically significant because designers had little participation in product development. The sample of large companies (n=131) has a positive moderating effect on the pre-design (II) and design (III) phases. In contrast, the post-design (IV) step is insignificant. Finally, when designers participated in various ranges of product development (V), it was found that there was a significant amount of influence. These results can be interpreted as large companies having their design capabilities and internal design personnel having more opportunities to participate in product development.

Table 3: Moderating effect of designer participation on the effect of design investment

Dependent variable \ Independent variable		I	II	III	IV	V
		Firm performance				
		Coefficient	Coefficient	Coefficient	Coefficient	Coefficient
Total n=1233	DI	0.015	0.005	-0.012	0.025	-0.034
	DI *Level1		0.013			
	DI *Level2			**0.048****		
	DI *Level3				-0.012	
	DI *PR					**0.058***
Small n=726	DI	-0.089**	-0.052	-0.117**	-0.062	-0.115*
	DI *Level1		-0.050			
	DI *Level2			0.043		
	DI *Level3				-0.036	
	DI *PR					0.031
Mid n=376	DI	-0.115**	-0.313*	-0.115**	-0.259	-0.148
	DI *Level1		0.210			
	DI *Level2			-0.018		
	DI *Level3				0.151	
	DI *PR					0.230
Large n=131	DI	0.015	-0.566**	-0.276	-0.042	-0.297
	DI *Level1		**0.615****			
	DI *Level2			**0.321***		
	DI *Level3				0.330	
	DI *PR					**0.334***

Design Source and the Moderating Effect of Design Participation

Table 4 summarizes the results of the moderating effect of in-house design and designer participation. As a result of the total sample (n=1233), it was found that the participation of the designer's Pre-Design(II) had a negative effect. In in-house design, participating in the product planning and specification determination stage corresponding to the product development planning stage can negatively impact performance. On the other hand, participation in the design (III) stage has a positive effect. Finally, participation in Post-Design (III) was insignificant. Finally, the moderating effect of the designer's range of participation (IV) is negative, indicating that designers' participation in various stages has a negative moderating effect. This effect differs from previous studies in that designers' active participation in product development has a positive effect. This result happened because the sample concentrated on small and medium-sized enterprises that do not have an in-house design.

Similar results were found for small businesses (n=726) and medium businesses (n=376). First, it was discovered that designers' participation in Pre-Design (II) had a negative moderating effect and that design (III) and post-Design (IV) participation had a significant positive effect. It means that it is more effective for designers of small and medium-sized companies to participate in product development and product design support than to participate in the planning stage. Finally, it was found that the range of designer participation (V) was insignificant. Interestingly, small, and medium-sized companies show similar tendencies. On the other hand, as a result of analysing the sample of large companies (n=131), it was found that the participation of pre-Design (II) and Design (III) had a significant positive effect, and Model V, in which designers participate in various stages, had a powerful moderating effect.

Table 4: Moderating effect of designer participation on the effect of In-house design

Dependent variable \ Independent variable		I	II	III	IV	V
		Firm performance				
		Coefficient	Coefficient	Coefficient	Coefficient	Coefficient
Total n=1233	InD	0.019	0.038*	0.016	0.038*	0.021
	InD*Level1		**-0.076***			
	InD*Level2			**0.011***		
	InD*Level3				-0.045	
	InD*PR					**-0.006***
Small n=726	InD	-0.039*	-0.018*	-0.044*	0.011	-0.025
	InD*Level1		**-0.099***			
	InD*Level2			**0.019***		
	InD*Level3				**0.130****	
	InD*PR					-0.040
Medium n=376	InD	-0.046*	0.023	-0.062*	0.021	-0.011
	InD*Level1		**-0.205***			
	InD*Level2			**0.062****		
	InD*Level3				**0.122***	
	InD*PR					-0.080
Large n=131	InD	-0.062	-0.082	-0.127*	-0.030	-0.323**
	InD*Level1		**0.049***			
	InD*Level2			**0.255***		
	InD*Level3				-0.041	
	InD*PR					**0.074*****

In the case of outsourcing design, only Table 5 and the Pre-Design (II) stage were significant when outsourcing the total sample (n=1233) design company, and the remaining results were insignificant. The small business sample (n=726) shows that the participation of 'freelancer designers' in Post-Design (IV) had a positive effect. Given that the Post-Design phase includes production, manufacturing, and design phases, support for designable design personnel who can be involved in the production and manufacturing phases can help with management performance. In the sample of medium-sized companies (n=376) refers, the participation of design companies (OFMD) had a positive effect in the Pre-Design (II) stage, and freelance designers (OFLD) had a positive effect on Design (III) and Post-Design (IV). Finally, the sample of large companies (n=131) indicated to have a negative effect when design-specialized companies participated in the Design (III) phase. In addition, the participation of design companies in various stages of product development (V) also had a negative effect, and no significant results reveal concerning freelance designer outsourcing. In summary, large companies show more positive results in management performance than when developing products with in-house design, and medium and small companies can achieve more positive results when designing products through outsourcing design.

Table 5: Moderating effect of Designer Participation on the Effect of Outsourcing Design

Dependent variable \ Independent variable		I	II	III	IV	V
		Coefficient	Coefficient	Coefficient	Coefficient	Coefficient
Total n=1233	OFMD	-0.023	-0.046	-0.022	-0.036	-0.030
	OFLD	0.043*	0.035	0.045	0.025	0.036*
	OFMD *Level1		**0.044***			
	OFMD *Level2			-0.001		
	OFMD *Level3				0.015	
	OFMD *PR					0.010
	OFLD *Level1		0.018			
	OFLD *Level2			-0.004		
	OFLD *Level3				0.021	
	OFLD *PR					0.009
Small n=726	OFMD	0.029	0.007	0.033	0.008	0.001
	OFLD	0.065**	0.056*	0.075**	0.005	0.053*
	OFMD *Level1		0.042			
	OFMD *Level2			-0.017		
	OFMD *Level3				0.024	
	OFMD *PR					0.007
	OFLD *Level1		0.019			
	OFLD *Level2			-0.005		
	OFLD *Level3				**0.073***	
	OFLD *PR					0.015
Medium n=376	OFMD	0.042	-0.030	0.059	-0.015	0.010
	OFLD	0.046*	0.033	0.067*	-0.189	0.071
	OFMD *Level1		**0.131****			
	OFMD *Level2			-0.019		
	OFMD *Level3				0.062	
	OFMD *PR					-0.042
	OFLD *Level1		0.011			
	OFLD *Level2			**0.078***		
	OFLD *Level3				**0.238***	
	OFLD *PR					-0.045
Large n=131	OFMD	0.054	0.119	0.170**	0.140*	0.279**
	OFLD	0.094	0.288	0.103*	0.246	0.060
	OFMD *Level1		-0.147			
	OFMD *Level2			**-0.274****		
	OFMD *Level3				-0.113	
	OFMD *PR					**-0.375****
	OFLD *Level1		0.054			

OFLD *Level2	0.061		
OFLD *Level3		-0.152	
OFLD *PR			-0.068

DISCUSSION

This study examined the moderating effect of designer participation in the product development process on the performance of corporate design activities. Hierarchical regression analysis was performed on 1233 effective samples using industrial design statistics survey data.

As a result of the analysis reveals that if designers participate in the appropriate stage of the product development process, the impact of design investment on corporate performance increases. We verified that having professionals who can understand and develop products in the design stage (concept design, prototyping) appears the same at all corporate sizes. However, the level of designer participation in the pre-design stage of the production process was found to be affected by the size of the company or the design entity (outsourcing, in-house). In the case of large companies, the pre-design stage leads to positive results regardless of all control effects, and in particular, in the case of in-house design, it has a more substantial moderating effect. In the case of small businesses, it exhibits that putting designers in early stages could have a negative impact. In the case of outsourcing design through a design company, the participation of designers in all stages of design has a substantial positive control effect, and in the case of outsourcing, the analysis of the total sample has been verified to have a positive control effect. However, when it comes to in-house design, it was found that the participation of designers in all stages of design has a negative effect on both small and medium-sized companies.

When small and medium-sized enterprises implement an in-house design, it is significant to put designers in the design and post-design stages. It depicts that putting designers in all design stages had a negative effect. On the other hand, large companies have a positive moderating effect by putting designers into the design stage during in-house design. In other words, the practical stages designers participate in differ depending on the company's size. In addition, for medium-sized companies, designer participation in all phases employing outsourcing design-specialized firms was found to have a solid positive control effect. Furthermore, it confirmed that the samples of small and large companies were insignificant, and there was a difference according to the company size.

In the case of multiple stages of in-house design by large companies, it shows that the participation of designers in multiple stages had a powerful positive moderating effect ($P<0.01$). On the other hand, in the case of SMEs and small businesses, it was found that both in-house design and outsourcing design were insignificant or had a negative effect.

IMPLICATIONS

This study has several implications. First, the study is an early-stage study that quantitatively measures the 'Design' process. Precedent studies on 'Industrial Design' are rarely quantitative due to difficulties in measuring the Qualitative character of industrial design. Unlike previous studies, it has theoretical value because it attempted to measure the quantitative effect of industrial design on corporate performance. Second, the study provides reference materials related to the use of industrial design for small and medium-sized enterprises. Small and medium-sized enterprises are easier to imitate large companies' products than to develop original designs and have low awareness of design value (Korea Institute of Design Promotion, 2013). The low need for the design of small and medium-sized companies naturally consists of the low employment of designers (Choi, 2017), and the employment insecurity of designers leads to a vicious circle that leads to low-level design or design copy. Compared to the United Kingdom, the United States, and Europe, Korea does not consider design as industrial property yet. Designers are a vital, irreplaceable resource in the manufacturing industry (van Aken, 2005), and SMEs do not seem to realize this fact. When designers participate in the product development stage, they can improve development efficiency and consequently positively impact corporate performance (Eppinger and Ulrich, 2015). Studies that analysed several large companies argue that the value of design positively affects a company's financial performance (Hertenstein, Platt and Veryzer, 2005; Chiva and Alegre, 2009). This study discussed "when designers should be deployed in the product development stage" and at what scale companies should consider hiring designers to emphasize the need for designer employment. Based on the results, suggestions that can be referenced for designer participation or design resource input at the product development process stage according to the company's size are summarized as follows.

Table 6: Suggestions for Designer Participation

	Participation Level (Phase)	Participation Range
Large company	***Pre-Design*** *(Design Requirement)* ***Design*** *(Concept Design, Prototype)*	Expand
Mid-size company	Pre-Design (Outsourcing Design Firm) ***Design*** *(Concept Design, Prototype)* Post-Design (engineering, Production, QM)	-
Small company	Design (Concept Design, Prototype) ***Post-Design*** *(engineering, Production, QM)*	-

This study discussed "when designers should be put in the product development stage" and "when companies should consider hiring designers" to emphasize the need for designer employment. Based on the results, Table 6 summarizes the suggestions regarding the designer input strategy according to the size of the company.

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From Access to Ownership: A study of E-Scooter Service Customers

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ABSTRACT

Literature suggests a shift from acquisition to non-ownership. However, empirical studies have shown that many consumers still value ownership. Some research has suggested that customers who initially try access-based services end up purchasing the products. To understand this phenomenon, this study surveyed e-scooter rental customers in Sweden, with an aim to investigate when and why customers of access-based services may switch to product ownership. The results indicate that, for low-cost products, customers may choose product ownership over continued access, even when satisfied with the rental service. This is often due to perceived benefits of ownership that exceed those of access.

KEY WORDS: Access-based services, e-scooter renting, shared mobility.

INTRODUCTION

Access-based services refer to “market-mediated transactions that provide customers with temporary limited access to goods in return for an access fee, while the legal ownership remains with the service provider” (Schaefers et al. 2016, p. 571). Many access-based services leverage technological innovations to capitalize on evolving consumption patterns and changing attitudes towards ownership (Belk, 2014), providing customers with convenient and cost-effective product access (Hazée et al., 2017). Despite initial interest in access-based services, however, research has indicated that many consumers still highly value product ownership (Bardhi & Eckhardt, 2012; Fritze et al., 2020; Moeller & Wittkowski, 2010). Furthermore, numerous commercial failures have been observed recently, particularly in the automotive industry, where car ownership remains the norm for most customer segments (e.g., Nansubuga & Kowalkowski, 2021).

Not surprisingly, empirical research predominantly concerns the shift from ownership to access, such as the study of drivers or barriers (e.g., Hazée et al., 2019; Lawson et al., 2021; Oyedele and Simpson, 2018). What these studies have in common is that they investigate markets created and dominated by product ownership, and in which access-based services typically substitute for ownership (e.g., the automotive market or the clothing industry).

What remains unexplored is the situation in markets where ownership is not the norm. In such markets, what would encourage consumers to purchase a product instead of paying for access to it? Furthermore, what can access-based service providers do to retain their customers? Understanding such contexts and situations is critical for comprehending the understanding of access-based services and the dynamics between ownership and access.

To the best of our knowledge, this is the first empirical study that investigates the shift from mobility services to ownership (cf., Kopplin et al., 2021; Mitra and Hess, 2021). Our research sheds light on the overlooked issue of how and under what conditions customers in access-based services transition to product ownership. With this study, we aim to present counter-intuitive insights on access-based services—several that differ from previous research—such as intention to use products or their environmental impact.

METHODOLOGY

We hypothesized that customers satisfied with their access-based service experience will nonetheless be more likely to buy the products they have rented, despite loyalty intentions, due to high perceptions of ownership advantages. As antecedents, we consider three positive factors to customer satisfaction: convenience; performance; and compatibility. We also predict two negative factors: responsibility; and image.

Main hypotheses

- H_1: Perception of high service convenience from shared e-scooters positively influences customer satisfaction.
- H_2: Perception of good performance from shared e-scooters positively influences customer satisfaction.
- H_3: Perception of high responsibility by users because of shared e-scooters negatively influences customer satisfaction.

- H_4: Perception of high compatibility using e-scooter sharing services positively influences customer satisfaction.
- H_5: Perception of negative image in e-scooter sharing services negatively influences customer satisfaction.
- H_6: High satisfaction with e-scooter sharing services positively influences loyalty to e-scooter sharing.
- H_7: High levels of loyalty towards e-scooter sharing services negatively influences E-scooter purchase intention.
- H_8: Perception of high ownership advantages positively influences e-scooter purchase intention.

To test the hypotheses, we conducted a survey of e-scooter service customers—a context considered highly relevant for service research (Skiera et al., 2022). The survey was hosted online in October 2022, preceded by face-to-face interaction. In total, 449 students at two Swedish universities participated in October 2022. A short introduction explained the scope of the survey (i.e., “aimed at those who have ever rented an electric scooter”), the research purpose (i.e., “research on transport and mobility”), the incentive (i.e., lottery with 20 cinema tickets), and instructions (e.g., anonymous data collection, voluntary participation, mandatory responses, 5 min. estimated response time, and data protection policy). The survey questionnaire contained 20 questions, beginning with questions to establish respondents’ usage patterns, followed by more specific questions for each construct. Questions to obtain respondents demographic specifications were asked towards the end.

The sample was reduced to 430 as 18 of the respondents had already acquired an e-scooter (making measures of perceived ownership advantages and purchase intentions irrelevant). One duplicate participation was found; hence, a total of 19 responses were excluded from the dataset.

RESULTS

The survey results were analysed using partial-least square structural equation modelling (PLS-SEM). Before assessing the model’s structural relationship, we established the measures and constructs’ reliability (using composite coefficients □C and □A, as well as the traditional Cronbach’s Alpha; see Table 1), convergent validity (using the Average Variance

Extracted), and discrimination validity (heterotrait-monotrait ratios all below 0.9). Furthermore, we found no issues of multicollinearity to report (VIF values below 3).

Table 1: Measurement Model.

Construct	Indicators	Mean	SD	CA	□C	□A	AVE
Service Convenience	2	5.628	0.428	0.508	0.800	0.524	0.668
Service Performance	3	4.583	0.198	0.912	0.945	0.913	0.851
Service Responsibility	2	4.115	1.406	0.669	0.823	1.447	0.707
Service Compatibility	3	3.768	0.176	0.886	0.930	0.890	0.815
Service Image	3	4.303	0.303	0.883	0.928	0.883	0.810
Customer Satisfaction	4	5.027	0.083	0.883	0.919	0.885	0.739
Service Loyalty	2	3.814	1.122	0.743	0.884	0.797	0.792
Ownership Advantages	4	4.097	0.394	0.768	0.852	0.774	0.590
Purchase Intention	3	2.429	0.505	0.904	0.939	0.933	0.838

The PLS algorithm was used to estimate the path coefficients (□) and their effect sizes (f^2 values) of the structural model—statistical significance was estimated with the bootstrapping procedure (with 10,000 samples). Among positive factors on *Customer Satisfaction*, *Service Convenience* and *Service Performance* have a medium and small effect, respectively—but *Service Compatibility* did not have a statistically significant effect (see Table 2). On the other hand, *negative Service Image* has a small negative effect on *Customer Satisfaction*—and *Service Responsibility* has no significant effect. Therefore, we find support for H_1, H_2, and H_5, while H_3 and H_4 are not supported. Results further suggest that the positive effect of *Customer Satisfaction* on *Purchase Intention* is mediated by *Service Loyalty,* supporting H_6, and H_7. Finally, *Ownership Advantages* has a medium positive effect on *Purchase Intention,* providing support for H_8.

Table 2: Structural Model.

Direct Effects	□	f^2	*t*	*p*
Serv. Convenience → Cust. Satisfaction***	0.421	0.280	10.268	0.000
Serv. Performance → Cust. Satisfaction***	0.380	0.094	5.922	0.000
Serv. Responsibility → Cust. Satisfaction	-0.015	0.000	0.363	0.716
Serv. Compatibility → Cust. Satisfaction	-0.003	0.000	0.056	0.955
Serv. Image → Cust. Satisfaction**	-0.102	0.020	2.759	0.006
Cust. Satisfaction → Service Loyalty***	0.626	0.649	20.279	0.000
Cust. Satisfaction → Purchase Intention	-0.083	0.006	1.603	0.109
Service Loyalty → Purchase Intention***	0.301	0.074	5.176	0.000
Ownership Advantages → Purchase Intention***	0.458	0.289	12.332	0.000

RESEARCH IMPLICATIONS

Our study highlights that, for low-cost products like e-scooters (cf. Lehr et al., 2020), access-based services can have a significant impact on promoting product purchase and ownership, even when customers are satisfied with the rental service and intend to remain loyal. Notably, our findings suggest that satisfied service users may choose to purchase products when they perceive the benefits of ownership as high, rather than continuing to use access-based services.

Our study underscores the importance of understanding the factors that influence satisfaction and loyalty among customers of access-based services. This knowledge can help service providers improve the design and value proposition of their services, ultimately enhancing customer retention.

LIMITATIONS

It is worth noting that our study focused on the shared mobility sector in Sweden. Future research on this topic could yield additional insights by exploring other contexts and markets for access-based services.

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What is the most important among quantity, quality, and timeliness? Evidence from usage of Korean public database

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ABSTRACT

How can the government make and manage public data in a way that helps start-ups succeed? And what should start-ups consider when they use public data? This study evaluates the performance of start-ups by using data envelopment analysis. It considers both the development and commercialization of products and services that use public data with a network model. It also uses Tobit regression analysis to examine how different aspects of public data and government policies affect each performance measure.

INTRODUCTION

Public data is a source of innovation for companies, especially in the era of digital transformation (Beverungen et al., 2022; Fernández-Rovira et al.,2021). More and more companies are using public data to improve their products, develop new ones, or launch startups(Kitsios and Kamariotou, 2017). Therefore, the government's role in creating and managing public data is crucial. A new business model and market based on public data can enhance the national competitiveness in the future. Many countries are supporting start-ups that use public data(Kitsios and Kamariotou, 2017). Previous studies have explored the characteristics of public data, the types of start-up applications, and the government policies for start-up support(Choi et al., 2021; Duruflé et al., 2017; Hansen et al., 2009; Pena, 2002; Wagner and Stemberg, 2004). However, there is a lack of studies that measure how these factors affect the performance of start-ups quantitatively. In particular, no study has analyzed and evaluated the efficiency of start-ups and how it is influenced by public data and government support, even though efficiency is a key feature of start-ups.

MODEL

The model of this study is shown in Figure 1. This study analyzes a two-stage efficiency model. In the first stage, the R&D efficiency using public data is analyzed. The input factors are the number of experts and the start-up costs, and the output factor is the number of intellectual property rights. In the second stage, the commercialization efficiency is measured with the number of intellectual property rights (the output factor of the first stage) and the total number of workers excluding experts as input factors, and total sales as output factor. After analyzing the two efficiencies, Tobit regression is used to understand how environmental variables affect each efficiency. The environmental variables are divided into two main categories: satisfaction factors and necessity factors. Satisfaction factors are related to public data and include Accuracy, Reliability, Timeliness, Quantity, and Convenience. Necessity factors are related to external conditions and include Trend (News), Manpower, Funds, Technology, Education, Consulting, and Policy.

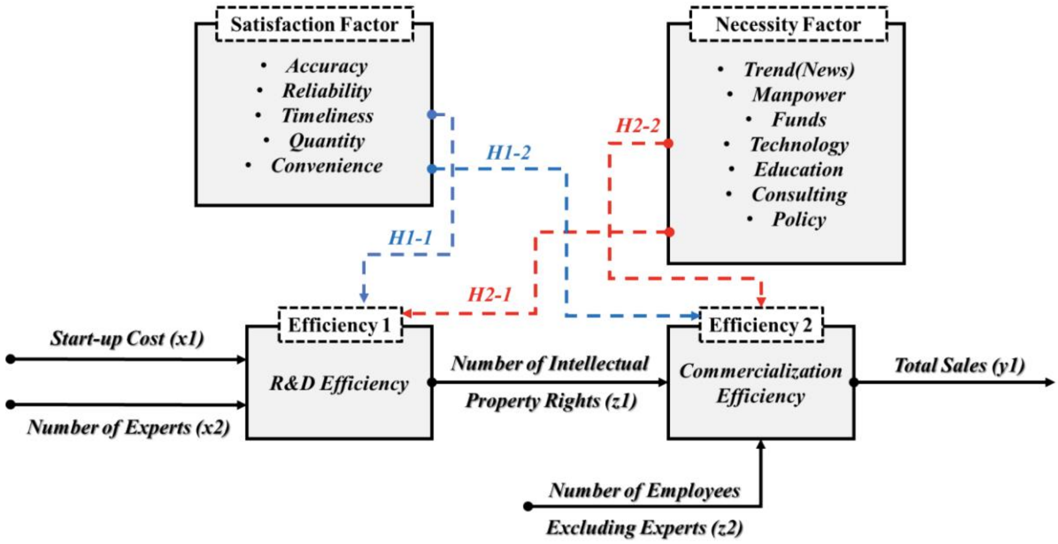

Figure 1: Research Model

RESULTS

Tables 1 to 4 below show the results of hypotheses H1-1, 1-2, 2-1, and 2-2. Firstly, when examining the impact of public data satisfaction on R&D efficiency (H1-1), it was found that only the "timeliness" index of public data had a positive effect on R&D efficiency. Secondly, when considering the effect of public data satisfaction on commercialization efficiency (H1-2), it was found that the "accuracy" and "quantity" of public data had a positive effect, whereas the "reliability" of public data had a negative effect. In terms of the impact of public data necessity on R&D efficiency (H2-1), it was found that utilizing public data for consulting and quality management purposes had a positive effect, while funding-related support such as early start-ups and infrastructure investments had a negative effect. Finally, when examining the effect of public data necessity on commercialization efficiency (H2-2), only consulting and quality management support utilizing public data had a positive effect. Based on these findings, it is clear that timely provision of public data is crucial, and the data should be both accurate and sufficient in quantity. In addition, utilizing consulting and quality control services can improve efficiency. However, it should be noted that prioritizing data reliability may result in decreased timeliness and limited data availability. As a result, it appears that data reliability may have a negative impact on R&D efficiency, and further research is necessary to explore this aspect in more detail.

Table 1: Test results of H1-1

	Coefficient	Std. Error	z Value	Sig.
(Intercept)	-1.2611	0.7681	-1.6417	0.1006
Accuracy	-0.0569	0.4058	-0.1402	0.8885
Reliability	-0.2789	0.4074	-0.6847	0.4935
Timeliness	0.5998	0.3130	1.9164	0.0553*
Quantity	0.0877	0.3039	0.2885	0.7730
Convenience	-0.1979	0.2066	-0.9579	0.3381
Log(scale)	-0.0481	0.1359	-0.3536	0.7236

Table 2: Test results of H1-2

	Coefficient	Std. Error	z Value	Sig.
(Intercept)	-2.4790	0.6511	-3.8075	0.0001
Accuracy	1.2656	0.3111	4.0685	0.0000***
Reliability	-1.0740	0.3609	-2.9760	0.0029***
Timeliness	-0.1819	0.2482	-0.7329	0.4636
Quantity	0.8425	0.3066	2.7478	0.0060***
Convenience	-0.2987	0.2033	-1.4691	0.1418
Log(scale)	-0.3365	0.1388	-2.4241	0.0153

Table 3: Test results of H2-1

	Coefficient	Std. Error	z Value	Sig.
(Intercept)	0.5899	0.3857	1.5294	0.1262
Trend(News)	-0.1058	0.1327	-0.7968	0.4256
Manpower	-0.1531	0.2044	-0.7489	0.4539
Funds	-0.3544	0.1587	-2.2330	0.0256**
Technology	0.3870	0.2427	1.5941	0.1109
Education	-0.1599	0.1423	-1.1237	0.2611
Consulting	0.2842	0.1653	1.7200	0.0854*
Policy	0.0774	0.1343	0.5763	0.5644
Log(scale)	-1.4638	0.1541	-9.4965	0.0000

Table 4: Test results of H2-2

	Coefficient	Std. Error	z Value	Sig.
(Intercept)	0.1477	0.2714	0.5441	0.5864
Trend(News)	0.1435	0.1272	1.1281	0.2593
Manpower	0.0526	0.2121	0.2478	0.8043
Funds	-0.0788	0.1140	-0.6911	0.4895
Technology	-0.0612	0.2066	-0.2963	0.7670
Education	-0.1659	0.1409	-1.1776	0.2390
Consulting	0.3153	0.1618	1.9492	0.0513*
Policy	-0.1297	0.1267	-1.0238	0.3059
Log(scale)	-1.5419	0.1491	-10.3435	0.0000

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Drivers of firm's co-creation with users

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ABSTRACT

The continuous changes generated by the globalization, the new technologies, shorter product lifecycles or changes in consumer needs and tastes, requires companies to update their resources and capabilities to improve their response. The lack of specific knowledge and technology pushes companies to collaborate with their stakeholders. In some cases, this collaboration is directly with users and focused to jointly create value from goods or services, co-creation with users. Previous studies related to co-creation with users have been focused mainly on the characteristics and motivations of the co-creative users. However very little has been done attending to what characterizes the companies that turn to co-create. In this study, we aim at identifying the relevant features that drive or hinder co-creation using machine learning techniques. The results indicate that what most pushes companies to co-create is related to the innovative attitude and strategy towards their environment. Companies that are oriented to customization, standardization and that are engaged in innovation cooperation activities with stakeholders are more likely to co-create. Innovative companies are also more likely to co-create. The study suggests that firm's innovation strategy and orientation towards a better understanding of customer needs is driving co-creation. Our study also reveals that typical innovation drivers such as in-house R&D, public funding or the company size does not drive co-creation. Taking into account that most of Spanish companies are SMEs and that they lack on innovation capabilities to develop innovations in-house, the results highlight a path for non-R&D innovators to maximize their innovation success by focusing on customer specific solutions. The results are of great interest to highlight managers and policy-makers how to develop strategies and policies to encourage innovation through co-created goods or services.

INTRODUCTION

The continuous change in firm's environment, such as those changes because the globalization, the new technologies, shorter product lifecycles or changes in consumer needs and tastes, requires companies to update their resources and capabilities to improve their response (Chen, Reilly and Lynn 2012). However, the scarcity and the lack of specific knowledge and technology, specially in SME's, pushes companies to seek for these resources through collaboration with other external stakeholders. Eventually, this collaboration goes further and extends toward co-creation.

Many definitions have been reported for Co-creation (Alves, Fernandes, and Raposo, 2016; Galvagno and Dalli, 2014; Ranjan and Read, 2014; Ramaswamy and Ozcan, 2018). Despite the numerous approaches to the concept, we understand co-creation as the process by which a firm and a stakeholder jointly create value from their goods or services (Prahalad and Ramaswamy, 2004a, 2004b). Particularly, for this study we will consider the stakeholder being the user of the good or service (co-creation with users). A user can be an end customer or an enterprise which uses a product as an intermediate product. This requires the active participation and interaction (engagement) between the parts, the user and the firm. Additionally, we consider the extension of the co-creation to the design and development of the product or service with the user.

Thus, co-creation differs from customization, which is considered when the firm designed and developed the product alone. In customization the user is limited to adapt and select product features during the final stages of product development. It also differs from open innovation (Chesbrough, 2003a, 2003b) because open innovation involves a cooperation and interaction between different stakeholders while co-creation focusses more on the collaboration between the firm and a specific stakeholder, in our case, the user. Additionally, co-creation is not limited to innovation (co-innovation) but extends to other processes, such as design (co-design) or production (co-production) (Chebbi, Yahiaoui, Thrassou, and Vrontis, 2013; Payne et al., 2008).

The literature has focused on the characteristics and motivations of co-creative users. Among their characteristics, studies have focused on their technological skills, cooperative skills, market knowledge or attitudes among others (Etgar 2008, Cova and Dalli 2009, Prahalad and Ramaswamy 2004a), while motivations are related to empowerment, recognition, enjoyment or information seeking and control, among others (Füller 2010, Etgar 2008, Füller et al. 2004, Xie et al, 2008)

METHODOLOGY

The aim of the study is to identify the characteristics of co-creative companies and how and to which extent these features affect. Traditional multivariate methods based on regression, such as logistic regression or discriminant analysis, would allow to classify companies in predefined groups, such as for example differentiating companies that co-create from those that do not co-create. These linear models are simpler and easy to interpret when the number of variables are relatively low. However, in real world applications they are very limited and they are not able to capture complex interrelations between variables as their number grow. Thus, we used a machine learning (ML) algorithm to overcome these issues. Although the models created outperform traditional multivariate linear models, they are not free of complications. ML models are like a black-box to human interpretation. Therefore, ML need of additional tools to interpret the models that are generated. In this section we will justify the selection of a ML model that it is both accurate and interpretable.

Data preparation

We used data from the Community Innovation Survey (CIS) 2018 for Spain. The CIS is designed to provide information on the innovativeness, on innovation drivers or barriers and on the innovation outcomes. In addition to the mandatory variables, each wave includes voluntary variables to pulse on trending topics. CIS 2018 included questions related to strategy and knowledge flows with information about firms offering of goods or services co-created with users, goods or services designed and developed specifically to meet the needs of particular users (customization), and standardized goods or services offered to different users in the same way, including mass customization.

The database contains data from 31105 Spanish companies and 240 variables. The database required some preparation in order to apply ML algorithms. Particularly, we eliminated variables that give no information to the study (i.e. country, id) and we converted categorical variables, such as, the industry to dummies.

Accuracy metric

The selection of the metric allows the models to be evaluated to determine their performance. The model intends to predict if a company is a co-creator or not (our target variable). Cocreators represent only 12.13% of the population in the sample. This highly imbalanced distribution of cases suggests that traditional accuracy (correct predictions/total predictions) is not a proper measure to evaluate the performance of the models (Galar et al., 2011). In these cases, the most commonly used metric is the roc auc score. We will use roc auc score to compare the model performance in the selecting the algorithm, handling the imbalance sample and tunning the model.

Algorithm selection

To select the machine learning algorithm, we evaluated a set of different types of algorithms (linear, non-linear, and ensemble algorithms) with the default options of the total sample to determine the optimal algorithm for our study. We used stratified k-fold cross-validation with five splits and three repeats to ensure that each fold had the same class distribution as the original dataset and to capture a sample of the algorithm performance on the dataset effectively. Among the different algorithms we selected the extreme gradient boosting algorithm (XGBoost) which outperformed the other machine learning algorithms.

Imbalanced sample

In our study, distribution of samples across the classes of the target variable are significantly imbalanced. Machine Learning classification algorithms try to minimize the error rate instead of focusing on the minority class and, therefore, do not work well in imbalanced datasets (Kuhn and Johnson, 2013) To avoid this issue there we tested different techniques available (Kuhn and Johnson, 2013) such as, oversampling (SMOTE, BorderlineSMOTE and ADASYN) and cost-sensitive techniques. We decided to sticked to Class Weighted XGBoost or Cost-Sensitive XGBoost with the scale_pos_weight parameter because we obtained the best roc auc score off all.

Feature reduction

In a classification problem with many predictive variables not all the predictors have an impact on the target variable and they add noise to the model and, in many cases, reduce their performance. Machine learning algorithms have built-in feature importance methods to determine which features select (Kohavi and John, 1997; Kuhn and Johnson, 2013) but they are algorithm dependent and require researcher to determine a threshold level (Kursa and Rudnicki, 2010, Guyon and Elisseeff, 2003, Nilsson et al., 2007). We used Boruta algorithm (Keany, 2020) that removes the features that are proved by a statistical test to be not relevant in an iterative process (Stoppiglia et al., 2003). Therefore, Boruta leads to an unbiased selection of features. We selected the 19 attributes determined by Boruta to be important to proceed in the next steps of the analysis.

Model tunning

Machine learning algorithms tend to overfit, limiting their performance. Hyperparameters allow to control for the model development and, therefore, to avoid overfitting. To find the optimal set of hyperparameters, we performed a step procedure with a grid search. In each step we tested one or more hyperparameters and kept the best performer fixed for the rest of the steps. After this process the optimal performance (roc auc score= 86.08%) was obtained for the following XGBoost parameters: learning_rate= 0.1, min_child= 1, max_max_depth= 4, subsample= 0.6, colsample= 0.8, reg_alpha= 0 and gamma= 0. Table 1 summarizes the performance results for the optimized model.

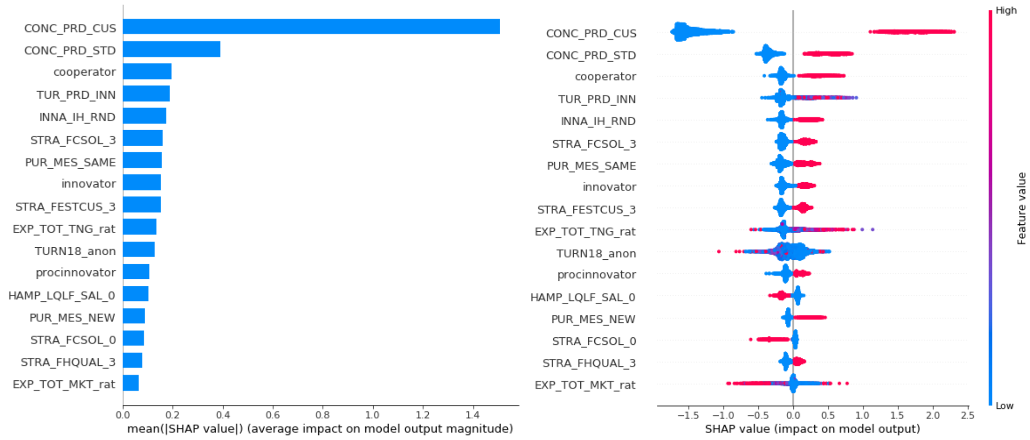
Table 1: Confusion matrix and model performance measures

Predicted label **True label**	**Does not co-create**	**Co-creates**		
Does not co-create	4697	787		
Co-creates	106	649		
	precision	**recall**	**f1-score**	**support**
Will not dedicate time	0.98	.86	.91	5466
Will dedicate time	.46	0.86	.60	755
accuracy			.86	6221
Macro avg	.72	.86	.76	6221
Weighted avg	.92	.86	.88	6221

Model interpretation

Machine learning algorithms perform well but they are difficult to interpret. Among the different interpretation algorithms for machine learning models we used SHapley Additive exPlanations (Lundberg and Lee, 2017; Lundberg et al., 2020). Shap values enables us to evaluate feature importance (size of the impact) and the direction of the impact. Figure 1 presents, on the left, the feature importance (average of the marginal contributions of each feature) and, on the right, the distribution of shap values, which indicates the direction, distribution and symmetry of the impact.

Figure 1



RESULTS AND CONCLUSIONS

Results on figure 1 indicate that the most important characteristic in determining if a company cocreates is if it has launched customized products. Particularly, we can see that customization has kind of a symmetrical impact on the determining co-creation and shap values distribute at the two sides of the 0 axis. That is, if the company offers customized products they get high positive shap values, increasing the chances to be classified in as a co-creator and if not they get high negative shap values which increases the chances to be classified as a co-creator. Companies that offer standardized products act similarly but its impact, although important over the rest of the variables, is much inferior to customization. In figure one we can see that other variables relevant relate to cooperation or innovation. Then, companies that cooperate for innovation with all sorts of stakeholders or that have introduced innovations lately are more likely to co-create with users.

Overall results indicate that what most pushes companies to co-create is related to the innovative attitude and strategy towards their environment. Companies that design and develop goods or services specifically to meet the needs of particular users (customization), to different groups of users through standardization (mass customization) and those that are engaged in cooperation activities with stakeholders are more likely to co-create. Moreover, companies that innovate introducing product and process innovations are more likely to co-create. Thus, the results suggest that co-creation is a step forward in firm’s innovation strategy and orientation towards a better understanding of customer needs is driving co-creation. Our study also reveals that typical innovation drivers such as in-house R&D, public funding or the company size does not drive co-creation.

Taking into account that most of Spanish companies are SMEs and that they lack on innovation capabilities to develop innovations in-house, the results highlight a path for non-R&D innovators to maximize their innovation success by focusing on customer specific solutions. The results are of great interest to highlight managers and policy-makers how to develop strategies and policies to encourage innovation through co-created goods or services. The research limitations are related to the cross-sectional nature of the data and the geographic scope of study.

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Impact of the Relational Motive to Co-Create on Service Quality

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PROBLEM AND MEYHODOLOGY

IT services involve intense participation of the client, which is critical for service success (Yeniaras, Di Benedetto and Dayan, 2021) and service quality (Jaakkola and Alexander, 2014). While the overwhelming majority of research focuses on the positive effects of these relationships (Ellram and Murfield, 2019), a growing interest in their negative effects has been observed over the last two decades (Pillai *et al.*, 2017). Still, Little research has attempted to combine both positive and negative effects of relationships on service quality. Following Noordhoff *et al.'s* (2011), we combine both literature streams capturing the positive and negative effects through the relational motive to co-create value (hereinafter, RMCCV) and explore the relationships between RMCCV and the erosion of service quality. The RMCCV, defined as "enhancing the social and emotional connection" between teams from the service provider and the client (Neghina *et al.*, 2017, p. 160).

Our research focuses on two positive effects of the RMCCV applied to an IT project: (1) improves the communication between the team members (Rood *et al.*, 2018) and (2) improves business knowledge (Noordhoff *et al.*, 2011) which will improve productivity (Aisyah, Sukoco and Anshori, 2019). We focus on two adverse consequences identified in the literature. First, biased judgments and evaluations (Villena, Revilla and Choi, 2011; Rood *et al.*, 2018). Second, the acceptance of bad performance (Villena, Revilla and Choi, 2011) and blurring lines between the roles of the service provider and the client (Rood *et al.*, 2018), contributing to lower expectations and poor goal definition (Villena, Choi and Revilla, 2020). These impacts can be more corrosive in the long run because these effects may go unnoticed for long periods, giving cover to opportunistic behaviors (Villena, Choi and Revilla, 2020).

We developed a system dynamics simulation model to capture the positive and negative effects over time from the RMCCV capturing five feedback loops. First, the RMCCV is responsible for increasing dialogue capability. Second, the stronger the emotional connections get, the less willing the client will be to change team members limiting training and producing staff alienation. Fourth, the increase of the relational motive will decrease schedule pressure and consequently service quality. Fifth, closer social connections between the team members will make it easier to accept quality cuts.

The integration of these feedback loops results in the model depicted in Figure 1:

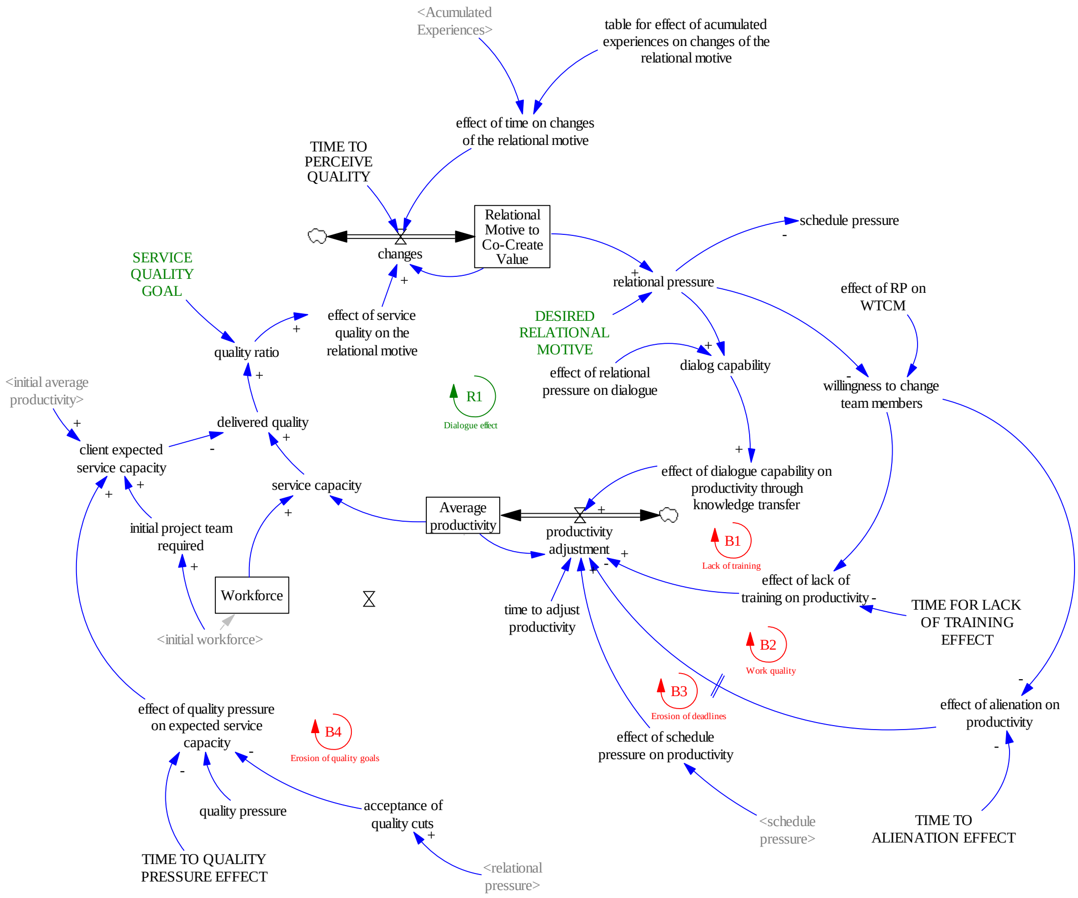

Figure 1. Feedback structure

RESULTS

The results show that the RMCCV has a significant impact on service capacity, expectations, and goals, and generates an unintended process of service quality erosion that reinforces itself over time. The results also show a significant impact of service quality on the RMCCV. If unmanaged, the RMCCV creates significant pressure to underachieve and underinvest over the long term through four negative effects on service capacity and expectations that are only observed at later stages of the service delivery, generating an erosion of service quality. Results also show that management decisions to stabilize the RMCCV and to set quality goals have a positive effect on service quality. From the tested policies, although the policy of preventing the development of close relationships helps to stabilize service quality, the most efficient one in fighting the erosion of service quality was increasing service quality goals moderately. Setting unrealistic service quality goals does not help any further. Results present a clear call to adopt the aggregated approach to manage the relationships between service providers and clients, combining both positive and negative effects of the RMCCV.

The present research highlights four main theoretical implications. First, it backs the growing research on the dark side of relationships, by showing how and when increases in the RMCCV cause service erosion. Second, we explain how the different effects evolve and interact with each other over time. Third, we introduce a new context in which to observe the RMCCV and are the first to focus on analysis over time. Finally, we introduce a complementary method to support service scholars that accommodate the dynamic nature of motives to co-create value with feedback and nonlinear relationships.

The present research also provides practical managerial implications. First, companies should consider setting quality goals anchored by benchmarking values. Second, this study helps to find new co-creation strategies relationship strategies to avoid the negative effects. The promotion of knowledge creation and its formalization, and knowledge exchange are important measures to maximize the value of the relationship but also to increase the efficiency of knowledge transfer and integration of new staff. Third, the results call for investments in systems to monitor and plan activities. Fourth, companies must invest in systems to support the correct management of expectations both for the team and for the client. Fifth, the identification of five feedback loops aids in the development of simple guidelines that can be translated and integrated into existing service management processes.

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Designing transformative service initiatives for caregiver well-being

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ABSTRACT

This study investigated the impact of transformative service initiative (TSI) on informal caregivers. Survey data from a non-governmental organization's caregiver training program showed improved self-reported knowledge and understanding after training, though the gains were not sustained two months later. Applying community-of-practice theory to open-ended responses, we found that caregivers expressed a desire to understand their role and feel a sense of belonging to a community. This suggests a need for additional design features in TSI to address caregivers' latent needs.

INTRODUCTION

The well-being of informal caregivers is strongly linked to that of their care recipients or dependents (Berry et al., 2012, Elliott and Pezent, 2008, Roth et al., 2015). In this study, we examined the transformative service design of mental health literacy and self-care skills for caregivers of persons with mental health issues and investigated its effects on caregiver well-being. For the purposes of our study, informal caregivers are defined as persons who voluntarily provide unpaid and ongoing assistance to, whether related or not by familial ties, persons with mental health issues. Such mental health issues span across a wide range of conditions including depression, anxiety disorders, eating disorders, addiction and substance abuse, schizophrenia.

Caregiver well-being is defined as a state of psychological, emotional and physical contentment while providing care. Caregivers face relentless demands from functional daily living activities to socio-emotional needs of their care recipients; they are at-risk of stress, which can impact the well-being of their care recipients. Despite growing awareness of mental health issues, there remains significant opportunities for transformative service initiatives to improve caregiver well-being. Enhancing self-efficacy (Bandura, 1977), including knowledge, understanding and skills, may improve caregiver well-being.

BACKGROUND LITERATURE

The provision of training to improve caregivers' knowledge and equip them with skills in self-care can be seen as a transformative service initiative (TSI). Such caregiver training can create "positive and uplifting changes to improve the wellbeing of individuals or collectives" (Ostrom et al., 2015). Caregivers could receive training on communication, conflict management or self-management to improve confidence and self-efficacy in the caregiving process and interactions with the care recipient. However, in the area of transformative service, extant literature has been focused on the measurement and optimization of services (Ostrom et al., 2015) and the access or availability of services (Boenigk et al., 2021, Bone et al., 2014). More research is needed in the area of service design for transformative service (Anderson et al., 2018). Design plays a crucial role in shaping the experience and impact of a service (Bitner et al., 2008). The design of TSI requires an ecosystem of business components, actors, and government agencies to collaborate and implement.

To contribute to the design, development and delivery of effective TSIs for caregivers, our study examined what kind of transformative service design would create a lasting effect on knowledge and behavioral outcomes that will improve the caregivers' well-being (Boenigk et al., 2021).

RESEARCH CONTEXT

We investigated a non-governmental organization (NGO) registered as a charity, that offered transformative service by training caregivers of persons with mental health issues. The NGO trained these caregivers over a 12-week duration, imparting them with knowledge, caregiving skills and self-care, to improve their well-being.

Caregivers as course attendees, learned about the biological and physiological state of different mental health conditions, various types of medical regimen, communication and problem-solving techniques required for providing care. The training aimed to improve knowledge and caregiving skills that would in turn increase caregivers' self-efficacy and consequently enhance their sense of well-being.

The NGO invited course attendees to complete the questionnaire at multiple points in time before the start of training, immediately after and two months post training. The questionnaire evaluated respondents' knowledge of their care recipients' mental health conditions, coping and problem solving skills, caregiving experiences, and self-care.

FINDINGS FROM QUANTITATIVE ANALYSIS

In all, there were 787 course attendees from 53 class held in 2020 and 2021. Course attendees were invited to complete the survey questionnaires that consisted of similar items for ratings at three points in time. Besides rating similar survey items at different times, course attendees provided qualitative feedback in the questionnaire immediately after training.

Not all attendees completed the survey questionnaires. Of all course attendees, 99 per cent (777) completed the pre-training survey, 85 per cent of all attendees completed the survey immediately after training and 74 per cent returned the completed survey questionnaire two months post training.

We hypothesized that course attendees' ratings across survey items would increase compared to their self-reported ratings pre-training. Results from ANOVA analyses indicated a significant improvement in self-reported knowledge and skills acquired before and after training. This being a TSI, we also hypothesized that the effects of training would be similar immediately after training and two months post-training. However, the training outcomes did not sustain post-training compared to ratings immediately after training (n=787, p<0.05). The ratings for the same item declined two months post-training compared to immediately after training.

FINDINGS FROM QUALITATIVE ANALYSIS

We adopted interpretative approach to analyze the qualitative feedback. The NGO sought two questions for qualitative comments from the course attendees: 1) how can the course be improved and 2) how can the organization serve you better as a caregiver.

Between the two questions, a total of 695 counts of response (one response as one count), which means 254 respondents answered both questions at least once. We organized the comments into three categories, 1) about the course content, 2) about complementary services provided by the NGO, and 3) about the teaching pedagogy of the course.

Comments about the course content included learning specific mental health conditions, different stages of mental health diseases, and specific techniques to connect with the care recipient; approximately 102 counts of the course content. The organization also asked what other services it could provide to support the respondents as caregivers to solicit ideas of possible services provided in the future. Comments that contained words like "consultation," "counsellors," and "community" are considered comments about complementary service; approximately 84 count in this category. Comments that contained words such as "discussion," "role play," "bringing their care recipients along," and "sharing of experiences in class" are considered as comments about teaching pedagogy; approximately 59 counts in this category.

To understand what other design features were needed with the course, we probed into the learning needs of the course attendees through the lens of community-of-practice theory. As a social learning theory, community of practice (Lave and Wenger, 1991) emphasized on the social interactions among individuals with common interests and shared experiences to construct knowledge. While the caregivers attended the course to receive training, they were also constructing knowledge among each other and in so doing, formed a community of practice around their caregiving experiences.

In addition to the training, they longed for a community among caregivers. For instance, when asked about other services, respondents said that they would like to maintain social connections with other attendees. Some caregivers would like to talk to other caregivers who care for recipients with similar disease conditions like their recipients. Young caregivers anticipated opportunities with caregivers of similar age group. Caregivers providing care to patients with schizophrenia may have a very different experience from caregiving experience for patients with anxiety, depression or dementia. Respondents would also like to have consultation with counsellors, or work with a coach to develop a care plan for themselves and their care recipients. Course attendees also suggested that they would like their care recipients to attend the course. Caregivers were looking for opportunities to co-construct knowledge about care with their recipients and that the care recipient may also empathize and find assurance by learning about their caregivers' experiences.

IMPLICATION AND CONCLUSION

Our study contained implications for the design of transformative service. The 12-week course imparting knowledge and skills to caregivers was necessary, but more is needed for long-lasting effect of enhanced well-being. Although training outcomes were attained immediately after the course, they do not sustain two months later. This suggested that training on its own is insufficient to assure the acquisition of knowledge and skills that would handle varying caregiving tasks and challenging situations.

Qualitative feedback showed that attendees would find it even more helpful if there was an ongoing sharing of experiences, stories, and community participation. Design of transformative service could incorporate deliberate orchestration of interaction among the course attendees to foster community participation. This would help to identify themselves as caregivers and build their sense of belonging so that they feel supported in their caregiving journey.

This study evaluated TSI design and delivered in a training format. The design of this TSI was dominated by the in-service or training, in particular the experiences of course attendees. Knowledge transfer and skills acquired from training formed the practical and tangible outcome of this TSI design, evident from the survey questionnaire. The provision of a 12-week caregiver training introduced caregivers to a body of knowledge but the introduction to knowledge was insufficient to transform individual attitudes, confidence, perceived control and action thereby improving wellbeing (Ajzen, 1991, Fishbein and Cappella, 2006). While the body of knowledge acquired contributed to caregivers knowledge and skills, the design of TSI will need to account for the lived experiences (van Manen, 2007) of individual caregivers beyond training for achieving transformative outcomes such as being more confident in their caregiving tasks, having more autonomy in decision-making, less likely to feel guilty while away from care recipients, and having a more positive outlook in life beyond caregiving. In other words, the design of TSI should account for tangible as well as intangible features.

By intangible features in the TSI design, we refer to opportunities, social mechanisms, or environments that uplift individual attitudes, confidence, sense of agency, and perceived control, leading to transformative behavioral outcomes. This builds on the seminary works by Ajzen and Fishbein on the Theory of Planned Behavior and Theory of Reasoned Action. More research is required to unpack the transformative behaviour resulted from the interworking of tangible and intangible features of TSI design.

The absence of comparative analysis against caregivers without training is a limitation of this study. We had used survey ratings by course attendees pre-training as the baseline for comparison immediately after training and two months post-training. There is inherent sampling bias since the individuals who registered for the training were likely those who had recognised their inadequacies in caregiving knowledge and skills. A likely explanation for the observed difference between the results pre-training and post training. Future research may incorporate propensity score matching to analyse the effects of TSI design.

Future research can explore and examine the interworking of tangible and intangible features and their effects in TSI design for informal caregivers. Community of informal caregivers can also cocreate value for themselves, their care recipients, their loved-ones and likely their networks. Their prosocial motivations could be extended to benefit the collective good. For example, explicate the value co-created and transformative outcomes beyond the individual caregiver to caregiver and the wider community. As many countries cope with the rising costs of care associated with ageing societies, more research will be needed to investigate into the transformative potential of informal caregivers to transform both the quality of life of care recipients and community well-being.

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Sequential Perspective to Service Scripting

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EXTENDED ABSTRACT

This service design study investigates the use of scripting across two sequential face-to-face encounters. Service organizations use scripting to guide employee behavior. Scripts are typically taught to employees in training, and may include task (e.g., process steps to complete) and verbal (e.g., greet customers using particular words or phrases) specifications (Tansik and Smith, 1991; Victorino et al., 2013). In this research, we focus on investigating the use of verbal scripting as defined by the service organization.

Service management research about scripting is growing, and includes work that evaluates the implications script use has on important service outcomes such as customer citizenship behavior (Nguyen et al., 2014), customer perceived discrimination (Walsh and Hammes, 2017), and customer perceived service quality (Victorino et al., 2013). For example, Victorino et al. (2013) found that for standardized encounters, perceived service quality did not significantly differ when a relaxed, moderate, or predominantly scripted approach was used, but did differ for customized encounters.

We hypothesize that a sequential perspective to scripting will differ from considering an encounter in isolation. We also aim to explore how scripting strategies of consistency (i.e., repeating the same script level across encounters) and contrasting (i.e., varied script levels used across encounters) influence customer perceptions of performance. We conducted two studies using a video experiment of two hotel service encounters (check-in and concierge), with one employee and a customer. The employee in each encounter was either predominantly scripted or followed a relaxed approach to scripting. In both the relaxed and predominant scripting conditions, the same service outcome was reached (i.e., the customer is checked in for the check-in encounter and the customer is given restaurant recommendations in the concierge encounter). Other potential confounds such as physical evidence, encounter content (e.g., upgrade promotion at check-in and same restaurants recommended by the concierge), process steps, and the customer's response were kept consistent. The same two check-in and two concierge videos were used in both Study 1 and Study 2. 2 Study 1: A Qualtrics survey invited participants to watch a single randomly assigned

video and then provide their perceptions of the employee's performance. Amazon Mechanical Turk was used to recruit a sample of 106 participants. Participants were able to detect the two differing script approaches, with the means in the correct direction (i.e., the relaxed approach was perceived as less scripted compared to the predominant condition). When comparing the two script levels used in the two encounters, no significant difference was found for check-in encounters. In contrast, a significant difference ($p<0.05$) was observed for the concierge encounter with a predominantly scripted concierge resulting in the lowest perceptions. Study 2: A second Qualtrics survey included a written narrative that described an overnight hotel stay. Within that narrative, one check-in and one concierge video were embedded, and filler tasks were added to simulate the elapsing of time. At the end of the survey, participants were asked to assess customer perceptions of the employee's performance. Amazon Mechanical Turk was used to recruit a sample of 377 participants.

Compared to participants who viewed only the relaxed check-in condition in Study 1, those assigned to the relaxed approach to scripting for check-in in Study 2, who then experienced either concierge experience, had a higher perception of overall performance ($p<0.10$). Similarly, those in the predominantly scripted condition for concierge in Study 2 had a higher perception of overall performance ($p<0.05$) compared to those in Study 1. With support for the belief that sequence matters, we then analyzed the impact of a consistent and contrasting approach to scripting. We found that a relaxed approach had a higher overall performance perception compared to a predominant approach to scripting at check-in ($p<0.10$) and for the concierge encounter ($p<0.001$). Moreover, there was an interaction effect between the scripting approach and encounter type. In support of a contrasting approach, the predominantly scripted check-in encounter followed by a relaxed approach to scripting for the concierge encounter resulted in a higher perception of the overall performance ($p<0.001$) than when the concierge employee was predominantly scripted.

On the other hand, those in the relaxed-approach-toscripting condition at check-in had a higher perception of overall performance ($p<0.10$) when followed by a relaxed script at concierge, supporting a consistent approach to scripting. 3 When assessing the difference between those in the predominantly scripted concierge condition, we find that contrasting is preferred ($p<0.05$). The perception of overall performance of those in the relaxed script at concierge conditions, however, were not significantly different when comparing a relaxed to a predominantly scripted check-in. Both averages were comparatively higher values, supporting the conclusion that a relaxed use of scripting at concierge was preferred, regardless of script level at check in.

In summary, we found that customers perceive employee performance differently when considering encounters sequentially rather than independently. When evaluating a consistent versus contrasting design strategy for scripting, results were mixed as neither was dependably perceived more positively by customers. Instead, it appears that the script level used for the concierge encounter, whose process type is typically customized, dominates customer perceptions of overall performance. Our results suggested that a relaxed check-in can act to improve the overall perception of sequences with more highly scripted elements.

Our work suggests to practicing service managers to take a sequential view when deciding their approach to scripting multiple face-to-face encounters that comprise the same service experience.

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An Approach for Well-Being-Oriented Self-Career Management Skills

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ABSTRACT

This paper developed and applied a co-creative dialogue approach to get students to think about well-being in a career coaching service for university students. This co-creative dialogue approach is to promote well-being thinking in career planning by taking a cafe-style approach where people can talk openly and network freely. It was conducted with 90 students in their first and second years at university. Feedback data submitted after the classes were analyzed using a grounded theory approach. The results shows that the co-creative dialogue approach accelerates value co-creation and promotes resource integration among actors, thereby developing well-being-oriented self-career management skills of students.

INTRODUCTION

Career coaching is a service in which value co-creation occurs between coach and participant or among participants. In the field of transformative services research (TSR), it has been noted that value co-creation leads to an uplifting change in the actor (Anderson et al., 2013). Therefore, value co-creation is an integral part of career coaching services. Traditional college education has focused on developing career management skills with an emphasis on job search(Jackson and Wilton, 2016). Proactivity in career management enhances self-actualization skills (Raelin et al., 2011). To survive in an era of rapid change, it is necessary to develop career management skills not only in a narrow sense of career but also in a broader sense that considers the entirety of one's long and continuing life.

Recently, attention has focused on the development of well-being-forming capacities through education. OECD (2019) has pointed out the need to form the power for children to be aware of their well-being and to acquire the ability to transform society proactively. Methodologies for creating a well-being orientation that goes beyond academics and focuses on developing the ability to form well-being for a more prosperous life have yet to be fully established. For example, well-being coaching has been proposed, but individuals manage their own lives. Therefore, one should acquire well-being-oriented self-career management skills to achieve the long-term well-being that one desires anytime, anywhere.

The Covid-19 epidemic has changed students' university life, especially regarding students' psychological well-being (Cao et al., 2020). With the development of positive psychology, educational programs, including career coaching, have been developed to improve students' psychological well-being. However, practically, the education does not always make success. For example, in school education services, value co-destruction in which the service system is forced to change unexpectedly, resulting in a reduced quality of the interaction process between students and educators (Loïc and Ruben, 2010).

Value co-creation improved psychological well-being (Ryff and Singer, 1996). It is also necessary to consider educational services from the perspective of fostering the ability to formulate well-being so that students can maintain or enhance it in unpredictable situations. during a limited education period at Covid-19.Therefore, in future university education, developing well-being-oriented self-career management skills is necessary to help students overcome unforeseen problems and realize sustainable well-being.

This study explores the effects of co-creative dialogue approaches in educational services to develop well-being-oriented self-career management skills, aiming to improve psychological well-being through value co-creation during the limited period of Covid-19.

CONCEPTUAL BACKGROUND

Value Co-Creation

In service-dominant logic (S-D logic), value co-creation occurs through the interaction of actors (Lusch and Vargo, 2014). Value co-creation is applied to a wide range of objects. Value co-creation has been used for many things, and actors who create resources by combining resources are called resource integrators and co-create value. Resource integration aims “to co-create value for the actors integrating resources and developing new potential resources” (Lusch and Vargo, 2014 p.155). On the other hand, the goods-dominant logic (G-D logic) perspective is based on the view of unidirectional value exchange between actors, i.e., supplier and consumer. Still, the resource integration process in educational settings is complex. It can be better understood by exploring contextual value through S-D logic and using an actor-to-actor perspective, which is Value co-creation, a process that can be applied to a wide range of subjects.

Well-being

Research on happiness has been conducted extensively in psychology, economics, sociology, social work, and medicine. Diener developed his research on subjective well-being by studying what makes people happy (Diener, 2000). Well-being research in psychology has been conducted on a wide variety of topics. For example, strengths (Seligman, 2002), curiosity (Kashdan, 2009), courage (Biswas-Diener, 2012), purpose in life (Ryff, 2013) and (Biswas-Diener, 2012), and Motivation for Living (Ryff, 2013), among others. In service research, research in the area of Transformative Service Research, which focuses on human well-being, is making well-being (Anderson et al., 2013) The study also focussed on the human well- being of the people being the service.

Co-creative dialogue approach

Dialogue theory is gaining attention in the context of social innovation. Dialogue is an act of co-creation that aims not simply to exchange opinions but to explore and generate new understandings and attitudes that support thinking and action (Isaacs, 1999). The World Café is based on the idea that emergence occurs in a café-like space where people can talk openly and network freely (Brown and Isaacs, 1999; Brown and Isaacs, 2005). Well-being is based on an individual perspective and is realized through questioning one's well. The well-being dialogue approach (Well-Being Café®) is a café-style approach that places well-being at the core of the dialogue. It is believed to promote a relaxed, friendly atmosphere and dialogue(Fouché and Light, 2010).

METHODOLOGY

The study was conducted with 90 students in grades 1 and 2 (66 students excluding missing) enrolled at a university who agreed with the purpose of the study. In two online career development classes, a co-creative dialogue approach was developed and adapted to wellbeing-oriented career development education to enhance well-being-oriented self-career management skills. Questionnaire survey consists of open questions about asking the behavioral and mental changes to improve their psychological well-being was administered before and after the class. Approval was obtained from the Life Science Committee of JAIST (Approval No.: Person 04-062) as the data were collected from human participants.

Analysis

The reports submitted after the class were analyzed using the Saiki version of the Grounded Theory Approach: GTA (Saiki, 2016). GTA is a qualitative research method for exploring phenomena and constructing theories and is an analysis method suitable for extracting concepts from qualitative data. Saiki's version of GTA reduces the risk of analyst bias by labelling and categorizing images based on properties that indicate the researcher's perspective and dimensions that show the range of concepts from the perspective of the properties, raising the level of abstraction and leading to more significant concepts. In addition, storylines, which represent the relationships among concepts in sentences, clarify the relationships among ideas and the overall picture. In this study, we analyzed data based on the GTA procedure.

RESULTS

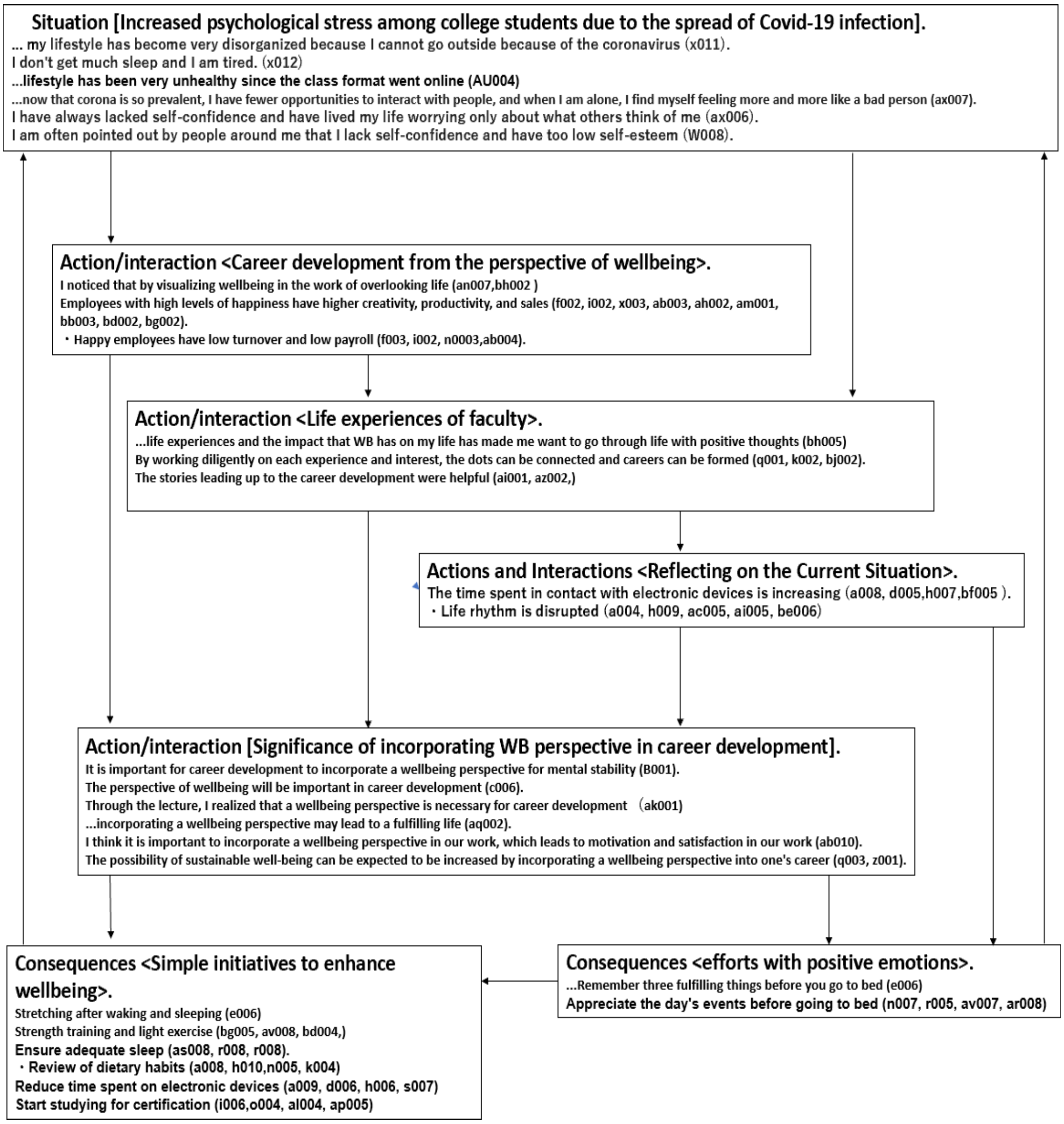
As part of the open coding process, we intercepted the content necessary for well-being-oriented career development for one person at a time. Label names were assigned to briefly describe the contents of the intercepts, and properties and dimensions were extracted. Similar labels were grouped and categorized by checking the label name and the content of the intercept.

Next, each category was classified by phenomenon using the paradigm of [situation], [action/interaction], and [consequence]. The relationship between paradigms and types is shown in the table 1 below.

TABLE 1: Relationship between paradigms and categories used in GTA

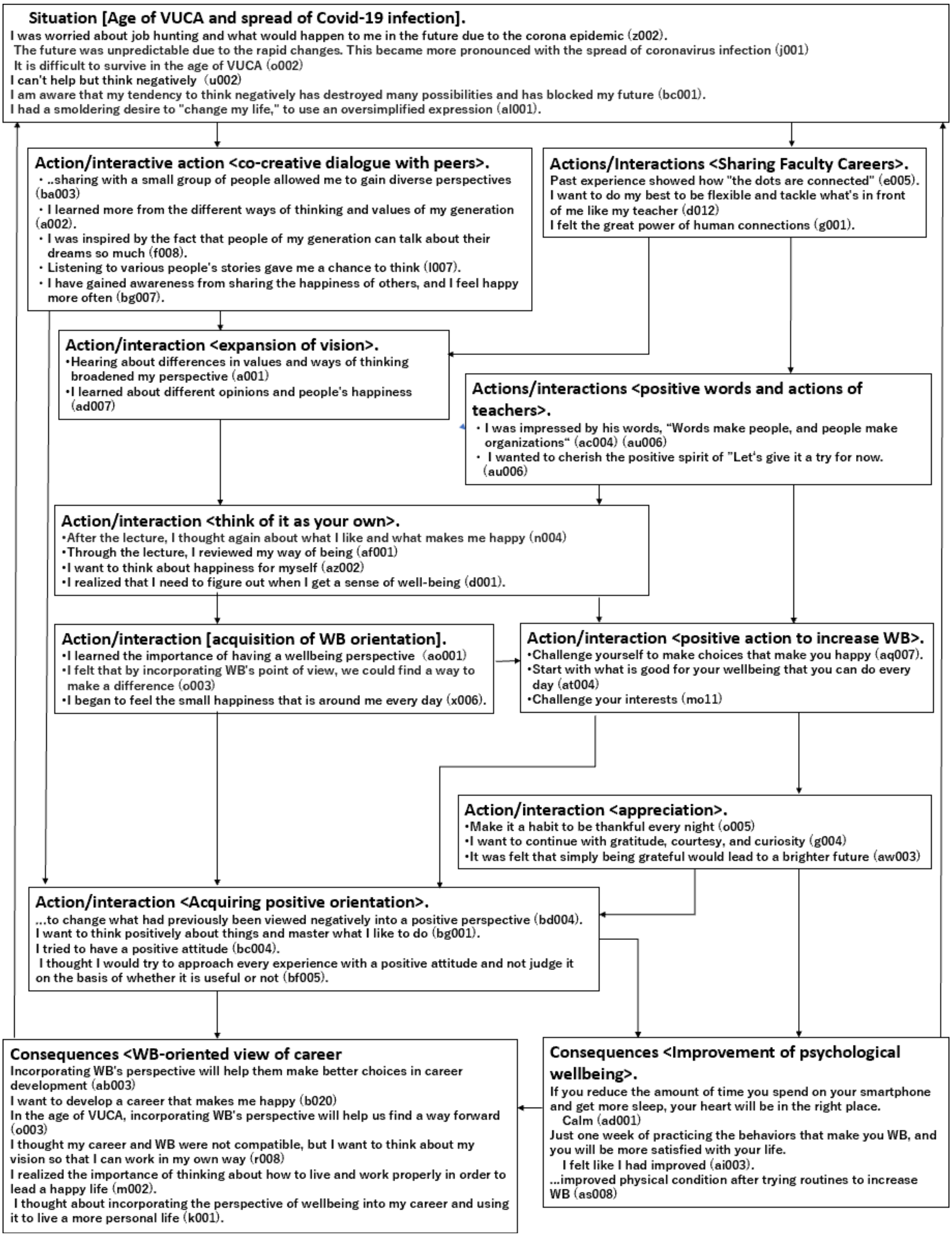
Paradigm	Category
Situation	Psychological Well-Being of College Students Due to the Spread of Covid-19
Action/interaction	The lecture content, students' thought processes, and insights
Result	• Simple actions to improve one's well-being (after the first lecture) • Formation of a wellbeing-oriented career perspective (after the second lecture)

In the analysis, we first analyze the behavioral changes based on what the students learned through the first lecture. Specifically, the mark Covid-19 is a stressful situation in which the students are The process of engaging in simple actions to enhance their well-being is shown in Figure 1. After a one-week interval, a second lecture is given, and the behavioral changes based on what was learned through the lecture are analyzed. Specifically, the process by which the students formed a well-being-oriented view of their careers is shown in Figure 2.



【】is the central category, and <> is the category.

FIGURE 1: Category association diagram of challenges and wellbeing-enhancing behaviors



【】is the central category, and <> is the category.

FIGURE 2: Corona Disaster College Student Issues and WB-oriented Career Perspectives and Category Association Chart

Storyline

The spread of Covid-19 infection caused a negative psychological situation for the students by putting them in a position that no one could predict, restricting their behavior, and keeping them at home. It can be inferred that this [situation] [increased psychological stress among university students due to the spread of Covid-19 infection] is the situation of the students before the lecture. It can be inferred that this is the situation of the students before the lecture.

In the lecture, a co-creative dialogue between the teacher and their peers and an individual reflection on the results. The students could reflect on the results of the dialogue and their reflections. In this way, students who did not have a well-being perspective did <think about career development from a well-being perspective>. Moreover, through dialogue among the students, students who did not have a well-being perspective had an opportunity to think about career development from a well-being perspective.

In addition, learning about the life experiences of the faculty members through their interactive lectures made it apparent that the students found the significance of incorporating the well-being perspective into their career development as an "act or mutual action." As a result, the data confirmed that the respondents were making "simple efforts to enhance their well-being" and "efforts accompanied by positive emotions." The data confirmed that the survey results led to "simple efforts to improve one's well-being" and "efforts accompanied by positive emotions."

Then, after a one-week interval, students were increasingly concerned about COVID-19, which was still spreading. This can be seen from the category of "Situation" in the lecture "The age of VUCA and the spread of Covid-19 infection". In the second lecture, the students interacted with each other through a co-creative dialogue approach with students of the same generation and an interactive lecture by the faculty.

Specifically, it can be inferred that the students themselves became resource integrators, and through "broadening their perspectives" and "thinking about things as if they were their own," they were able to "acquire a well-being orientation." They practice "positive actions that enhance well-being" and "gratitude" as substantial efforts, leading to "acquisition of positive thinking" as "action and mutual action. As a result, it can be seen that this has led to the development of "formation of a wellbeing-oriented career perspective" and "improvement of psychological wellbeing."

DISCUSSION

The results showed that the co-creation dialogue approach is effective in forming a well-being-oriented view of a career. The way of perceiving well-being is different for each person. Therefore, acquiring a well-being-oriented idea of careers in a one-way lecture-style career class is difficult. It is thought that this approach can enhance the ability of teachers and students to acquire new behavioral orientations and career perspectives that they would not be able to recognize on their own in a limited time.

In addition, the positive words and actions of the faculty member are likely to be used in a co-creative dialogue with the students to value the potential resources of the students (the so-called resource density)(Normann, 2001; Normann and Ramírez, 1993) The students' potential to value their resources (so-called resource density (Normann, 2001; Normann and Ramírez, 1993)) is thought to be enhanced in a co-creative dialogue. They promote value co-creation through dialogue between students of the same generation or between students and teachers. To encourage value co-creation through dialogue among students of the same age or between students and faculty members, This approach is a transformative experience (Blocker and Barrios, 2015). It has made everyone aware of resource integration as a generic actor.

A person's decision to change his or her behavior requires him or her to make a choice, to consider why he or she is changing and what the benefits of the behavior change are.(Deci and Flaste, 1995). Therefore, introspection into one's condition while broadening one's perspective and viewing it as one's affair is essential. The co-creative dialogue approach supports this process of deepening reflection by having students, and teachers become resource integrators. This will ultimately lead to acquiring a well-being orientation and behavior based on a well-being orientation. In addition, students will be able to feel the significance of adopting a well-being perspective in their careers and life in general in a broad sense. As a result, they will be more likely to practice positive actions and appreciation that enhance their well-being to enrich their lives.

Through these processes, the acquisition of a positive orientation can be found. Adding a positive direction will not only enable students to approach school life with a positive attitude. Still, it will strengthen the cycle of continuing behaviors that enhance psychological well-being. This will help to form a well-being-oriented view of careers. Career management skills positively influence employee well-being, resilience, and engagement in the long term (Akkermans et al., 2018). In addition, the students are encouraged to develop their career management skills through this process. Through this series of operations, students are expected to independently create sustainable well-being-oriented self-career management competencies.

These facts allow us to consider sustainable, well-being-oriented educational services that adapt to rapidly changing times by capturing educational benefits from the perspective of S-D Logic.

CONCLUSION

This study explored the value co-creation process for improving psychological well-being and forming well-being-oriented self-career management competencies in a period of Covid-19. The concepts were organized and theorized through GTA-based analysis. As a result, it was inferred that the co-creative dialogue approach accelerated value co-creation in forming well-being-oriented self-career management competencies and produced effects toward improving issues that students faced in unpredictable and complex situations.

Current social conditions and structural changes have increased interest in human well-being. For example, people no longer follow role models to develop their careers, as in the past (Gratton and Scott, 2020). In addition, many young people are concerned about their well-being in an era with a more comprehensive range of living options.

This study will serve as a steppingstone for developing sustainable well-being-oriented self-career management competence formation for university students and all people living in the modern age as actors. Unfortunately, there is little accumulation of research in service research aimed at developing well-being-oriented self-career management competencies. In the future, there is a need to develop career education service models for sustainable well-being by forming a well-being-oriented career perspective through further research.

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The effects of perceived organizational safety and health cultures on frontline service employees' work engagement and turnover intention

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EXTENDED ABSTRACT

The current study aims to investigate whether organizational health and safety cultures improve frontline service employees' (FLEs) attitudes toward their jobs, such as work engagement and turnover intention during the pandemic. The COVID-19 pandemic has drastically altered frontline service employees' (FLE) perception of working environments, leading them to be more alert to organizational measures for protecting their health and safety during direct interactions with customers. Threat to FLEs' health during close interactions with customers has become a reason to leave their services. Drawing on the JD-R and social exchange theory, we suggest that organizational cultures prone to FLEs' health and safety can motivate FLEs to engage and commit more to their jobs.

These theoretical underpinnings suggest that perceived organizational safety (POSC) and health cultures (POHC) increase their work engagement, leading to reduced turnover intention. In this process, we also propose that POSC boosts the positive effect of POHC on work engagement and the negative effect on turnover intention via work engagement.

Organizational climate is described as employees' shared perceptions of what they observe with organizational practices (Schneider et al., 2013). Organizational climate usually aims to target tangible beneficial organizational goals (Schneider et al., 2013). POSC aims to prevent employees from possible physical harm and significantly reduces injury-related accidents at work (Neal and Griffin, 2004). POHC aims to enhance employees' physical as well as mental health and has been supported for the relationship with employees' overall health and increases their daily well-being (Kaluza et al., 2020; Zweber et al., 2016).

JD-R model offers that job resources can diminish job demand aspects of employees' jobs (Bakker & Demerouti, 2007). Therefore, POHC and POSC may be regarded to decrease possible threatening factors to their safety and health during their service interactions. As a result, these organizational climates (POHC and POSC) can play roles as job demands during the pandemic, leading to lessening their fear to get transmitted Covid-19 and raising work motivation (Shin and Hur 2021). This enhanced work motivation can be transformed into enhanced work engagement (Schaufeli et al., 2006).

Work engagement increases affective commitment to work and reduces voluntary turnover (Memon et al., 2020). Affective commitment to a job level usually causes not only emotional attachment to the job but also increases meaning for the job performance (Bakker et al., 2003). Therefore, FLEs with high work engagement strongly intend to stay at their job and perform better (Schaufeli and Bakker, 2004). Therefore, we suggest the following hypotheses.

Work engagement mediates the relationship between POHC and turnover intention and the relationship between POSC and turnover, respectively, during a pandemic.

As POHC and POSC are distinctively separated conceptually and practically, there has been a growing interest in how these two organizational climates can be combined. Traditionally, POSC has been mainly applied to working contexts where physical harm is usually our main concern. However, during the pandemic, physical harm and safety have become issues for service organizations. Also, the National Institute for Occupational Safety and Health (NIOSH) urged every organization to execute Total Worker Health (TWH) to improve the overall level of employees' health (Sawhney et al., 2018). Namely, a more balanced and integrated approach to employee health has been pursued recently. These integrated measures of FLEs health and safety have been supported to show increases in employees' satisfaction with their jobs and organizations, leading to their motivation to stay with their jobs.

POSC enhances the positive relationship between POHC and work engagement.

We collected survey-based data from employees working for diverse service organizations in South Korea (e.g., departments, restaurants, airlines/hotels, and banks/financial service firms). To ensure the temporal precedence of the independent variables and mediator over the dependent variable and reduce common method bias (CMV), we collected data at two points, six weeks apart (i.e., March 2020 (T1) and April 2020 (T2)). The T1 survey consisted of items assessing POHC, POSC, work engagement, and control variables. The T2 survey was designed to measure turnover intention. 301 participants responded to both surveys (retention rate = 56.1%). 62.8 percent of the respondents were female. The average age of the sample was 36.49 (SD = 8.52) years, respectively. The participants were employed in various organizations: retail stores (e.g., departments and supermarkets; 57.6%), restaurants

(18.6%), airlines/hotels (16.6%), and banks/financial service firms (6.6%). On average, the participants held their current job for 4.85 (SD = 4.54) years.

We controlled demographics such as age, gender, and job tenure to avoid confounding effects on work engagement (Shin et al., 2020a), and turnover intention (Shin et al., 2020b). Also, positive and negative affectivity were controlled, which possibly can affect the level of work engagement (Thompson, 2007).

Results show that POHC affects turnover intention negatively through increased work engagement. However, POSC does not indirectly affect turnover intention via work engagement; instead, it moderates the effect of POHC on work engagement such that POSC boosts the positive effect of POHC on work engagement. Additionally, we found that POSC increased the negative indirect effect of POHC on turnover intention via boosted work engagement. With post-hoc analyses, we identified that POSC lessened the mediated relationship between POHC-work engagement-turnover.

Our research sheds light on service workers' health research by revealing that organizational safety culture can boost the effect of organizational health culture even when health-related issues matter most. Further, given that the pandemic is still occurring and the possibility of another pandemic, our study uncovers that organizational health and safety cultures are one of the most important antecedents of FLEs' work performance and commitment. Nevertheless, our study has some limitations. Although we collected two-wave data to reduce CMV, independent variables and a mediator were collected simultaneously, excluding the causal speculation between these two variables.

Our study has originality in terms of the implication that our study is one of few that found the different roles of organizational safety and health cultures on FLEs' work attitudes during the pandemic, while previous literature has mostly treated safety and health as a single concept and focused on one of them.

KEYWORDS – Perceived Organizational Health Culture, Perceived Organizational Safety Culture, Pandemic, Work Engagement, Turnover Intention.

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Digital Service Transformation in Healthcare: The critical role of medical staff interactions

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ABSTRACT

The study sheds light on the role of new digital team capabilities and organizational digital readiness for digital service transformation, analyzing their combined effects on team efficacy and hospital performance. The study draws on a large-scale sample from multiple sources of the English National Healthcare System (NHS) analyzing data from 96 hospital trusts and over 50,000 clinical staff members. The findings show that there is a strong relationship between new digital team capabilities, organizational digital readiness, and team efficacy, which jointly drive hospital performance by reducing mortality rates. Important implications for service digitalization strategies can be drawn.

INTRODUCTION

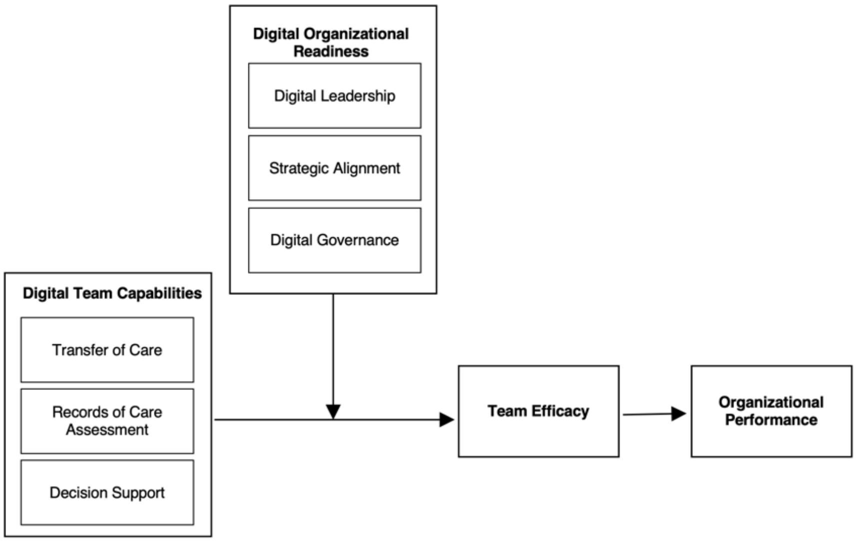
The worldwide pandemic outbreak in 2020 has reminded us of the critical role of the healthcare sector for society and the economy at large. Hospitals reached full capacity suffering from resource shortages in medical supplies facilities and human resources. Despite the rapidly increasing costs in the healthcare sector, medical staff also operated at their physical limits (Gavin et al., 2020), working overtime and accommodating for capability scarcity (Zhou et al. 2020). With increasing pressure on healthcare organizations to improve the quality and efficacy of services, the call for digitalization got louder and investments in information technology (IT) are set to increase within the healthcare sector (Visconti and Morea, 2020). While technological advancements take place at an accelerating pace, we are still in early stages of digital maturity–referred to as the level of IT used in hospitals to support high quality and efficacy in care processes (Martin et al., 2019). A recent review shows contradictions in the effect of digital maturity on outcomes such as team or organizational benefits and performance (Gomes and Romão, 2018). Given the urge to improve healthcare quality and efficacy, and the amount of investment spent on digital transformation, it is not surprising that most studies take an organizational perspective on the effectiveness of digitalization (Waring, 2015).

However, especially the healthcare sector provides an ideal example, where service quality and efficacy are largely determined by the functioning of teams and daily work of employees. Hence solely focusing on organizational performance, provides an incomplete picture, lacking insights on the actual drivers of performance (Davidson and Chrismar, 2007). Furthermore, most existing research focuses on the assessment of digital maturity considering a specific technology or tool. Martin et al. (2019) point out that we lack an understanding of how resources, capabilities, and infrastructure change across multiple, interwoven service processes, reflecting employees' complex activities involved (Spil et al., 2009). For example, staff handovers across the patient journey along the treatment process deserve dedicated scholarly attention (Calabrò et al., 2018). A review on digital transformation in healthcare by Ritu et al. (2010) shows that the main barriers of digital service transformation are linked to four factors: functionality, users, finance, and the environment. The first two factors are determined by the evaluation of employees directly, whereas the latter two pertain more to the organizational level, such as financial restrictions or governmental regulations. To better understand the influence of digital service innovation on performance, it is therefore important to consider the influence on both, employees (i.e., clinical staff) and the organizational (i.e., hospital) performance at large. By employing a large-scale study that investigates 96 hospital trusts operating in the English National Healthcare System (NHS), drawing on multiple data sources collected over a one-year period (2017-2018), the current paper seeks to contribute to this knowledge gap in three meaningful ways. First, contributing to recent advancement of the organizational learning theory, the study shows how leveraging relevant digital team capabilities can reduce commonly identified communication and interaction barriers and facilitate performance increases. Second, employing a nationwide study on the effects of different levels of digital capabilities and organizational digital readiness, the study provides a robust statistical analysis that quantifies effects on team efficacy and hospital risk-adjusted mortality rates. Third, this study makes a first step towards more comprehensive analyses of the digital service transformation process and its effects on team functioning in a healthcare context.

THEORETICAL BACKGROUND AND HYPOTHESES DEVELOPMENT

Digital transformation in healthcare has recently received substantial research attention (Visconti and Morea 2020). While most of the research focuses on specific technological innovations, the present study seeks to understand how digital team capabilities and organizational digital readiness jointly influence team efficacy and ultimately hospital performance. The causal relationships investigated in this empirical research are illustrated in Figure 1. In the following sections, the theoretical and conceptual grounds are established, and hypotheses are derived.

Figure 1: Conceptual model



While the process of digital transformation has received substantial attention in IS literature, (Carvalho et al. 2016), it is still relatively unexplored from a service perspective (Setzke et al., 2021). In IS literature, the development of multistage digital maturity models has become a hot topic in recent years (Waring 2015). These models serve to assess the development and influence of organizational capabilities on meaningful outcomes at an organizational and health systems level (Martin et al. 2019), enabling a stepwise integration of IS and IT capabilities (Gomes and Romão 2018). While these models are the fundamental base for digital transformation in the healthcare sector, there are yet limited studies that assess the impact of digital capabilities on healthcare processes drawing on an appropriately large and representative samples. Martin et al. (2019) point out that much of the existing research takes a rather narrow perspective on specific and isolated processes within one institution, which impedes a holistic understanding of the role of digital capabilities for interrelated and complex processes that clinical staff engage in daily team activities in. In the context of digital transformation, organizational learning plays a fundamental role that leads to organizational change (Dörner and Rundel 2021). Organizational learning theory has evolved as a meta-theory dealing with the socio-organizational context of learning and processing of newly derived knowledge into subsequent processes (Berta et al. 2015). Under the phenomenological perspective, organizational learning is generated by interaction and construction of meaning between actors and manifesting resulting learnings in organizational communication, culture, and behavioral norms (Brown and Duguid 1991). Extant literature in management science establishes the link between organizational learning theory and team capabilities, suggesting that leveraging effective team capabilities can boost organizational performance (Haas 2006). Following this line of reasoning, the present study investigates three important team capabilities that occur at the intersection and are relevant for the service transition of key patient care and treatment processes: transfer of care, records of care assessment, and decision support.

First, *transfer of care* refers to the use of digital technology with the aim to facilitate a smooth and effective transfer of patients across treatment processes. This capability includes leveraging digital tools that support the process and reduce the risk of hospital discharge and avoidable retrospective follow-up treatments (James et al. 2021). The exchange of information prevails as a difficult task for clinical staff during the transition phase. Szary et al. (2010) found that shift changes between clinical staff teams is a denominator of delays in the delivery of (laboratory) test results. The complexity arising from multi-tasking activities, which require shifting in attention towards other tasks and actors (i.e., clinical staff or patients), can cause information loss (Szary et al. 2010). Second, related to the transition processes patients and caregivers go through, recently *records of care assessment* based on IS to support clinical notetaking, vital parameter monitoring, and care scheduling, are disposed to facilitate storing, managing, and displaying of all essential information, independent of location. Especially, the role of the electronic health record (EHR) has caused controversial discussions regarding the benefits for clinical staff (Lafky and Horan, 2011). A study by Boonstra et al. (2008) found that diverse healthcare stakeholders hold mixed attitudes. While most stakeholders perceived the EHR as beneficial for the patient, some stakeholders also resisted the implementation fearing a conflict in their interests. Third, the urgency to decide and act quickly led to the development of digital tools for *decision support*, that should guide more effective and efficient decision making of clinical staff. These tools are, e.g., automated prompts that highlight the caregivers' actions, or alerts and notifications informing on patients' changing vital parameters necessitating further actions. The digital decision support is used at the intersection matching information from the EHR with clinical knowledge. The use of these computerized clinical support systems has also caused legal and ethical concerns regarding the accountability for wrong decisions and their consequences (Sutton et al. 2020). As these digital capabilities are all designed to improve and simplify team collaboration and coordination, we expect that the digital capabilities enhance team efficacy and derive the following hypothesis:

H1: Digital team capabilities have a positive effect on team efficacy.

Facilitated by increasingly developed IT infrastructures, the amount of data that is captured and retained in hospitals increases sharply. Data is viewed as a strategic resource that can be transformed into information, which in turn supports informed decision making (Tallon et al., 2013). This process is in the literature referred to as information governance, which requires organizational capabilities to collect, assess, validate, store, and retrieve information over a period of time (Khatri and Brown, 2010). The theory of IT and information governance proposes that the adoption of an information governance capability can leverage value creation processes and improve firm performance (Tallon et al., 2013). An important determinant of information governance constitutes the strategic orientation of the organization (Raghupathi, 2007). Strategic alignment, referred to as the extent to which the hospital incorporates digital transformation as a strategic priority (Street et al., 2018), digital leadership, which refers to the organizational ambition to drive digitalization forward (Ziadlou, 2020), are additional indications of the organizations' digital readiness. As such the hospitals' ability to develop goals and strategies for digital service transformation, to collect, store, and manage digital information, and to monitor and support this digital agenda in daily routines, constitutes a predictor of the *organizational digital readiness*, measured by the three capabilities: digital governance, strategic alignment, and digital leadership. As numerous studies highlight the resistance of clinical staff to adopt IT and IS tools in their daily operations (Granja et al., 2018; Henoch et al., 2020), we expect a strong need for a supporting organizational environment that guides the digital transformation and facilitates an adoption of digital tools of clinical staff. We therefore expect the effect of digital team capabilities on team efficacy to be stronger when organizational digital readiness is high and derive the following hypothesis.

H2: Organizational digital readiness moderates the effect of digital team capabilities on team efficacy, in the way that the effect of digital team capabilities on team efficacy is stronger when organizational digital readiness is high.

Information exchange is the basis for adequate patient treatment. The outcome of patient care is largely determined by the effectiveness of capturing, managing, and processing patient information (Mamlin and Tierney, 2016). In the fertile working environment that requires high quality, fast and efficient handling and communication, and safe and secure care, team efficacy and communication between clinical staff members are expected to have a profound impact on hospital performance. Literature has established the link between effective teamwork and team communication on patient safety (Gillespie et al., 2010), showing that effective communication is a prerequisite of team effectiveness (Bleakley et al., 2006). Especially in more critical, life-threatening situations where patients deteriorate rapidly, communication between clinical staff is essential and necessitates a safe and secure work environment that empowers all clinical staff in open communication (Ridley et al., 2021). Teunissen et al. (2020) demonstrate that confusion in tasks and responsibilities, misconceptions and misunderstanding among the team and existing hierarchies rank among the most important obstacles that prevent teams from interacting effectively. A recent review by Buljac-Samardzic (2020) on interventions to improve team effectiveness in healthcare, finds that organizational training, tools to structure processes, and strategic organizational redesigns constitute the main capabilities that contribute to enhanced efficacy. On the collective, organizational level, a better collaboration and cooperation among staff should enhance hospital performance. We therefore derive the following hypothesis:

H3: Team efficacy has a positive effect on hospital performance.

METHOD

We conducted our study in the setting of the NHS in England. The NHS is the largest publicly funded health service in the world and is accountable for around 90% of national health expenditures (Piening et al., 2013). To analyze the relationships among our key concepts, we integrated data from different sources. We extracted, merged, and aggregated the data. First, data was derived from a national survey collected by the NHS to measure digital maturity through a self-assessment tool completed by a large number of clinical staff. The survey assesses the use of technology in hospitals and helps to evaluate its digital maturity level. Second, we draw on the annual NHS staff survey. This survey is conducted by the Department of Health and is administered among all employees of each hospital trust. Third, we extracted archival performance data for each trust and draw on several hospital estates and facility statistics as well as hospital episode statistics to get a more profound understanding of the hospital working environment. We combined and integrated the data from these different sources for the financial year 2017-2018. The final data set includes 96 hospital trusts. Each acute trust manages a mean of around 2.35 hospitals.

Measures

Digital team capabilities: Digital capabilities were captured from the NHS digital maturity self-assessment. Digital team capabilities include six items regarding transfer of care (e.g., “Discharge summaries are created in a consistent format across the organization”), 12 items regarding records of care assessment (e.g., ”when using digital records, health and care professionals can find what they need quickly and easily”), and four items regarding decision support (e.g., “Digital systems provide automatic prompts for the next action required by multi-step care plans, pathways protocols”). We then assessed scale reliability for digital team capabilities, constituting of 22 items, and report a Cronbach’s alpha of .89, which can be considered high. *Organizational digital readiness:* Organizational digital readiness was also captured from the digital maturity assessment and includes six items on digital governance (i.e., “Digital projects are underpinned by valid business cases and fully-engaged business owners.”), five items on strategic alignment (i.e., “Digital technology is used to support improved collaboration and coordination across different parts of your organization”), as well as seven items on digital leadership (i.e., “You have recognized and engaged digital leadership throughout all levels of the organization”). The scale reliability for organizational digital readiness including a total of 18 items can be considered high with Cronabach’s alpha = .92. *Team efficacy:* We measured team efficacy with five items from the annual staff survey of the national health system. Sample items are “The team I work in often meets to discuss the team's effectiveness” and “I am able to make suggestions to improve the work of my team / department”. Assessment of the scale reliability reports a Cronbach’s alpha = .90 and can be considered high. *Performance:* To measure hospital performance, we used the standardized hospital mortality index (SHMI). This score draws on risk models and reports a ratio between the number of expected deaths per trust, compared with the number of actual deaths at the trust. This calculated risk level depicts how each trust performs compared to the NHS average. *Control variables:* We included a substantial set of control variables that might confound our analyses in all our analyses. We controlled for hospital size, occupancy, trust type, patient bed days, hospital total episodes, patients’ mean age as well as patients’ mean length of stay that might affect the standardized mortality rate of a hospital. In addition, we included the availability of adequate work materials and the perception of being adequately staffed to do the daily work in our analyses, as these factors could influence employees' perceived team efficacy.

DATA ANALYSIS AND RESULTS

We employed hierarchical regression analyses to test our hypothesized model. All continuous variables were standardized prior to the analyses. We extracted our independent, mediating, and dependent variables from three separate data sources to avoid common method bias. Table 1 shows the descriptive statistics and correlations of our variables. Results reveal a significant negative correlation between team efficacy and the SHMI score and a significant positive correlation between team efficacy and digital readiness. Results of our analyses are depicted in Table 2. Model 1 shows that our control variables: adequate materials for the daily work, perception of being adequately staffed, and hospital size all have a significant effect on team efficacy.

Table 1: Descriptive statistics and study variable correlations

	Mean	SD	1	2	3	4	5	6	7	8	9	10	11
1. SHMI	1	.10											
2. Team Efficacy	3.72	.08	-0.28 *										
3. Digital Team Capabilities	61.08	21.3	-0.02	0.19 +									
4. Organizational Digital Readiness	83.34	13.82	-0.06	0.24 *	0.66 ***								
5. Adequate Materials	3.99	0.08	0.16	0.61 ***	0.25 *	0.19 +							
6. Enought Staff	3.81	0.08	-0.07	0.79 ***	0.22 *	0.19 +	0.91 ***						
7. Hospital Size	711.25	368.23	-0.02	-0.07	0.15	0.15	-0.20 +	-0.12					
8. Hospital Occupancy	0.87	0.07	0.18	-0.17	-0.07	-0.07	-0.11	-0.14	0.07				
9. Patint Bed Days	245269.93	138431.42	-0.08	-0.08	0.18	0.17	-0.21 +	-0.11	0.98 ***	0.15			
10. Total Episodes	122934.30	67583.85	-0.11	-0.08	0.20 +	0.20 +	-0.21 +	-0.12	0.94 ***	0.05	0.94 ***		
11. Patient Mean Age	52.85	9.23	0.35 **	-0.13	-0.11	-0.11	0.23 *	-0.00	-0.26 *	0.05	-0.29 *	-0.22 *	
12. Patient Mean Lenth of Stay	4.20	1.06	0.05	-0.16	-0.06	-0.07	-0.06	-0.13	0.30 **	0.26 *	0.34 **	0.14	0.24 *

+ < 0.01; * < 0.05; ** < 0.01; *** < 0.001

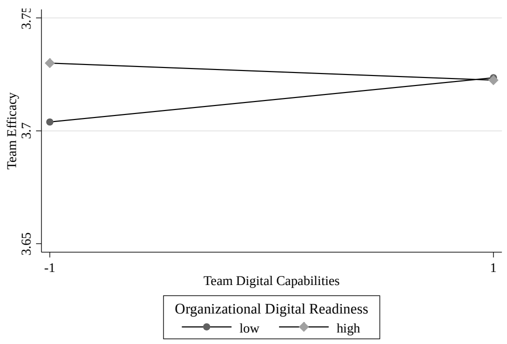
Table 2: Results of hierarchical regression analysis

	Model 1	Model 2	Model 3	Model 4
	Team Efficacy	**Team Efficacy**	**Team Efficacy**	**SHMI Score**
Controls				
Constant	-0.343	1.440 ***	1.549 ***	0.437
	(0.514)	(0.311)	(0.300)	(0.612)
Adequate Materials	1.293 ***	-0.829 ***	-0.795 ***	0.906 *
	(0.349)	(0.183)	(0.175)	(0.404)
Enough Staff	-1.138 ***	1.438 ***	1.378 ***	-0.475
	(0.314)	(0.159)	(0.154)	(0.434)
Hospital Size	0.000 **	0.000 *	0.000 +	0.000 **
	(0.000)	(0.000)	(0.000)	(0.000)
Hospital Occupancy	0.449 *	0.038	0.001	0.431 *
	(0.190)	(0.091)	(0.088)	(0.189)
Trust Type	0.000	0.002	0.004	0.000
	(.)	(0.024)	(0.023)	(.)
Patient Bed Days	-0.000	-0.000 *	-0.000 +	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)
Total Episodes	-0.000 +	0.000	0.000	-0.000 +
	(0.000)	(0.000)	(0.000)	(0.000)
Mean Patient Age	0.004	0.000	0.001	0.005
	(0.003)	(0.001)	(0.001)	(0.003)
Mean Length of Stay	-0.038	0.017 **	0.016 **	-0.037
	(0.024)	(0.005)	(0.005)	(0.024)
Main Effects				
Digital Team Capabilities		0.012 *	0.006	0.005
		(0.005)	(0.006)	(0.011)
Organizational Digital Readiness			0.006	-0.004
			(0.006)	(0.012)
Digital Team Capabilities X Organizational Digital Readiness			-0.011 *	-0.010
			(0.004)	(0.009)
Team Efficacy				-0.474 *
				(0.197)
R-Squared	0.435	0.727	0.728	0.476
N	96	96	96	96

Notes. OLS model, standard errors are reported in parantheses.
+ < 0.01; * < 0.05; ** < 0.01; ***< 0 .001

The results of our hypotheses 1 are shown in Model 2. In support of H1, the results reveal a significantly positive effect of digital team capabilities on team efficacy, *b*=.012, p<.05. To investigate hypothesis 2, we included organizational digital readiness in the analysis and investigate the interaction effect of digital team capabilities and organizational digital readiness. Model 3 reports the results, which shows a significant negative interaction effect, *b*=-.011, p<.05. To assess the moderation in more detail, Figure 2 plots the simple slopes from which we can derive that team efficacy is higher when organizational digital readiness is high as opposed to low. Moreover, if organizational digital readiness is low, digital team capabilities have a stronger effect on team efficacy, implying that team digital capabilities are especially important when organizational digital readiness captured by digital leadership, digital governance, and strategic alignment is low.

Figure 2: Predictive margins



These results hence do not support H2 that digital team capabilities have a more positive influence on team efficacy when the digital organizational digital readiness is high. In hypothesis 3, we predicted a positive effect of team efficacy on hospital performance. The results of H3 are shown in Table 2, Model 4. We find support for H3 with a significantly negative effect of team efficacy on the hospital SHMI score, *b*=-.01, p<.05. This implies that comparing to the baseline, when mortality is decreasing, hospital performance is increasing.

DISCUSSION

The goal of the study was to identify how digital team capabilities and organizational digital readiness can influence services to achieve higher team efficacy and hospital performance. For this purpose, the responses of over 50.000 clinical staff members from 96 healthcare trusts of the English NHS have been aggregated, to investigate how digital service transformation affects daily clinical activities, interactions and ultimately performance. The findings of the study show that there is a strong relationship between digital team capabilities, organizational digital readiness, and team efficacy, which jointly drive hospital performance. More specifically, the results highlight that digital team capabilities have a positive influence on team efficacy. This means that increasing the use of digital systems in services such as records of care, transfer of care and decision support, can help teams become more effective with positive implications for patient care and mortality. Using digitized services involves activities such as digital notetaking, monitoring, and automated reporting of vital parameters, which can ease the transfer of care process and avoid misconception or misunderstanding in shifts of caregivers (Szary et al., 2010). Especially, the latter two are repeatedly shown to have profound impact on error rates and patient care (Teunissen et al., 2020). Furthermore, Sutton et al. (2020) show that digital systems that support clinical management and diagnostics can save a significant amount of time, so that caregivers and physicians can spend more time on cognitively complex tasks, which require their full attention. Second, the results illustrate that digital team capabilities and organizational digital readiness jointly affect team efficacy. When organizational digital readiness is low, digital team capabilities have a stronger effect on team efficacy, suggesting that team capabilities that support routine services are even more important when organizational digital readiness towards strategic alignment, digital leadership and digital governance is limited. Although the direction of this interplay is different than expected, we find strong support for a joint effect, showing that supporting digital organizational environments guides digital service transformation and facilitates an informed adoption for clinical staff. These team capabilities can ease the daily interaction and enhance team efficacy. Third, and most important from organizational point of view, the higher the team efficacy the higher the organizational performance. This means, that patient mortality reduces with greater team efficacy. This not only shows that investment in digital team capabilities is worthwhile, but also highlights the importance to evaluate team performance and develop a work environment and culture that supports learning from errors, open communication, and feedback loops (e.g., Teunnissen et al., 2020).

Theoretical implications

Digital maturity in healthcare has attracted substantial attention in research and practice in the past years. Yet, we are still at an infancy state, where most studies aim to develop assessment criteria, enabling hospitals to stepwise engage in digital service transformation (Johnston, 2017). While the benefits for organizations are highlighted in several studies, there is still a controversy regarding the effectiveness of digital capabilities for clinical staff members (Henoch et al., 2020), especially on how digital team capabilities influence team efficacy and how this ultimately drives hospital performance. The present study contributes to this knowledge gap in several ways. First, we show how digital team capabilities and organizational digital readiness jointly influence the team efficacy and hospital performance. This finding contributes to recent developments of organizational learning theory, suggesting that leveraging relevant digital team capabilities reduces communication and interaction barriers and enhances performance. Second, the study provides a robust statistical analysis, in aggregating the responses of more than 50,000 clinical staff members, enabling a comparison between 96 hospital trusts. Overall, the study provides evidence that team digital capabilities and team efficacy can both help contain patient mortality in hospitals. Third, this study contributes to the call for research that takes a more comprehensive perspective on the effectiveness of multifunctional technological developments, spanning across diverse service processes in the hospital (Martin et al., 2019).

Practical implications

From a managerial point of view, several important implications are noteworthy. First, this study sheds light on the controversy of whether digital service transformation can benefit clinical staff in their daily care delivery. In particular, the prominent critical moments, where information exchange, informed decision-making, and handover are repeatedly reported as sources for errors (Szary et al., 2010; Teunissen et al., 2020) and staff frustration (Gardner et al., 2019), can be supported by digitized service processes. The findings show that the more digital team capabilities are in place, the higher the team efficacy and the better the hospital performance. Second, hospitals' digital readiness in form of strategic alignment, leadership, and information governance influences to what extent digital team capabilities are critical for team efficacy. This means that for hospitals that score relatively low on digital readiness, digital transfer of care, records of care, and decision support play an even more important role for team efficacy. Third, the findings of this study can help hospital managers to communicate the importance and effectiveness of increasingly digitalized infrastructures to more resistant and sceptical clinical staff members. Finally, the results provide scientific support on the benefits of the process of digital service transformation, achieving higher team efficacy and better performance, for hospitals that developed more digital team capabilities than other hospitals.

CONCLUSION

This study reveals the influence of digital service transformation, in form of digital team capabilities and hospitals' digital readiness on the perception of clinical staff, focusing on communication, shared objectives and perceived interaction as well as hospital performance in general. Data from 96 hospital trusts and over 50,000 clinical staff members have been aggregated to shed light on the effectiveness of digital capability development for hospitals' daily activities. Acknowledging limitations of this research endeavour, several areas for future can be derived. While the study provides a robust and large sample to show the effect of digital service transformation on hospital performance, the availability of data has limited the analysis to responses collected within one year. Future studies can build on the insights of this research and extent the approach to a longitudinal study. This approach would allow to estimate within-hospital changes, investigate lagged relationships between digital maturity increases and effects on employees. Moreover, the interplay of digital team capabilities and organizational digital readiness could be examined in more detail. Especially, their effect on team performance, potentially including concepts such as learning or organizational culture would provide fruitful avenues for service research on digital maturity and transformation.

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Orchestrating Meso-Level Actor Engagement in Service Ecosystem: Approaches, Forces, and Complementarities

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ABSTRACT

Complex service systems show how interdependent actors can dynamically engage within the ecosystem. The interaction among actors happens at the meso-level, but prior studies overlook the orchestration of meso-level engagement. This study fills research gaps by interviewing drivers of a ride-sharing ecosystem. Our preliminary finding discovers three layers as a medium to orchestrate the interaction of engaging actors: institutional arrangements, connectivity, and communality. We also found two approaches in forming meso-level actor engagement using bottom-up and top-down. Lastly, as a meso-level focal actor, the moderator tries to balance centrifugal and centripetal forces bounded by those three engagement instruments.

Keywords: ***service ecosystem, orchestration, actor engagement, meso-level, ride-sharing platform***

INTRODUCTION

Complex service systems have highlighted the interdependency actor interaction within the ecosystem through value co-creation interactions (Gummesson, 2008). A service ecosystem is a "*relatively self-contained, self-adjusting system of resource–integrating actors connected* *by shared institutional logics and mutual value creation through service exchanges*" (Vargo and Akaka, 2012). An ecosystem point of view is essential to understand dynamic interaction processes that are able to capture the complex world, moving further from a firm-centered perspective (Gummesson, 2008). With such dynamic and complex interactions among actors with some shared interdependency, it can be beneficial for theoretical and practical to understand the process behind the ecosystem.

Service ecosystems, such as ride-sharing digital platforms, are recently emerging contexts to understand complex service systems. An ecosystem connects a supply and a demand side using one platform by taking benefits from network externalities in which the growth of actors can be a positive indicator for the development of the ecosystem (Birkinshaw et al., 2017; Gawer, 2014). For instance, introducing the ride-sharing ecosystem can increase the positive value of meeting people who want alternative transportation (demand-side: customers) and who offer a state of transportation (supply-side: driver or partner side).

Multiple actors are engaged in the ride-sharing ecosystem. These various actors are involved in the resource exchange that can enable the industry in this ecosystem to grow and emerge (Vargo et al., 2017). The interaction of multiple actors in the ecosystem is one of the emerging topics in the ecosystem literature to comprehend the significance of how actors integrate their resources and engage in the different levels that can, in turn, generate distinctive social circumstances and enable value co-creation (Chandler and Vargo, 2011; Vargo and Akaka, 2012; Storbacka et al., 2016; Alexander et al., 2018). Ecosystem actors are engaged in the ecosystem that can be broadened beyond the dyadic relationship but in the multiple interactions (Vargo et al., 2017). The act of engaging in an interactive process of resource integration within the service ecosystem is referred to as "actor engagement" in the ecosystem (Brodie et al., 2019; Storbacka et al., 2016).

With interdependency created in the ecosystem, the nature of actors' interaction to co-create value happens in different aggregation levels: micro, meso, macro, and meta (Chandler and Vargo, 2011; Alexander et al., 2018). Alexander et al. (2018) postulated this aggregation level hierarchically in which different multiple engagement contexts should be able to balance multiple roles. At the micro level, actor engagement highlights the dyadic relationship between actors and the engagement objects. For instance, ride-sharing creates interaction between a customer or a driver with mobile applications. Meanwhile, at the meso level, interactions among customers or drivers happen and regulate with institutional arrangements as guidance to reinforce engagement behaviors. A brand community is one example of meso-level actor engagement on the demand side (Brodie et al., 2013).

Moreover, at the macro level, an ecosystem should be able to capture and relate with other industrial contexts, such as inviting relevant industries to join and involve within the ecosystem (Alexander et al., 2018). With such a highlight, this kind of interaction happens where each engagement context is embedded in the ecosystem. For instance, an e-commerce platform invites a specific brand to join and open the official brand store on the platform. Lastly, meta-level engagement learns about the interaction between ecosystems—for instance, the relationship between the ride-sharing and payment ecosystems. Macro and meta-level of actor engagement require a higher level of observation since observation in these levels consumes a high abstraction.

Prior studies adopted consumer behavior approaches to understanding the micro level of actor engagement manifested in behaviors that happen in the interactions with the engaging focal objects (Alexander et al., 2018; Jaakkola and Alexander, 2014). However, prior studies on the governance of actor engagement at the meso level are missing (Alexander et al., 2018; Storbacka et al., 2016). In addition, prior studies did not explain how disposition actor engagement (Storbacka et al., 2016). To fill these research gaps, we investigate how to orchestrate meso – level actor engagement. This study aims to understand the orchestration mechanisms by answering the following questions: ***(1) How to orchestrate meso-level actor engagement in the service ecosystem? (2) What forces does the meso-level focal actor use to create sustainable engagement?***

The orchestration process has been covered in some contexts, including management (Lingens et al., 2021), information systems (Mann et al., 2022), service science (Breidbach et al., 2016), technology management (Linde et al., 2021; Wareham et al., 2014). Orchestration refers to a dedicated action of the focal actor(s) to trigger value-creating interactions between actors by leveraging the resource integration and capabilities beyond a traditional dyadic relationship between customers and firms (Breidbach et al., 2016; Mann et al., 2022). With this definition, we believe that the orchestration of meso-level actor engagement is one step forward to tightening and strengthening at the higher level (macro and meta). To understand the orchestration of meso – level actor engagement in the service ecosystem, we conducted this study by understanding the supply side of the ride-sharing ecosystem.

With the importance of the meso – level in the hierarchy arrangement of actor engagement, capturing the dynamic governance process and interaction at this level is an essential issue. In particular, the interdependent relationships among actors in the service ecosystem render some relevance that can influence the institutions at a higher level (Li et al., 2017). This study provides a governance mechanism to orchestrate meso – level actor interactions that emphasize beyond the dyadic relationship between customers and companies or brands in the service systems. Then this study is also expected to enhance the mechanism of actor engagement by understanding how to disposition actors to engage and enable value co-creation in the ecosystem. Storbacka et al. (2016) capture the engagement by focusing on the micro level that lacks the disposition mechanism approaches. In addition, by using driver communities in a ride-sharing platform, this study moves forward to extend the previous studies on meso – level engagement that mainly covers using a brand community. For instance, Brodie et al. (2013) explain how customer participation in the virtual brand community can affect customer engagement. However, the current study enriches the meso level by understanding the orchestration process in the service ecosystem by uncovering it from a supply-side perspective.

This study is expected to provide managerial implications by explaining the engagement mechanism at the meso – level. Platform owners as focal actors in the ecosystem should consider the importance the actor engagement at this level that can seek to encourage or rely on engaging actors from both supply and demand sides in the platform ecosystem (Brodie et al., 2019; Brodie et al., 2013; Li et al., 2017). Extant studies offer a preliminary understanding of engagement practices (Storbacka et al., 2016) and provide a zooming-out mechanism in different hierarchy levels (Alexander et al., 2018). When applying this idea to actor engagement practices, actors adopt specific routines, habits, and/or self-regulated behaviors when carrying out their appropriate engagement behaviors or practices. They also work with and/or around other actors to meet their needs within larger service ecosystems. Additionally, covering the governance process, focal actor(s) can extend complementarities that can benefit actors in the service ecosystem and strengthen the relationship at the meta-level.

The rest of the paper is organized as follows. The literature review provides a theoretical basis to help us understand how far the actor engagement research has been done. We also adopt IT-enabled public good views as a theoretical framework for this research. Then, we elaborate on the research methodology, mainly based on interviews with drivers of a ride-sharing ecosystem in Indonesia. This interview involves members and moderators (or group leaders) to understand the orchestration mechanisms of this level. We provide preliminary findings of this study in the following chapter by discussing two meso – level actor engagement approaches. Then, we also discover the layers used to govern the meso – level actor engagement with two forces: centripetal and centrifugal, to gain complementarities at the meso – level, providing further benefits and facilities to enable value creation on this level.

LITERATURE REVIEW

Actor Engagement in three levels of aggregation

Engagement typically in customer behavior research discusses any customer activities that influence a firm's activities, such as customer acquisition or new product development. Extant research (Jaakkola and Alexander, 2014) understands different types of actor engagement that can be differentiated into four types: (i) Augmenting behavior in which customers contribute resources to add a company's offering; (ii) Co-developing behavior in which customers contribute resources to enable the development of a company's offering; (iii) influencing behavior in which contribute resources to influence other customers' perception; (iv) mobilizing behavior in which customers contribute resources to help the company to mobilize other stakeholders action toward the focal firm. According to this concept, actors are engaged not only with the focal objects, such as digital platforms, but also engage and interact with other actors, resulting in value creation in the ecosystem. This kind of interaction can facilitate the development of meso-level actor engagement.

In the Service-Dominant Logic (SD-Logic), Vargo and Lusch (2016) explain some mechanisms that can help to create and reproduce the social system through some repeated actions and enable meaning creation in that social system (Akaka et al., 2015). According to this conceptual approach, extant researchers acknowledge that there is existing interdependency between structure and agency, in which structure can help to govern actor behavior, and individual actions of ecosystem actors can facilitate some changes in the ecosystem structure (Vargo and Lusch, 2016).

With the concern of actor engagement behavior and the interdependency of structure and agency, prior studies posited that actor engagement behavior could help to form institutional work that can also relate to SD-Logic perspectives (Vargo and Lusch, 2016). Institutional work refers to a purposive action of individuals and collective actors to create, maintain, and disrupt organizations (Lawrence et al., 2011). Employing the SD-Logic perspective in the service ecosystem research, it is appropriate to understand the embeddedness and interdependency to enable dynamic processes in the institutional work, capturing underlying structures to emerge. Such importance postulates that actors' engagement is a multi-level interaction in nature, understandable from the micro-level, meso-level, macro-level, and meta-level.

Micro-level interactions can facilitate the development of meso-level, which triggers a broader structure in the macro-level and meta-level of actor engagement aligned with the ecosystem structure. In previous studies, micro-level actor engagement uncovered engagement behavior between actors and focal objects (for instance, a brand) which has been a research topic for decades (Brodie et al., 2013; Li et al., 2017). It is found that engagement toward a brand is characterized by interactions between actors that are able to initiate similar activities. The interaction between customer and brand facilitates the development of the brand community where customers with similar interests can gather and share within the communities. The way individual actors contribute resources can trigger four kinds of actor engagement (Jaakkola and Alexander, 2014), as mentioned earlier in this section.

In the management and social science literature, group membership is recognized as a critical determinant of behavior where individuals can reflect on a particular group and enhance a favorable attitude toward members of a specific group. For example, consumer perception of a brand community can influence customers' purchase decisions and loyalty in the long run (Bearden and Etzel, 1982). The crucial factor of group membership to affect higher levels creates greater attention on the meso-level of actor engagement. Prior studies overlook how to disposition and facilitate the creation of this meso-level actor engagement. In addition, with the development of the digital platform and rapid adoption rate in society, it is also essential to capture the dynamic process of how ecosystem actors interact at this intermediate level, as interdependency and uncoordinated actors interact.

IT–enabled public goods framework

A digital platform such as a ride-sharing platform can connect two interdependent actors in a single ecosystem: supply-side and demand-side actors. The role of emerging information technology (IT) can facilitate collective actions seen from public goods perspective (Wiertz and de Ruyter, 2007). Public goods theories can help to analyze how to encourage the collective action of interdependent actors with similar interests (Samuelson, 1954). To understand in the online forum context Markus (1987) highlights the need for IT to enhance communication among group members to consider creating collective actions. Connolly and Thorn (1990) highlight the crucial role of IT in enabling information sharing. Hence, Fulk et al.

(1996) capture the understanding of two related factors in shaping the collective actions of group members: enhancement of communication and creation of information sharing.

To enable communication and information sharing in a collective group, individual members should be able to share their resources. At the same time, they will receive resources from other members (Fulk et al., 1996; Phang et al., 2015). In this kind of interaction, each group member will create a productive exchange that can build a generalized exchange (Fulk et al., 1996). These group members' collective actions can be triggered by implementing IT tools. For instance, IT tools, like a bulletin board, can improve communication and foster a sense of information sharing in an online forum in a number of ways. An online bulletin board that focuses on improving communication keeps track of posts in an organized style and tags them with contributors' identities, such as their nicknames. As a result, people may find it simple to connect with people who share their interests by clicking on the "respond" or "message" buttons, for example. Online discussion forums serve as a storehouse for information and discussion materials that participants and decision-makers have contributed.

Recently, in the context of meso-level actor engagement in a service ecosystem, it is vital for each driver as a collective group member to communicate with each other and gain relevant information access in deliberating and providing feedback. Further, the institutional arrangement that can be considered boundary resources in the ecosystem should help different members deliberate and provide feedback on a focal issue. Although extant literature (Phang et al., 2015; Kumar and Vragov, 2009) have examined the use of IT for public deliberation and participation, there is a lack of conceptualization and understanding of how meso-level actor engagement in the service ecosystem has been dispositioning. A prior study by Kumar and Vragov (2009) explains how IT can potentially trigger democracy and civic discourse through active citizen participation. Phang et al. (2015) examined what motivates contributors and lurkers on an online feedback forum that can influence collective and persuasion benefits. Hence, in this study, we would like to extend the IT-enabled public goods theoretical background to help us discuss how dynamic interactions at the meso-level are created and how focal actors in this intermediate level can enable participation and resource-sharing to improve actor engagement.

METHODOLOGY

This research is research in progress, and we would like to share our preliminary findings to gain feedback from the conference participants. Recently, we have done interviewed 16 drivers of a ride–sharing ecosystem platform in Indonesia. We employed snowball sampling. To ensure that we get the correct participants, we have inclusion criteria as our consideration for respondents to be included for further analysis. Our inclusion criteria are that respondents should be members of the community of drivers and active partners in a ride-sharing platform ecosystem. We include both part-time and full-time drivers for our analysis. We excluded 3 participants who did not meet the criteria, resulting in 13 ride-sharing drivers as our sample. The list of respondents can be found in Table 1 below.

Table 1: List of Respondents

Respondents	**Category (Part-time or Full-time)**	**Role in the community**	**Duration of Interview**
R1	Full-Time	Member	1 hour 17 min
R2	Part-Time	Member	45 min
R3	Full-Time	Moderator	1 hour 9 min
R4	Full-Time	Member	49 min
R5	Full-Time	Member	58 min
R6	Full-Time	Moderator	1 hour 23 min
R7	Full-Time	Member	53 min
R8	Full-Time	Member	49 min
R9	Part-Time	Member	52 min
R10	Full-Time	Member	40 min
R11	Full-Time	Moderator	1 hour 42 min
R12	Full-Time	Moderator	1 hour 51 min
R13	Full-Time	Moderator	1 hour 5 min

The research team conducted semi-structured Indonesian interviews from November 2022 to February 2023. All interviews with members and moderators of the community of drivers were recorded after receiving consent from the respondents. Researchers developed two interview questions for two types of respondents: members and moderators. For members, we focus on their involvement and participation in the community. For moderators, we focus on their management and governance process in the community and how they connect with the platform owner. The interview lasted an average of 65 minutes, with a longer duration for a moderator (see table 1). Each participant received IDR 100,000 (equal to 6.5 USD) as an incentive for participating in this study.

After the interview, two Indonesian research team members re-watched the recording and started to transcript the interview. Two well-trained research assistants were employed to help researchers transcript the interview. Then, the manuscripts were translated into English and used for analysis purposes. Following the translation into English, the manuscript was distributed to research teams and started to read. We used an open coding scheme to analyze the transcription and used authors' triangulation to gain reliable analysis findings.

FINDINGS AND DISCUSSIONS

Focal actor(s) usually manage an ecosystem that can lead to orchestration activities (Mann et al., 2022; Lingens et al., 2021). Orchestration is at the center of the ecosystem literature, mainly capturing some activities to capture a joint value proposition (Lingens et al., 2021). Using a structure point of view, how the orchestration process in the meso-level actor engagement can be orchestrated? In our cases, we found that meso-level actor engagement of ecosystem actors (from a supply-side perspective) happens mainly in the community of drivers. In this community, we capture different ways and forms of interacting with the platform, which can be created according to two approaches: top-down and bottom-up.

We found two types of focal actors in this case. First, we found a platform owner as the leading focal actor in the ecosystem that can orchestrate the ecosystem with some governance mechanisms and implement institutional arrangements as a boundary resource. Second, at the meso-level, moderators are the focal actor to lead the engagement, orchestrate this level with some governance, enhance community information sharing, and form stronger connections among actors. This paper focuses on the second focal actor, focusing on the intermediate level of actor engagement in the ecosystem.

We define a meso-level actor engagement approach as forming and maintaining institutional work at the intermediate collective actions. The critical difference between these two approaches is how this intermediate level of actor engagement is created concerning the structural view of the ecosystem. In the top-down approach, meso-level actor engagement is emerged through a specific purpose designed by platform owners and co-created through reflexivity and reformation to enhance value creation. Meanwhile, in the bottom-up approach, meso-level actor engagement emerges from drivers' collective actions to engage and gather according to the similarity of specific characteristics. We illustrate these two types of meso-level actor engagement in Figure 1 as follows.

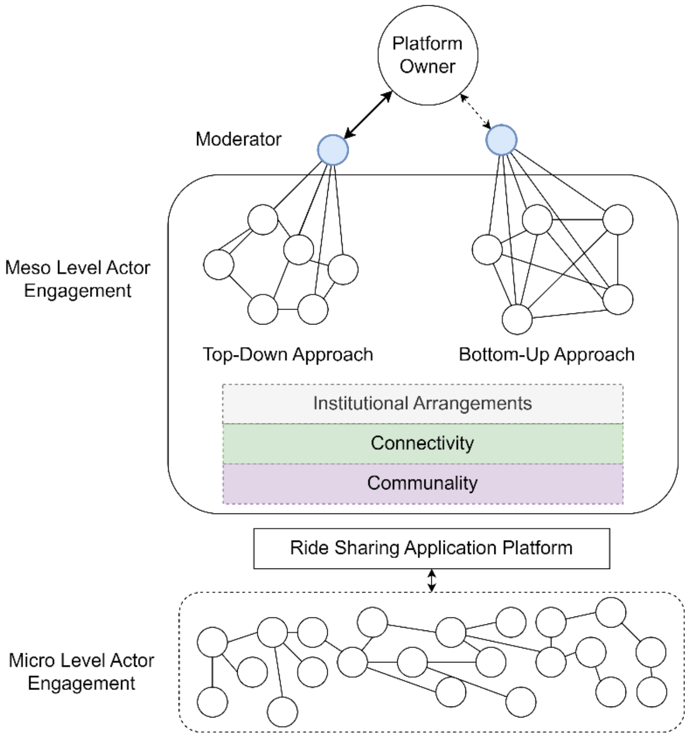

Figure 1: Top-Down and Bottom-Up Approach of Meso-Level Actor Engagement

Layers of Meso-Level Actor Engagement

Before discussing the approaches, we highlight our findings on three layers that help orchestrate ecosystem actor engagement at the meso-level, as shown in Figure 1. We found three layers that help to shape meso-level actor engagement: institutional arrangement, connectivity, and communality. The first layer is the ***institutional arrangement*** that refers to rules, norms, meanings, and symbols to guide actors in the interaction process. Institutional logics or arrangements are essential to creating a shared environment for different actors in the ecosystem. In addition, these institutional norms are created to serve as a constraint and boundary resource among other groups at the intermediate level, facilitating strengthening relationships with higher contexts, including macro and meta levels. Institutional arrangements also help to tighten the relationship among group members and trigger the activation of two other layers: connectivity and communality. The moderator and other group members behave at this level according to these institutional arrangements co-created through reflexivity and reformative actions.

The second layer is ***connectivity***. Connectivity refers to the enhancement of communication among members in the same group. Connectivity can help actors to be more engaged in the ecosystem due to the same feeling and enable the creation of solidarity identity value in the meso-level actor engagement. Identity as the ride-sharing partner that collects and gathers at the meso-level can help to form solidarity among community members. Hollinger (2006) explains that when individuals share an identity with others, it can facilitate the development of solidarity among members. For instance, when an individual driver has an accident during on-bid, other nearest members will help them. This kind of interaction has been described in the institutional arrangements as a norm to behave in the group as a form of actor engagement.

Lastly, ***communality*** is the third layer that refers to the ease of actors accessing a shared pool of information to enable productive exchange, intensify the micro level, and ease reaching a macro level. Platform owners and managers distribute a shared pool of information through this intermediate level. With this shared pool of information, engaging actors can access it to enhance their skills and knowledge. For instance, platform managers share some promotional events through moderators. In addition, moderators help to explain to other members and unlock some features to help members to gain this feature. With this productive exchange, members can intensify the micro-level engagement and help to reach a higher level to engage with platform owners and managers. Consequently, communality through the productive exchange can increase customer well-being.

Approaches to Meso-Level Engagement: Top–Down and Bottom–Up

Figure 1 illustrates two different approaches to disposition actor engagement at the meso-level. Preliminarily, we found ***a top-down approach*** as a mechanism for platform owners to form this institutional work at the medium level. Platform owner designs and actively creates and maintains the engagement of drivers at the meso level. To help the platform owner maintain the creation of this intermediate level, a group moderator is recruited to manage collective actions. Furthermore, a group moderator is authorized to handle some productive exchanges. Platform owners with moderators co-create institutional arrangements as boundary resources to govern the meso-level actor engagement. Hence, moderators have stronger ties to the macro and meta levels through this approach.

Meanwhile, ***the bottom-up approach*** emerges from micro-level engagement. A collective of actors, not limited to the same platform, creates meso-level engagement based on the similarity of specific characteristics. For instance, we found some communities that gather based on a specific location, such as nearby airports, train stations, or shopping malls. These locations used to be gathering points for members while waiting for incoming orders. As a governance medium, the institutional arrangement is designed through collaborative actions without platform owners' involvement. Consequently, we found less connection with macro and meta levels through this mechanism.

Meso – Level Engagement Forces and Complementarities

In the following section, we will explain the effort of the moderator as the focal actor to create sustainable meso-level engagement through balancing ***centripetal and centrifugal forces***, shown in Figure 2. ***Centripetal forces*** happen when the focal actor pushes other actors toward integration, bounded by three layers. Actors must integrate cognitive, affective, and behavioral resources to enhance connectivity and communality without ignoring institutional arrangements. To support the centripetal forces, each member should be able to pull themselves by actively sharing their resources, supporting institutional arrangements, tightening connectivity to enhance solidarity identity value, and accessing communality to create this meso-level engagement. Through this effort, complementarities in the ecosystem can be formed. More substantial complementarities require more intense coordination and greater centripetal forces.

The second effort can be made through ***centrifugal forces***. Centrifugal forces are necessary to pull other complementors outside the ecosystem to join. Centrifugal forces can invite more dispersed knowledge to strengthen actors' attachment on the meso level. Complementors refer to independent third parties outside the ecosystem that can help extend ecosystem functionalities (Engert et al., 2022), for example, fast response units, insurance, financial services, or auto shop that have not participated in the ecosystem. As the focal actor, the moderator should be able to find appropriate complementors and attract them to join the ecosystem at the intermediate level. As a result, centrifugal forces can provide extended benefits for engaging actors in the intermediate levels.

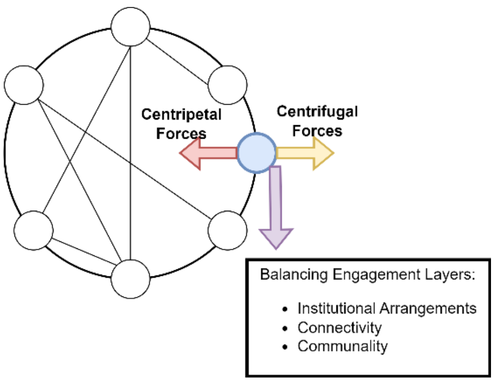

Figure 2: Centrifugal and Centripetal Forces

CONCLUSION

Engagement research has been studied for decades to understand customer behavior toward brands and products. This lens enables capturing a dyadic relationship between customers and companies. However, with the emerging concept of ecosystem, engagement research has been applied to understand the interaction among interdependent actors, ranging from micro to meta-level. This paper discusses preliminary findings on orchestrating meso-level actor engagement, extending current engagement research of a brand community. Using a digital platform ecosystem as a case study, we highlight two approaches to disposition actor engagement at the meso level: bottom-up and top-down, that should be able to balance three layers as instruments to orchestrate this engagement: institutional arrangements, connectivity, and communality. As the focal actor in this medium level, the moderator conducts two forces: centripetal and centrifugal, to balance three engagement instruments.

This study is a part of meso-level actor engagement research in the service ecosystem. To provide a more comprehensive way, we would like to extend this study by interviewing platform owners on the importance of meso-level to build a more decisive engagement at the higher level. Furthermore, we would like to understand how this meso-level engagement can help form sustainable use of digital platforms and enlarge network externalities effect.

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A TSR framework for investigating vulnerability contexts

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ABSTRACT

Purpose of the study

Understanding vulnerable consumers when conducting Transformative Service Research (TSR) is essential but these consumers and their contexts are often complex and difficult to research. Despite a movement towards TSR methodologies suitable for studying vulnerable participants and their contexts, a comprehensive framework that can guide service researchers is lacking. The purpose of this paper is to investigate appropriate methods, procedures, and protocols that permit researching a wide range of vulnerable groups and exposures to vulnerable situations in TSR.

Methodology

This is undertaken via a review of the literature and the authors' reflections of their experience researching vulnerability in various configurations (e.g., disasters, refugees, healthcare, disability, and older people). Through an iterative process of personal case reflections and group discussions blended with extant literature, patterns and insights regarding appropriate research protocols, techniques, processes, and sampling are identified.

Findings

The insights contribute to the development of a comprehensive TSR framework in five research method areas including 1) consideration of the context, researcher, support persons and participants, 2) recruitment considerations relating to sampling, 3) recruitment considerations in terms of ethics and set-up, 4) data collection considerations relating to research protocol and set-up, and 5) data collection considerations. The framework can guide both academics and practitioners to enhance research outcomes for both participants and researchers.

Research limitations/ Implications

This research adopts an interpretive approach utilising a case study approach combined with individual reflections of the authors with experience researching vulnerability in service

research. However, there is a need for more reflexivity in service and consumer research to enable deeper insights into research methods and protocols with vulnerable people.

Originality/ value

The wide range of contexts incorporated in this work enables the development of a comprehensive and unifying TSR methodologies framework for researching vulnerable consumers. The framework extends existing work and can be used by researchers focused on service issues related to a broad spectrum of vulnerable groups.

Transformative Value and Actors Co-creation : The Contribution of Volunteering

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ABSTRACT

The present paper examines the enablers that determine the person's intention to participate in volunteering activities enticing value co-creation for individual and community well-being. Despite volunteers' crucial work, the motivations behind the intention to participate in the activities are still under-investigated. An empirical analysis was developed using a mixed-method methodology combining qualitative (37 in-depth interviews with volunteers, volunteering associations and managers) and quantitative (113 questionnaires with volunteers) approaches. The analysis reveals the drivers impacting individuals' motivation to volunteer, triggering a positive impact on citizens, communities, volunteers, and the environment.

INTRODUCTION

The research aims to investigate the value co-creation phenomenon during community volunteer activities and identifies the drivers resulting in transformative outcomes generated by volunteering engagement. The focus is on the role of volunteering in promoting individual and collective well-being, defined as a service research priority (Field et al., 2021). Volunteering is a dynamic phenomenon that occurs worldwide and plays a significant role in value co-creation in transformative services (Isboli et al., 2020). The volunteer actor is a service provider and a consumer (Mulder et al., 2015). The contribution of volunteers' co-creation of value occurs through direct and indirect interactions with a wide range of actors, including other volunteers, staff, and organizational stakeholders (Benson & Wise, 2017). The volunteers support the transformation activities carried out by different service providers while transforming themselves, service ecosystems and society (Snyder & Omoto, 2007; Wilson, 2000). Although volunteers do such an important job, the motivations that push individuals to participate in these activities still need to be investigated (Matos & Fernandes, 2021). Against the above backdrops, the present study attempts to answer the following question: RQ1: what are the key drivers which impact the intention to participate in volunteering activities enticing value co-creation for individual and community well-being?

METHODOLOGY

An empirical study is carried out by applying a mixed-method approach. As indicated by several authors (i.e. Creswell, 2017; Bryman, 2007), mixed methods allow a broader analysis of a specific phenomenon, providing consistent answers to complex research questions (Hesse-Biber & Johnson, 2013). The methodological approach uses a sequential method (Venkatesh et al., 2013) in which the results of the qualitative phase are used to inform the quantitative analysis. The integration of the two methods allows for overcoming some limits and maximizing each phase's strengths (Hussein, 2009). In the qualitative phase, multiple in-depth interviews were performed: with 20 volunteers, ten voluntary associations and seven managers working in companies that organize volunteers program for employees. The data was analyzed by adopting a thematic analysis (King, 2004; Renzi et al., 2022) using MAXQDA software. The findings of the qualitative phase were used to design of quantitative phase. Indeed, the insights arising from the qualitative analysis and the existing literature were combined to develop a questionnaire to investigate enablers, obstacles and outcomes of volunteering work. Specifically, a questionnaire was administered to a non-probabilistic sample of 113 volunteers. Data were analyzed using SPSS software.

FINDINGS

From the qualitative analysis, multiple insights were detected. First, analyzing the managers' interviews, it emerged a significant resistance of employees to participate in volunteering activities. From the investigation of volunteers and associations were identified three main drivers which determine the intention to engage in volunteerism: *volunteer characteristics, individual attitudes and emotions, positive contribution to society, and development of relationships*.

In particular, it emerged that what leads a volunteer to start volunteerism is first an interest in the proposed activity topic and a strong inclination towards altruism. Volunteers deploy intangible and material resources (i.e., time, skills, passion, empathy, and rarely money and equipment) to participate. Respondents stated that positive emotions are more frequent than negative ones during and after activities. Moreover, participation in voluntary activities brings many benefits to volunteers, such as the opportunity to grow, improve and feel useful to the community. At the same time, some difficulties can negatively impact participation, like logistic and organizational issues and the lack of strong recognition from other actors of the value embodied in the work carried out. From the qualitative interviews, it was possible to identify the development of actor-to-actor relationships that can generate transformative value through resource integration. Indeed, volunteers create relations with multiple actors, including the beneficiaries, other associations and their volunteers, the parents of the beneficiaries, schools and companies.

Regarding the quantitative surveys, four key factors of volunteering activities were identified from the factor analysis: f1) *positive impacts and benefits*; f2) *negative feelings during activities*; f3) *positive perceptions of social contribution*; f4) *negative feelings after the activities*. Finally, following a regression analysis procedure, it was possible to identify that f1 and f3 impacted the respondents' intention to continue to participate in volunteering activities; and that f1 and f3 positively affected the respondents' satisfaction while f2 and f4 negatively.

CONCLUSION

The study reveals the beneficial effects of volunteering on individuals, communities, volunteers, and the environment. This is mainly fueled by actors' resource integration and collaborative practices. The orchestrated resources are tangible (i.e., buildings, structure, and equipment) and intangible (i.e., time, people's traits like empathy, involvement, and personal skills). Collaboration founded on shared values contributes to the creation of value through the transformation of institutional arrangements.

The quantitative findings show the enablers that motivate individuals to participate in volunteering activities, triggering a positive impact on citizens, communities, volunteers, and the environment. Specifically, individuals are more satisfied and willing to continue volunteering when they perceive that their work is appreciated by society and feel they have contributed positively to the well-being of others.

The study contributes to transformative service research by understanding factors impacting volunteers' intention to engage in value co-creation practices for improving societal welfare.

Nevertheless, even if the sample size and the empirical contextualization in a single country align with the research's explorative nature, the two elements could represent a study limitation.

Keyword: value cocreation; volunteers; individual well-being; collective well-being; volunteering drivers; resource integration

Article Classification: Research Paper

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Determinants of Operations Management Faculty Salary

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ABSTRACT

Purpose of the study
The job of a college professor is teaching, research, and service. This study seeks to determine which of these is rewarded and in what amount in educational services at the university level.

Methodology
A group of 21 US public schools were chosen based on the similarity of official journal quality lists. A census of Operations Management faculty at those schools was undertaken. Data was gathered on salary and roughly 100 potential causal factors. Regression was used to determine contribution to salary.

Findings
Published work was a main driver of salary, but only publications in journals considered "A" journals by the employer. Number of authors on publications did not improve model fit. Disloyoalty is rewarded: the number of moves made, if the move resulted in a rank of Associate or Full Professor, are associated with higher salaries. The beta coefficients for teaching and service awards were not distinguishable from zero. Full Professors who are female are paid $23,000 less than male colleagues, accounting for publications.

Research Limitations
We only considered public schools, due to salary availability, and only a select group of schools that had similar journal lists. The results will not strictly apply outside those bounds.

Originality/value
We believe the resulting models will be of personal interest to Operations Management faculty in negotiating salaries and determining their market value.

Using standardized patients to assess the communication skills off medical students in year 2 in the Stimulation Center at Ho Chi Minh City

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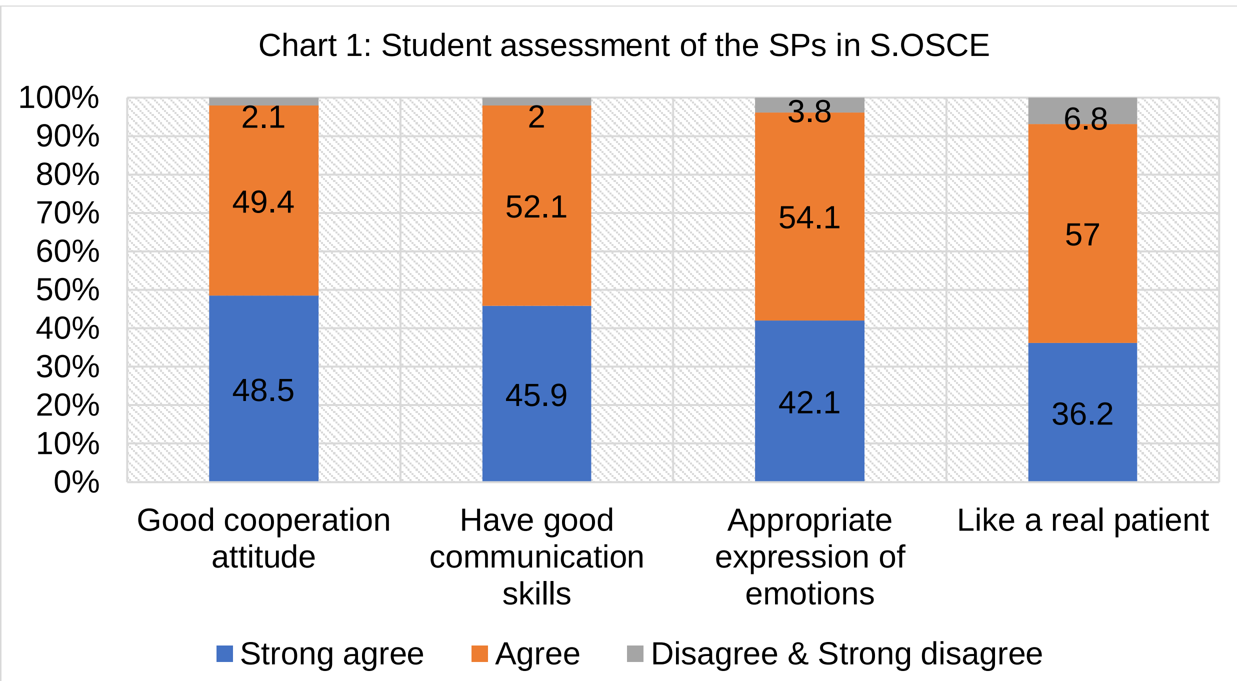
1. Background

The standardized patients (SPs) development program is established at the Center for Advanced Training in Clinical Simulation (ATCS), School of Medicine, University of Medicine and Pharmacy at Ho Chi Minh City, Vietnam in 2017 and has more than 50 SPs. SPs support the process of teaching and evaluating the clinical skill practice of medical students. When SPs' situational presentation capacity is well done (Chart 1), it is subsequent work to improve SPs' capacity in assessing communication skills (CS) to support feedback in Formative OSCE (F.OSCE). From there, the future development direction can completely replace the lecturer in assessing the CS of 2nd-year Medical students in Summative OSCE (S.OSCE).



This study was posed to answer the question: Are standardized patients qualified to assess the CS of 2nd-year medical students? The research objective is to determine the standardized patient's competency when assessing the communication skills of 2nd-year medical students.

2. Method:

The research crossover to the description and takes place from July 26-29, 2022. The sample population is randomly selected from all students participating in Summative OSCE to be evaluated jointly by both SPs and lecturers.

Before participating in the assessment, SPs were trained in four steps. Step 1st: Training on scenario presentation. Step 2nd: Training on communication skills through video lectures, and live explanations. Step 3rd: Training on assessment of questionnaires and instructions on using a Tablet (Tab) for assessment. SPs watched 2 sample videos to practice the assessment. Step 4th: conduct self-communication with students in the OSCE room, and evaluate checklists on Tab for 1 minute.

Lecturers and SPs jointly evaluated each student in turn according to the 10 criteria of CS (1. Greet the patient and introduce yourself; 2. Explain the reason; 3. Ask for patient administrative information; 4. Concerned about patient's opinions, worries, and desires; 5. Encourage the patient to practice the right habit; 6. Praise the patient for doing the right thing; 7. Listen attentively; 8. Show empathy; 9. Respect the patient; 10. Professional demeanor). Criteria 1-2-3 are related to the opening of the communication session, criteria 4-5-6-7-8 are used to assess the CS used in the course of questioning, and criteria 9-10 are an assessment of professionalism.

OSCE station duration is 6 minutes. On average, there will be 20-25 students who will conduct communication with standard patients in a 4-hour exam. SPs conduct direct communication with students for 6 minutes and then use a tablet with a checklist for 1 minute after each OSCE station to evaluate the students' scores. The lecturer observes and evaluates students communicating through the camera system, then using a tablet with an assessment checklist in 1 minute.

The mean scores of SPs and lecturers are compared. Cohen's Kappa coefficient was used to assess the correlation between each criterion and the population.

3. Finding:

First, there are 94 comparative opinions, the characteristics of research subjects in Table 1 below.

Table 1: The characteristics of research subjects

Characteristics	Standardized patient	Lecturer
Number	14	4
Number of reviews	94	94
The average age	59,5	40

Years of service	2,9	
Academic level	Junior - High School: 10 Post-secondary education: 4	Postgraduate education: 4
Male:Female Ratio	10:4	3:1

The ratio of men and women was almost equal between the two groups, the average age of the SPs was higher than that of the lecturers and the education level of the lecturers was higher than that of the SPs.

Second, the mean scored by SPs (8.55±1.01) is lower than those by lecturers (9.19±1.09) with statistical significance with $p<0.001$

The third, the correlation between the scores of standard patients and lecturers according to the criteria is shown in Table 2

No.	**CRITERIA**	**CORRELATE INDEX**
1	Greeting patient and self-introduce	1
2	Explain the reason	<0.2
3	Ask for the patient's administrative information	<0.2
4	Concerned about the patient's opinions, concerns, and wishes	<0.2
5	Encourage the patient to practice the good habits	0.28
6	Appreciate the patient for doing the right thing	0.37
7	Listen attentively	<0.2
8	Showing empathy	0.38
9	Respect the patient	1
10	Professional manners	1

11	Correlation of the scores between SPs and Lecturers in general criteria	0.47

Criteria (1),(9), and (10) show that the correlation between the two groups of SPs and lecturers is almost absolute. The criteria (5) encouragement; (6) praise and (8) empathy correlate respectively 0.28, 0.37, and 0.38 show that the correlation between the two groups of SPs and the lecturer is at a low level. The remaining criteria (2), (3), (4), and (7) all correlate < 0.2, showing that there is no correlation between the 2 groups of SPs and lecturers.

Finally, the mean Kappa correlation coefficient of the 2 groups is 0.47

4. Concluding:

The mean score of SPs (8.55) in our study is lower than lecturers (9.19), in contrast to the assessment of McLaughlin (90.4 & 82.2) (1). The difference may be due to SPs' ability to identify CS and the seriousness of the assessment. Because SPs are informed that the grading in the study does not affect the student's final score, it is completely comfortable and most serious to evaluate students, minimizing the case of injuries to the students. Students who give high scores often encounter reality. However, it is still possible that the standard patient did not recognize the student's skill section, so not giving it a score leads to a lower overall score.

The correlation coefficient in our study is much lower than that of M. Shirazi (0.88) (2) but like Kevin McLaughlin (0.4) (1) and Paul Whelan (0.41-0.6) (3) may be due to a large number of students (20 students/SP), the short assessment time (1 minute) and the high age of SPs (60 years old). Although there is no clear evidence on how much time it takes for the patient to prepare for the assessment, there is currently a difference in the time when the instructor can watch and play at the same time and add 1 minute to the final review. , and standard patients only have 1 minute to perform. A large number of students makes it difficult for the standard patient to lose a lot of energy, concentration, and age. Therefore, the above 3 things will need to improve shortly to get the best results because of the benefits of using SPs.

Indeed, some authors have suggested that the communication aspect is best assessed by the patient (4). Although the correlation is not high, the role of SPs in evaluating students' CS will be increasingly important, especially for accurate feedback.

More research is needed to evaluate the role of SPs in medical education.

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The increased importance of digital servitization for manufacturers – A central European Comparison

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ABSTRACT

Due to decreasing profit margins and competitive pressure in global markets, manufacturers are forced to implement servitization approaches (Wise and Baumgartner 1999; Vandermerwe and Rada 1998). Digitalization is another phenomenon affecting manufacturers forcing them to boost their servitization offerings by digital solutions (Coreynen, Matthyssens and van Bockhaven; Gago and Rubalcaba 2007). The research focus on service offerings and digitalization of companies from different Central European countries from three different industry sectors: manufacture of computer, electronic and optical product (NACE 26), manufacture of electrical equipment (NACE 27) and manufacture of machinery and equipment (NACE 28).

INTRODUCTION

As global markets are highly competitive and profit margins are decreasing, traditional manufacturers are forced to seek new growth options by implementing servitization approaches and combining product offerings with services as a strategic alternative (Wise and Baumgartner 1999; Vandermerwe and Rada 1998). Offering services enables companies to differentiate themselves and to create a more sustainable competitive advantage that leads to stable revenue streams, improved profitability and increased customer satisfaction and loyalty (Guo, Li, Zuo and Chen 2015).

Besides the general trend of servitization the implementation of new and digital technologies also plays a critical role for manufacturing companies (Coreynen, Matthyssens and van Bockhaven 2017; Gago and Rubalcaba 2007). The transformation within manufacturers' servitization approaches from a product focused business model towards more customer-centric service offerings (Oliva and Kallenberg 2003) can also be facilitated by new and more advanced technologies (Verma, Rohit, Subhama and Debojjt 2020) and new digitalization approaches are inevitable as companies are nowadays literally forced to boost their servitization offerings by implementing digital strategies and technologies (Coreynen, Matthyssens and van Bockhaven 2017; Gago and Rubalcaba 2007).

Digital servitization improves and enables new ways of value creation, enables more efficient order processing, and supports the development of new business opportunities (Kohtamäki, Parida, Oghazi, Gebauer and Baines 2019). Furthermore, services and especially the digitalization of services also force the resilience of companies which showed the COVID-19 pandemic.

The successful provision of digital services in international markets requires a certain level of digital infrastructure and skills among employees and managers of manufacturing companies. But not only the company itself has to transform to offer digital services successfully, other actors such as customers have to change and adjust for example IT-systems and organizational structures as well to be able to make use of digital service offers (Tronvoll, Sklyar, Sörhammar and Kowalkowski 2020; Kohtamäki, Parida, Oghazi, Gebauer and Baines

2019). In addition to the company's own digital service skills, knowledge about the degree of digitization and the service readiness of customers in export markets therefore also plays an important role.

Current research focuses on digital servitization in general, isolated technologies and use cases of single countries but there are no comparing studies of different countries concerning the status of servitization as well as the influence of digitalization so far. Catching up those trends within servitization and digitalization as well as the existing gap in transnational research, this study identifies the level of digital servitization of manufacturers in central Europe and its barriers to overcome. Different countries and industries are considered as comparing results are relevant for developing service-oriented business models that enable competitiveness in international and globalized markets. Further, the results are important for future research as well as application oriented supporting activities of policies and business supporting organizations (e.g. cluster, chambers).

The empirical study is based on a transnational quantitative survey among manufacturing companies and answers the following research questions: Which services are already offered by manufacturing companies in central Europe? What significance do digital solutions have in this context? What are barriers for integrating digital solutions into the service business of manufacturing companies? What are country-specific differences regarding digitalization of services?

METHODOLOGY

In order to be able to answer those questions we designed a quantitative research involving manufacturing companies (SMEs as well as large companies) from nine European countries. In this paper we focus on companies from three different industry sectors: manufacture of computer, electronic and optical product (NACE 26), manufacture of electrical equipment (NACE 27) and manufacture of machinery and equipment (NACE 28).

To examine the self-assessment of the importance of services and digitalization we addressed general managers and service managers from Central European manufacturing companies in an online survey. Only manufacturing companies, that are offering industrial services and managers with a good knowledge of the companies' service business were included in the final analysis.

This approach enabled a total of 1.724 company responses to be analysed (Austria n=190, Croatia n=98, Czech Republic n=191, Germany n=383, Hungary n=192, Italy n=192, Poland n=183, Slovakia n=200, Slovenia n=95).

To specify offered services and their general importance as well as the importance of integrating digital technologies in specific services we developed the relevant service categories which we based on taxonomies used in literature (Baines et al 2013; Gebauer et al 2010; Homburg, Fassnacht and Günther 2003; Mathieu 2001; Partanen et al 2017). Thus, we assigned 21 relevant service categories to six main service categories that have been evaluated in the survey: pre-sales services, product support services, product life-cycle services, R&D services and operational services (Table 1).

Table 1: Service Categories

Pre-sales services
product demonstrations
customer seminars
Product support services
warranty
technical user training
customer consulting and support by phone
testing, test rigs, quality assurance
Product lifecycle service
installation services
repair service
spare parts
maintenance
retrofit, modernization, upgrades
R&D services
research service
prototype design and development
feasibility studies
Operational services
project management
service for operating the product for the customer
service for operating customer's processes
Financial services
pay-per-use
instalment payment
leasing
rental system

FINDINGS

Our quantitative survey shows, that for the majority of manufacturing companies in our sample services are very important (mean=3,98 on a 6-point Likert-scale) and are even getting more important in comparison to pure product-businesses in future. The main focus of companies from Central Europe is on product support services like e.g. warranty or technical user training (mean=3,65), product lifecycle services like repair or maintenance (mean=3,59) as well as operational services like project management (mean=3,54 on a 5-Point Likert-scale). Especially Italy has a strong focus on R&D services (mean=3,89). These mentioned service categories are also the ones in which digital solutions mainly have been used so far.

Concerning the general importance of digitalization 65,8 per cent of manufacturing companies in Central Europe mention that digitalization is currently leading to a significant change in the business model in all areas. Further, it is recognized, that digitalization is a decisive factor in the further development of products and services as well as their innovation (mean=3,92 on a 5-Point Likert-scale).

Barriers for expanding digitalization in companies are high costs as well as the lack of skilled employees and the lack of technical possibilities. Especially Hungarian companies (31,3 per cent) further mention a bad digital infrastructure of the region as disruptive factor for digitalization).

As mentioned before, the lack of skilled employees is recognized as one of the biggest barriers for expanding digitalization. The global challenge of a shortage of skilled workers is reaffirmed by further items in our company survey. In Slovakia, for example, 23,0 per cent of companies mention, that many of the employees responsible for digitalization and IT have no professional training in these fields (e.g. IT training, IT studies), while in Hungary this figure is only 4,7 per cent. Therefore, a lot of companies invest themselves and actively prepare employees for digitalization through training measures (mean=3,70 on a 5-Point Likert-scale). Slovakia, the country with the greatest problems in filling IT positions with skilled workers, is also the country with the lowest average value for its own training measures.

The survey also shows, that customers' demand is changing a lot over time and especially from the Hungarian, Italian, German, Polish and Croatian companies' point of view, this is further reinforced by increasing digitalization (total mean=5.09 on a 7-Point Likert-scale). The fact that companies, particularly from Poland (mean=4.80), Italy (mean=4.83) and Hungary (mean=4.95 on a 7-Point Likert-scale), are already noticing an increased demand for digital service solutions that they are currently not offering yet, shows that there is a certain level of acceptance and demand on external markets what emphasizes that an adaption of business models is crucial.

IMPLICATIONS AND FURTHER POSSIBILITES FOR RESEARCH

The gathered data confirm the general importance of industrial services of manufacturing companies in Central Europe, mainly focusing on basic services as product support services, lifecycle services and operational services. This suggests that companies need to pay close attention to the development and delivery of their services, as they play an essential role in customer satisfaction and loyality. A large number of companies attributes a significant role to digitalization and are already integrating digital technologies and solutions into their existing service offerings. However, the study also shows that the manufacturers' offerings cannot always keep up with market demands and that business models need to be further developed to take digital servitization into account.

The study and the results are an important basis for future research and underline the general importance of digital servitization of manufacturing companies in Central Europe. Even if servitization is generally attributed a high level of importance, differences can be found in the individual countries of Central Europe with regard to service offerings (basic services vs more advanced services) as well as the importance and the current status of digitalization. Therefore, another focus of our research will be on the significance and consequences of country-specific differences for internationally operating companies when entering new markets. One aspect not considered within this study is the perspective of customers. Further research should therefore focus on changes in business relationships and the customer acceptance in the context of the development of new business models of digital servitization.

Furthermore, the results are important for application oriented supporting activities of policy and business supporting organizations (e.g. cluster, chambers) for example in supporting companies to overcome the existing barriers of digitalization. The digital servitization path requires specific competencies of servitization and digitalization which are often still missing, especially in small and medium sized companies. By considering the regional level of digitalization and servitization as well as the status quo in export markets policy and business supporting organizations as well as institutions of higher education and research can support regional companies in developing new business models and strengthening value creation in Central Europe.

LIMITATIONS

By using an online questionnaire, the results depend on the subjective self-assessment of the managing authorities in manufacturing companies.

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Defining the service design concept through identifying its focuses and process

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ABSTRACT

Service design plays an important role in fostering service innovation; however, the lack of a comprehensive understanding of its concept may hinder this potential. The purpose of the study is to share an understanding of service design concept a field study. The study employs qualitative exploratory research with a multi-case approach. The sample entails software companies offering digital technologies. The research builds a concept of service design, highlights its focuses and processes.

INTRODUCTION

Several service design researchers agree that service design is a multidisciplinary topic (Kimbell, 2011) which includes contributions from different disciplines such as service marketing and information technology through the design-based methods (Patrício and Fisk, 2013). Due to its multidisciplinary nature, there has not been a common definition of service design (Kimbell, 2011), but it is widely agreed that service design is a human-centered, holistic, and an iterative approach used in service development (Holmlid and Evenson, 2008; Blomkvist et al., 2010; Stickdorn et al., 2018). There is not a shared understanding of what service design is between the service design researchers. The research goal is to explore the service design concept from studying how companies use service design. In this way, it establishes a shared understanding of service design concept between the researchers, designers and managers. Consequently, it will contribute in different ways, to academia as a formulation for service design concept and for practitioners to recognize the usefulness and impact of service design as well for decision makers to promote service design in businesses.

RESEARCH DESIGN

A qualitative exploratory research with multi-case logic methodology was adopted (Eisenhardt, 1989; Yin, 2009). Case study research was used in this research because it allows domain phenomena to be investigated in real-life contexts. The research instrument is a semi-structured interviewing method in which the author analyses the characteristics of a variety of companies. The data sample was software companies (in various sizes, age, and service sectors) which are offering digital technology solutions. In total, 29 semi-structured interviews were conducted with 29 different informants from 25 companies. The interviewees are those who involved in service design activities of the companies such as service designer, product/service manager, CEO and CTO. The interview duration ranges from 20 to 60 minutes via face-to-face. The interview questions were prepared and posed to interviewees. The semi-structured approach creates a balance between structured and unstructured interviews, which allows the interviewees to provide in-depth information where necessary and to offer opportunities for further questions to clarify responses

FINDINGS

Service design's focuses

There are three focuses of service design found in the empirical study: customer, process and system. Each of the focuses can be explained as the following. Being customer-focused refers to the prioritization of the companies on customer. As the purpose of service design is to design for real people to use, it is important to recognize people's real problems beyond verbal dialogue. Those can be done with an empathetic approach. System relates to the eco-system and support system in the companies. Service design for system is aligned with service design for customers in order to deliver value for both of the customers and the organizations. Process is the intermediate between the companies' system and the customer. Service design as process relates to designing the path of service so that customers can achieve what they want.

Service design process

The first step in the service design process is exploration. In this stage, both qualitative and quantitative research technique is employed in order to explore why, what and how about the customers both on the micro and macro levels. After the customer insights were collected, the creation stage continues to define and prioritize the following development. The testing phase follows in order to prove if there is a potential in what is created before the company decide to invest more time and money into it. The main activities in this phase are mock-up and prototype testing. The last phase of delivery defines processes and deliverables for the entire service design process. Across the service design process, the service design tools can be used in some particular stage, for example interviews can be used in exploration or testing phase and wireframing can be used in creation phase.

THEORETICAL CONTRIBUTIONS

The research builds a common understanding of service design concept in two aspects: a formulation of what service design is with its core focuses and a systematic service design process with its emerging digital advance. By creating a shared ground of understanding in service design concept, it is possible to identify the following research areas and complementarities. The research identifies the focus of service design concept and the shift of focus of service design. This new way of explaining the service design focus explains the relatively important emphases of customers, system and process in defining service design and opens new perspectives for academia in exploring new knowledge of aligning companies' service design's system with processes and customers. Furthermore, this research explores that the way which the service cases use service design in their service development; however, there are differences according to the level of adoption, experience and background of service design of each case, which has not been discussed before. Last but not least, the research emphasizes that the service design process has gone digital, which means the co-creating platform for the service designers to work is now online and the designers can work from everywhere at any time.

IMPLICATIONS FOR MANAGERS

The research stresses on two main implications for managers: the common understanding of service design within the companies will help to realize the potentials in service innovation, and the importance of digitalization in the service design process. Furthermore, as service design has gone digital across different collaborative platforms and channels, it is important for managers to make use of the emerging digital service design tools in service development to engage different teams, customers and other stakeholders into this co-creative process.

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Like a Robot: The Effect of Political Ideology on Consumer Response to Employee Agency Control

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ABSTRACT

Strict employee agency control—referring to the extensive use of formalized control structures—is getting media attention and raising polarizing consumer discussions on social media. We propose that strict agency control practices are seen as dehumanizing but these practices also signalize a prototypical capitalist firm (i.e., capitalism associations). Therefore, political ideology shapes the consumer responses to agency control such that liberals react more negatively to strict agency control because they oppose dehumanization and enjoy the heuristic benefits of capitalism associations less. Five studies including a large-scale text mining study and four controlled studies support these predictions. The findings also show that the effect of agency control on consumers is more prominent for firms that are less associated with capitalism and that service standardization cannot account for these proposed effects.

INTRODUCTION

To improve employee performance and service experience, many firms (e.g., Amazon, and Starbucks) apply various agency control practices such as strict service scripts and constant monitoring to transform employees into human robots (Schepers et al. 2012). However, the dehumanizing nature of agency control is receiving increasing media attention and sparking polarizing public responses (e.g., Constine 2019; Guendelsberger 2019; Leetaru 2019; Mason 2016; Yusuf 2019). In this article, we examine the consequences of these service practices on consumers' decision-making. Particularly, we examine how liberal (vs. conservative) consumers react to strict (vs. loose) employee agency control.

We expect that liberals perceive employee agency control as dehumanizing and in turn, respond more negatively toward a firm than conservatives (e.g., Carney et al. 2008). In contrast, strict agency control can signify a prototypical capitalist enterprise, which as a result, can lead to positive overall consumer judgments. However, because conservative consumers (vs. liberals) are stronger supporters of capitalism and more motivated to justify the system (Jost et al. 2003), we expect that they will have more positive evaluations of a prototypical capitalist enterprise than liberals in general.

STUDY 1: LARGE-SCALE TEXT MINING

This study examines how liberals and conservatives react to strict agency control in a real-life setting. Specifically, we collected 2,336 comments under an article about Amazon's strict agency control practices on Yahoo! News website titled "I Worked at an Amazon Fulfillment Center; They Treat Workers Like Robots" (Guendelsberger 2019). To generate a dataset on readers' response to strict agency control, two coders (Krippendorff's alpha = 89.2%) manually categorized all comments into three groups regarding the online response to strict agency control (oppose, support, and irrelevant). To generate a political ideology dataset, we collected comments in the comment history of oppose and support readers on the Yahoo! News website. This dataset contained 10,336,854 comments from 1,215 readers. We then applied a supervised deep-learning algorithm to classify the comments into three categories: left-leaning, right-leaning, or irrelevant. Using the model output, we created a dummy variable about readers' political ideology. We found an effect of political ideology on response to strict agency control (χ^2 = 104.62, p < .001) such that among readers who supported strict agency control, there were significantly more conservatives than liberals ($N_{\text{conservatives}}$ = 720 vs. N_{liberals} = 277, χ^2 = 196.840, p < .001). whereas, among readers who opposed strict agency control, there were significantly more liberals than conservatives ($N_{\text{conservatives}}$ = 45 vs. N_{liberals} = 105, χ^2 = 24.00, p < .001).

STUDY 2: CHOICE BETWEEN STRICT VERSUS LOOSE EMPLOYEE AGENCY CONTROL

MTurk participants (N = 202) read the introductions and saw the pictures of two coffee shops sequentially. One showed that employees were trained to follow a robot-like approach while the other shows that employees were trained to follow a personal approach. Participants then indicated which coffee shop they would visit. We found that liberals were more likely to select loose (vs. strict) agency control option than conservatives (β = .257, Wald = 8.97, p = .003).

STUDY 3: MEDIATION EFFECTS

Study 3 investigates the mediating role of perceived dehumanization and capitalism associations in driving consumer responses to agency control. We used a 2 (agency control:

strict vs. loose) between-subjects design and measured political ideology. MTurk participants ($N = 404$) read the introduction and saw the picture of one of the two coffee shops shown in Study 2. Next, they responded to a two-item measure of willingness to use service, a two-item measure of capitalism associations, and a three-item measure of perceived dehumanization. The findings show that the interaction of agency control and political ideology was significant ($b = .21$, $p = .001$). Particularly, agency control reduced willingness to use service among liberals ($M_{loose} = 5.71$ vs. $M_{strict} = 4.71$, $p < .001$) but not among conservatives ($M_{loose} = 5.77$ vs. $M_{strict} = 5.61$, $p = .39$). The moderated mediation analysis (PROCESS model 14) revealed that political ideology moderated the indirect effect of agency control on willingness to use service through perceived dehumanization (Index = .10, 95% CI = [.0368, .1736]) and capitalism associations (Index = .03, 95% CI = [.0037, .0701]).

STUDY 4: THE MODERATING ROLE OF FIRM TYPES

Study 4 examines the moderating effect of firm types (an independent family-run firm vs. a global chain). We used a 2 (agency control: strict vs. loose) × 2 (firm types: global chain vs. independent firm) between-subjects design. MTurk participants ($N= 398$) read one of two versions of a hotel introduction. To manipulate agency control, we utilized the Code of Conduct with Customers showing how hotel employees should behave, interact and appear to customers. A two-way ANOVA revealed a marginally significant interaction between agency control and firm types ($F(1, 394) = 2.91$, $p = .089$). In the independent firm condition, agency control decreased willingness to stay ($M_{loose} = 5.37$ vs. $M_{strict} = 4.96$, $p = .037$), while in the global chain condition, willingness to stay was similar across agency control conditions ($M_{loose} = 5.16$ vs. $M_{strict} = 5.22$, $p = .75$).

STUDY 5: THE MODERATING ROLE OF FIRM TYPES

Study 5 examines the distinction between strict (vs. loose) agency control and service standardization (vs. personalization). MTurk participants ($N= 396$) completed a 2 (agency control: high vs. low) × 2 (service style: standardization vs. personalization) between-subjects study. The manipulation of agency control was similar to Study 4. To manipulate service style, we added an additional rule about delivering standardized (vs. personalized) service. Our results showed no evidence supporting that standardization led to the same effects as agency control. Particularly, service standardization did not effect capitalism associations ($p > .9$), and perceived dehumanization ($p = .83$). The two-way interaction between standardization and political ideology was non-significant ($p = .60$). In contrast, agency control had a significant effect on capitalism associations and perceived dehumanization (ps < .001). The interaction between agency control and political ideology was also significant, as expected (p < .001).

DISCUSSION AND THEORETICAL CONTRIBUTIONS

Our work makes several contributions to theory, methodology, and practices. In shedding light on the effect of agency control on consumer intention and behavior we contribute to the research on agency control, which previously focuses on its effects on employee performance (e.g., Schepers et al. 2012). Additionally, since consumers nowadays have become highly educated about firms beyond their basic service and product offerings, recent studies start documenting consumer responses to various visible management practices such as CEO-to-Worker Pay Ratios (e.g., Bamberger, Homburg, and Wielgos 2021). We contribute to this stream by demonstrating consumer responses to another important management practice (i.e., agency control). The text mining study also contributes to the method of measuring consumers' political ideology by showing how to capture this concept using a deep-learning model.

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The role of employees' identification with their own company and with customers in turning the customer-oriented organizational culture into collaborative employee behavior

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ABSTRACT

The study investigates how customer-orientation in organizational culture affects employees' collaborative behavior by examining the conditional role of the employees' identification with their own company as well as with customers. Structural equation modeling was applied to analyze survey data from 222 respondents from customer-facing employees particularly from the IT, software, and telecommunications industries. Building on social identity theory, the results indicate the dual role of employee identification. Employee identification with their own company and with customers can decrease respectively reinforce the positive effects of customer-orientation in organizational culture on employees' cooperative behavior towards customers.

PURPOSE

Since competitive advantages of B2B service providers are increasingly realized through long-term and intimate customer relationships, organizations need to put the customer at the very core of their activities. Although collaborating with customers is not a fundamentally new aspect to research and practice, megatrends like digitalization and servitization urge fundamental changes in partnering with the customer (Ulaga et al., 2020). Resulting concepts of co-creation and customization ideally entail a transformation of customer relationships from "arm's length" to close interaction (Huang et al., 2016). This includes viewing the customer as part of the organization's ecosystem. However, higher-level goals like co-created services are strongly driven by collaborative behavior at the employee level. This is particularly important in key account and customer success management, spanning both the ecosystems of service providers and their customers. B2B service companies therefore face the challenge of encouraging their employees to internalize collaborative behaviors into interorganizational relationships with customers. Drawing on social identity theory, a fruitful approach for understanding how and why employees span organizational boundaries and hence establish collaborative customer relationships appears to explore on how customers are valued in the employee's organization, how employees incorporate respective organizational values, and how such an intraorganizational alignment influences the employee's collaborative behavior towards customers (Korschun, 2015).

THEORETICAL FRAMEWORK

Cooperative behavior is crucial in B2B service contexts, involving coordinated and complimentary actions between business partners to achieve mutual goals. As such, it is a critical aspect of interfirm relationships, with positive impacts on trust, commitment, and relationship quality, benefiting both firms and customers (Palmatier et al., 2006; Lussier and Hall, 2018). As B2B service provider become more modularized, with distinct functions like customer success management and sales focusing on customer relationships and selling respectively, customer touchpoints are redefined (Hochstein et al., 2021). The construct of cooperative behavior figures centrally in customer success management, where boundary spanners act as internal processors of external information while actively representing their firm in the external context (Hochstein et al., 2021; Aldrich and Herker, 1977). Customer success managers work closely with internal stakeholders such as sales/cross-sales or R&D and act as additional advisors in customer teams to achieve mutual goals (Hochstein et al., 2021; Ulaga et al., 2020). Closer B2B relationships have positive impacts on relational governance, exchange performance, and customers' value co-creation behavior (Ferguson et al., 2005; Delpechitre et al., 2018). Accordingly, effective cooperation in customer success management is crucial in achieving mutual goals like value-in-use (Prohl-Schwenke and Kleinaltenkamp, 2021; Ulaga et al., 2020). Therefore, as the modularization tends to continue to grow, the cooperative behavior of the individual customer success manager is a prerequisite of service firms to initiate cooperative customer relationships and thus to implement customer success strategies (Ulaga et al., 2020).

A central factor influencing employee behavior in prior B2B research is organizational culture (e.g., Najeemdeen et al., 2018; Schwepker, 2003). The behavioral effectiveness of organizational culture, which refers to the shared values, norms, and expectations within an organization, is well documented in extant research (Ostroff et al., 2012). Customer-orientation in organizational culture emphasizes customer relationship, knowledge, and value (Denison and Neale 1996; Deshpande et al., 1993). As such, it promotes sensing and seizing of customer requirements and deriving actions towards improving customer relationship as well the own company's competitiveness. Against this backdrop, we propose the following hypothesis:

H1: The customer-oriented organizational culture of B2B service providers has a positive impact on the employees' cooperative behavior towards customers.

This research posits, that cooperative behavior towards customers requires a form of attachment to the customer. Social identity theory (Tajfel and Turner, 1986) suggests that individuals are more likely to share resources and cooperate with each other when they perceive themselves as part of the same group. This aligns with the findings of Dukerich et al. (2002), who demonstrate that identification fosters intra-group cooperation, and with the explanation by Bergami and Bagozzi (2000) that identification encourages benevolent and fair behavior among group members, leading to cooperative behavior. Therefore, employees may be more willing to collaborate closely with customers if they perceive them as part of their reference group (Korschun et al. 2014). Since the customer is an integral part of the culture in customer-oriented companies, this might promote the identification processes of employees with the customer. Hence, we propose the following hypotheses:

H2: Employees' perceived identification with customers mediates the positive impact of the customer-oriented culture on their cooperative behavior toward customers.

- H2a: The customer-oriented organizational culture of B2B service providers has a positive impact on the employees' perceived identification with customers.

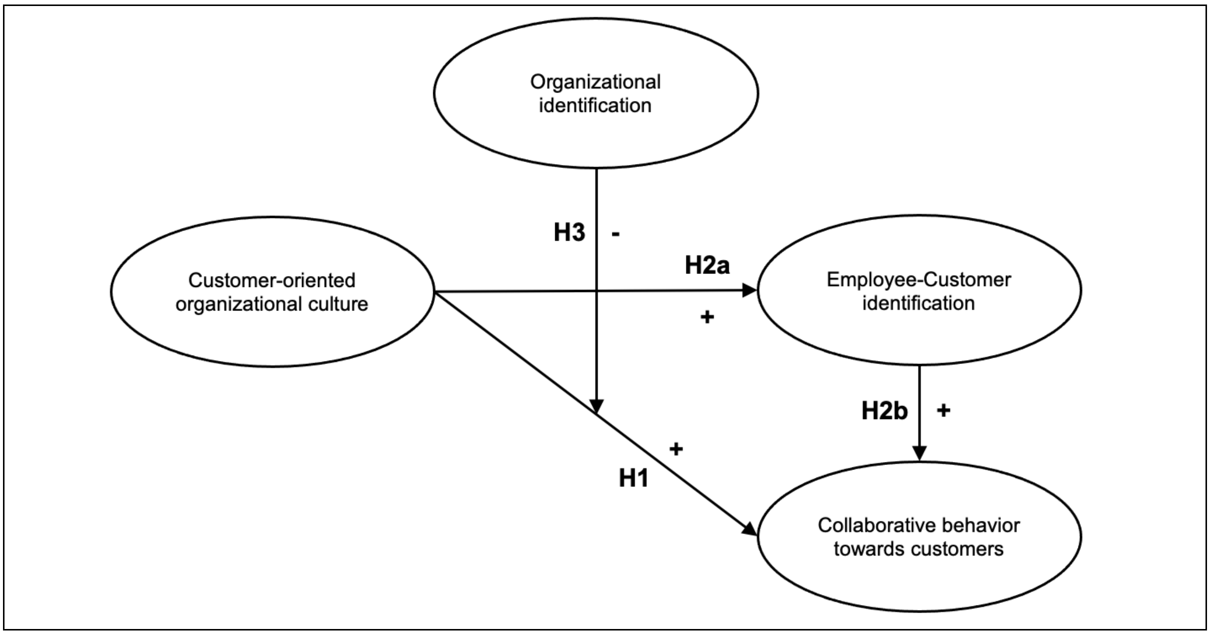
- H2b: Employees' perceived identification with customers has a positive impact on their cooperative behavior towards customers.

On the flip side, Korschun (2015) points to the paradoxical effect of employees' identification with their own company. Social identity theory, unlike other theories, asserts that having a strong sense of belonging to a group can induce opposition to external stakeholders. Drawing on long-standing accounts of social identity theory (e.g., Abrams and Hogg, 1988; Gaertner et al., 2000), Korschun (2015) proposes that high organizational identification decreases cooperative behaviors towards external stakeholders. In settings with low organizational identification, behaviors are shaped primarily by role expectations as found in organizational culture. As organizational identification increases, employee behaviors partly reflect their affiliation with the company, enhancing internal cooperation but making the psychological boundary between employees and customers more salient and promoting cognitive distancing from customers. This may run contrary to the organizational expectations promoted by the customer-oriented organizational culture. Therefore, we propose the following hypothesis:

H3: Employees' identification with their own company decreases the positive impact of the customer-oriented organizational culture on their cooperative behavior towards customers.

Based on the above arguments and hypotheses, we propose the causal model for this study, which is depicted in Figure 1.

Figure 1: Conceptual Model



METHODOLOGY

The data set used for the study was collected through an online survey among respondents from account, customer success, and sales management, particularly from the IT, software, and telecommunications industries in the German market. The questionnaire was filled out correctly and completely by 222 respondents (n=222). The job titles recorded fell into four categories: account manager (36.9%, n=82), customer success manager (30.2%, n=67), sales manager (19.4%, n=43), and other (13.5%, n=30).

To operationalize the constructs, scales established in extant literature were used employing a 7-point Likert scale. Bidirectional translation into German was conducted in the questionnaire development to ensure comprehensibility and validity. This involved two Ph.D. candidates in B2B services, a native English speaker, and a co-researcher. A factor analysis was performed to examine their psychometric properties. All scales meet the requirements that confirm their reliability and internal consistency: customer-orientation, originally referred to as customer-focus (Denison and Neale, 1996; $\alpha = 0.823$), employee-customer identification (Korschun et al., 2014; $\alpha = 0.794$), organizational identification (Korschun et al., 2014; $\alpha = 0.878$), and collaborative behavior towards customers, originally referred to as relationship performance with customers (Rodriguez and Boyer, 2020; $\alpha = 0.785$). In addition, a confirmatory factor analysis was performed, which confirmed convergent and discriminant validity.

To test the causal model, structural equation modeling was performed using the R package lavaan (Rosseel, 2012). The regressions were estimated based on the standardized means of the constructs using the restricted likelihood method.

RESULTS

A hierarchical approach was chosen to test the hypotheses as this allows comparison of the mediation model with and without the moderation term. This is critical for the correct interpretation of the mediation term, given the non-linearity of the model when including the product term of customer-oriented organizational culture and organizational identification. The procedure was carried out for three subsamples: First, the total sample including all respondents (n=222). Second, subsample 1, consisting of customer success and account managers who maintain long-term business relationships (n=149). Job titles that are not clearly focused on long-term customer relationships are excluded, assuming weaker identification effects with customers. Third, subsample 2 includes only customer success and account managers from software-driven businesses, such as SaaS, ERP and CAD solutions, where a high proportion of roles involve building long-term customer relationships. Ulaga et al. (2020) report that 91% of customer success managers work in this sector. The procedure and results are presented in Table 1.

Table 1: Hierarchical regression results

	Total sample	Subsample 1	Subsample 2
Direct effect and mediation effect			
Culture → Coll. behavior (H1)	0.202**	0.174*	0.215*
Culture → E-C identification (H2a)	0.255***	0.330***	0.424***
E-C Identification → Coll. Behavior (H2b)	0.328***	0.373***	0.252**
Culture → E-C identification → Coll. behavior (H2)	0.089**	0.123**	0.107*
Moderation effect			
Culture x O. identification (H3)	-0.134*	-0.292***	-0.360***

Note: *p < 0.05, **p < 0.01, ***p < 0.001

H1 is to test the direct effect of organizational culture on employees' collaborative behavior towards customers. The results in row 1 of Table 1 (all of $p < 0.05$) reveal significant and positive relationships, indicating that H1 is supported for all tested subsamples. H2 posits that employee-customer identification mediates the effect of customer-oriented organizational culture on employees' collaborative behavior towards customers. The results in row 2 and 3 of Table 1 (all of $p < 0.01$) demonstrate significant positive effects of customer-oriented organizational culture on employee-customer identification as well as employee-customer identification on collaborative behavior, indicating that H2a and H2b are supported for all tested subsamples. Accordingly, the mediation analysis presented in row 4 of Table 1 shows significant indirect effects (all of $p < 0.05$), indicating that H2 is supported for all subsamples. Therefore, the total effect of the customer-oriented organizational culture on collaborative behavior towards customers is 0.291 for the total sample, 0.297 for subsample 1, and 0.322 for subsample 2. For H3, the results of the subsequent moderation analysis presented in the last row of Table 1 (all of $p < 0.05$) support the hypothesis that increased organizational identification decreases the positive direct effect of customer-oriented organizational culture on employees' collaborative behavior towards customers for all subsamples.

Although not formally hypothesized, the results in rows 2, 3, and 4 of Table 1 indicate that customer identification effects are stronger for subsamples 1 and 2, where a high proportion of roles are assumed to involve building long-term customer relationships. This is also true for the moderating effect of organizational identification.

CONCLUSIONS

This study investigates the influence of the customer-oriented organizational culture of B2B service providers on the cooperative behavior of customer-facing employees toward customers. We developed and tested a model that explains this relationship based on two salient entities with which employees can identify: the own company and the customers. The findings provide both theoretical and managerial implications and open new avenues of research.

From a theoretical perspective, the model expands the understanding of customer-facing employees by demonstrating that employee identification is a complex phenomenon. Dependent on the reference object of identification, employee identification is shown to be both mediator and moderator of the behavioral effectiveness of customer-oriented organizational culture. The mediation effect of employee-customer identification suggests that customer-facing employees use how customers are valued in the organization to define themselves as part of the customer's in-group, which can be viewed as a means of translating the customer-oriented organizational culture into collaborative behavior. Regarding the moderation effect of organizational identification, one might assume that employees who identify with their highly customer-oriented company may be more likely to behave in collaborative ways. Building on Korschun (2015), we provide evidence that high organizational identification plays a paradoxical role in the context of customer-facing units when the cultural imperatives are directed towards stakeholders outside the organization. One possible explanation lies in the results of the reliability analysis. Both employee-customer identification as well organizational identification includes an item regarding value overlaps with customers and with the company respectively. While the factor analysis showed that employee-customer identification is a unidimensional construct, it yielded a two-factorial solution for organizational identification, suggesting an exclusion of value overlaps. A possible explanation might be that some of the variance in employee-customer identification explained by customer-oriented culture may actually stem from employees' identification with those organizational values. In turn, organizational identification predominantly reflects the sense of membership rather than the incorporation of the customer-oriented values, emphasizing the negative effects of in- and out-group thinking on translating the customer-oriented culture into collaborative behavior towards customers. Finally, the behavioral effect of customer-oriented organizational culture as well as the identity related effects are particularly evident for account and customer success managers in software-driven businesses. This is a contribution to the literature on customer success management, which lacks theoretically sound evidence on managing the new function.

From a managerial perspective, this research contributes to the literature by differentiating the performance related causal power of organizational identification. Organizational identification can be a source of employee performance, since it is associated with constructs, such as adoption of suggested behaviors (Edwards and Cable, 2009) and workplace motivation (Drumwright, 1996). Nevertheless, such a high affiliation towards the own company has been demonstrated to decrease cooperative behaviors towards customers, which is essential in B2B service business. Therefore, B2B service provider should leverage organizational identification among customer-facing employees in a nuanced way and focus on building a high customer-oriented culture and employee-customer-identification to promote collaborative behaviors towards customers and mitigate the negative effects of organizational identification.

This empirical study sheds light on a topic that has not been extensively studied. However, given the early stage of research on the constructs' relationships and customer success management in particular, this research provides opportunities for future research. Although organizational identification poses a challenge in boundary-spanning roles, organizations are still interested in committing employees to their goals. Thus, the question of finding the right balance between organizational identification and employee-customer identification arises. Switching perspectives, this begs the questions of the extent to which high levels of employee-customer identification might undermine beneficial organization-related constructs such as commitment to the own company. In addition, questions arise about whether there are internal or external conditions under which the negative effects of high organizational identification can be mitigated or reversed. From an internal perspective, a fruitful approach might be the extension of the model by further organizational cultural orientations. In this respect, Korschun (2015) points towards the influence of individualistic versus collectivistic cultural orientations. Thereby collectivistic organizational cultures emphasize interconnectedness and mutual gain in relationships, which might decrease negative effects of high organizational identification. Broadening this view, the regional context of this study might limit the generalizability of findings to other areas. The study was conducted in Germany, which like most Western countries tends to have an individualistic culture. Future researchers could collect data from more collectivistic countries to improve the generalizability of our findings.

Concluding, the findings reveal potential for B2B service providers to leverage organizational culture and employee identification to promote collaborative behavior towards customers among their key account and customer success managers and thus build long-term and intimate customer relationships. The study opens several avenues for theorizing and empirically investigating the role of organizational culture and employee identity dynamics in B2B service research. Social identity opens novel avenues for B2B service research to develop an understanding of how emerging roles such as customer success managers build effective customer relationships.

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Investigating the role of sport consumer engagement in non-profit sport clubs

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ABSTRACT

Customer engagement is known to increase consumer loyalty and may help sport clubs to protect against member loss. We outline how team reflexivity, team identification, and eudaimonic well-being influence sport consumer engagement and how sport consumer engagement is related to behavioral loyalty and voluntary engagement. Furthermore, we consider the moderating role of motivational intention on team identification. The results indicate that team identification and eudaimonic well-being mediates the relationship between team reflexivity and sport consumer engagement and skill-oriented motivation acts as a significant moderator. Moreover, sport consumer engagement is a key antecedent of behavioral loyalty and voluntary engagement.

INTRODUCTION

Commercial sport clubs have been gaining increasing numbers of members in recent decades, whereas nonprofit sport clubs and sport associations in Europe have experienced notable problems in recruiting or retaining members (Breuer *et al*., 2017; IHRSA Global Report, 2022). The reasons behind these trends include demographic changes and competition from commercial sport providers (Lang, Ströbel and Nagel, 2019). Additionally, the COVID-19 pandemic resulted in the need for a strategic reorientation to avoid continued member loss, and increased the complexity of managing sport organizations (Robertson *et al*., 2022). One promising approach might be found in the concept of customer engagement (Hollebeek, Glynn and Brodie, 2014), which is linked to desirable outcomes including customer loyalty and firm performance (Barari *et al*., 2021; Blut *et al*., 2023). Hence, we investigated this concept and outlined the influence of team reflexivity, team identification and eudaimonic wellbeing on sport consumer engagement, which is associated with behavioral loyalty and voluntary engagement. Additionally, we tested the moderation effect of motivational intention and membership length on the relationship between team reflexivity and team identification.

METHODOLOGY

This study utilized a mixed-method approach and combined a qualitative pre-study (n=20) followed by a quantitative main study (n=298) with participants from non-profit sport clubs. Content analysis and partial least squares structural equation modelling (PLS-SEM) were applied to test the research model. PLS-SEM is designed to confirm the predictive power of models and seems particularly appropriate for increasing our understanding of complex theoretical models in the sports management discipline (Cepeda-Carrión *et al*., 2022).

FINDINGS

The structural model accounted for 67% of the variance in sport consumer engagement, 48% in team identification and 37% in eudaimonic well-being. The results indicate that sport consumer engagement is positively associated with behavioral loyalty (β = .41, $p<.001$) and voluntary engagement (β = .21, $p<.001$). Team reflexivity (β = .12, $p<.001$), team identification (β = .55, $p<.001$) and eudaimonic well-being (β = .30, $p<.001$) positively influences sport consumer engagement. Furthermore, the findings show that team identification and eudaimonic wellbeing mediates the relationship between team reflexivity and sport consumer engagement significantly ($p<.001$). Skill-oriented motivation strengthens the relationship between team reflexivity and team identification (β = .12, $p<.01$), whereas social-oriented motivation has no significant effect ($p = 0.078$). Of interest here is the fact that membership length (not hypothesized) weakens the relationship between team reflexivity and team identification in such a way that when individuals have long membership, the effect of team reflexivity on team identification is lower (β = -.09, $p<.05$) than when members have short membership.

IMPLICATIONS

First, we support the notion that consumer engagement plays a critical role in nonprofit sport clubs, which is important to stimulate favorable outcomes such as commitment or loyalty. Hence, managers of nonprofit sport clubs are advised to implement strategic programs where professional and interactive team reflections on every level are conducted on a regular basis. This is especially true for team members with a shorter membership length. Studies have shown that team characteristics such as a shared vision and trust influence the level of team reflexivity (Widmer, Schippers and West, 2009). Hence, managers are advised to work on improving or adapting these characteristics and communicating them to their sport club members. Furthermore, nonprofit sport club managers should use additional tools to strengthen team identification. Suggestions include arranging team and group activities outside of normal training or volunteer work, internal team competitions and get-togethers. These suggestions were also made be several interviewees in this study. Managers should focus on conducting group activities for social purposes, which are perceived positively by sport club members and improve engagement levels (Behnam *et al*., 2021).

LIMITATIONS

As with every study, this study suffers from some limitations. First, sport club structures in Europe differ from other countries outside Europe, where antecedents might well also differ and could be elaborated in other cultural and geographical locations. Second, we did not investigate the professional levels of athletes, which could be considered in future studies. Lastly, we used behavioral loyalty and voluntary engagement as single-items since these reflected actual behavior. Thus, further research could elaborate effect sizes in this context with multi-dimensional scales measuring preferences or intentions to further validate these results. Further research might also investigate how team reflexivity, team identification and sport consumer engagement change over time. Moreover, research could elaborate the role of team reflexivity quantity and quality, which might indicate a different influence on engagement levels. Lastly, research might investigate how variables such as team reputation, perceived image of the organization, or narcissism influence team identification (Larkin, Fink and Delia, 2021; Takamatsu, 2021) in sport club members.

ORIGINALITY / VALUE

This study contributes on a twofold basis. First, we provide some fundamental insights in applying a proven concept to the sport context. This is of interest because sport consumers have unique characteristics such as a *regular* and *recurring* service utilization (e.g. coaching, facilities and medical services). Second, we advance the research on transformative sport services (Inoue, Sato and Filo, 2020) through an examination of the relationship between team reflexivity, eudaimonic well-being, and sport consumer engagement.

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Circularity and circular economy: *Agenda-2030 as a hypernorm for service ecosystem transformation towards a circular society*

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PURPOSE **–** There is a need for sustainable business and societal practices fostered by a transformation agenda to meet interrelated global challenges, such as climate change, the imbalance between humanity and nature and social tensions (Sebhatu et al. 2021; Rockström and Klum 2016; Raworth 2018; Vargo and Lusch 2017). These challenges need to be understood and tackled through transformation by considering both the details of the sub-systems and the service ecosystem as a whole. This transformation is understood as systemic, emergent in nature and driven by multiple, collaborating actors and their interactions in ecosystems (Vargo and Lusch 2016; Vargo et al. 2022; Sebhatu & Enquist, 2022) to arrive at a circular economy (CE). The CE is considering to be an approach for sustainable value co-creation (SBV), contributing to a sustainable, ecological, and resilient future (Webster 2017) with a focus on resource circularity from a goods-centric perspective. However, the CE approach does not include the counter effects of efficiency on consumption, and thus does not meet the criteria for sustainable value co-creation. The foundation SVC is embedded on the sustainable business practices of the transformation from a goods and firm-centric perspective to adopt a holistic ecosystem view to embrace new societal practices (Laczniak & Murphy, 2012) here referred to as circular society (CS). A CS includes an inclusive actor orientation moving from a firm-centric to a societal perspective grounded in ethical, macro-oriented, and eco-systemic views (ibid.), but so far no conceptual framework has been developed to explain the transition to CS.

The conceptual framework developed in this paper responds to this knowledge gap and is grounded in the Agenda 2030 Sustainable Developmental goals (SDGs), service ecosystem research, emphasizing the role of actors norms, more specifically hypernorms (Laczniak and Murphy, 2014). Hypernorms are norms which are shaping in different social and cultural contexts and become manifested in the society (De George, 2006), which are reflected in the religious, philosophical and cultural beliefs (Donaldson, Dunfee,1994). We use the concept hypernorm to zoom in on the transformation processes of business ecosystems from a firm-centric to a societal-centric perspective, thus broadening the perspective on sustainability from a CE to a CS.

Sustainability and its social dimensions have also been identified numerous times as important research themes in transformative service research (TSR) (Blocker et al. 2021, cited Anderson et al. 2022; Anderson and Ostrom 2015; Anderson et al. 2013). A central concept in service research is value co-creation in the context of service ecosystems (Vargo and Lusch 2018). However, existing frameworks have primarily focused on value creation and economic challenges rather than adopting a systemic and holistic approach (environmental, social, economic and ethical) to resource integration and sustainable value cocreation for all engaged actors. This must pay attention to the ethical challenges of fare distribution of value among actors, including future generations and non-human actors (e.g. plants, animals, insects) our planet is in need of. To arrive at a CS, value cocreation must be sustainable and meet criteria of social justice (Sebhatu and Enquist 2022) and fare distribution of value (Mazzucato, 2018). And by including the concept hypernorm, we are able to conceptualize the transition to a CS, grounded in sustainable value cocreation for all engaged actors.

METHOD - The purpose of this conceptual paper is to explain how sustainable value cocreation, manifested in business practices enable the transformation of a CE into a CS. The explanatory power of the framework is shown by referring to three businesses that have developed a transformation agenda towards a circular society: IKEA, Löfbergs, and Eataly.

FINDINGS – Our conceptual framework introduces a new construct by building on the CE construct (Jaakkola 2020) to explain how to transform from CE thinking to a CS mindset. This conceptual article contributes to the ongoing discussions on sustainability and service research and follows Jaakkola (2020) and identifies previously unexplored connections between constructs. Specifically, we identify and reconcile the connections between sustainability and a service ecosystem view. Furthermore, the conceptual model introduces new constructs (Jaakkola 2020).

RESEARCH IMPLICATIONS - Our paper is a conceptual paper with a specific focus on service research, sustainability, and transformation from circular economy to a circular society.

ORIGINALITY/ VALUE - we argue that circularity (circular solutions and circular ecosystems) not necessarily are sustainable (Environmental, social and economic) and that sustainable solutions might not be circular but by emphasizing sustainable and circular solutions that include the unintended consequences, also during consumption and use we arrive at sustainable value cocreation. This is done by focusing on linking a conceptual model of sustainability to a CE using the sustainable transformation of business-societal practices to make society more circular.

KEYWORDS - Circular Economy; Circular Society; Hypernorm; Sustainable Developmental Goals(SDGs)-Agenda2030; Service Ecosystem; Sustainability; Transformation; Sustainable value co-creation.

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Balancing Spotlight between For-Profit and Non-Profit Market Orientation for the Service Sector

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ABSTRACT

This study employs a Systematic Literature Review (SLR) that focuses on the last fifteen years of literature development to provide an integrated framework of for-profit and non-profit service organizations' market orientation. Several impediments are specifically identified in the literature, such as organizational factors and a narrow focus on only the customer and the competitor. Furthermore, this paper also suggests that service innovation has the potential to bridge the gap between for-profit and non-profit organizations. Finally, this study offers practical implications on how non-profit service organizations becoming more competitive in securing resources while maintaining organizational mission as their ultimate goal.

INTRODUCTION

Despite the importance of market orientation in service management, its nuanced understanding is unclear, especially for the non-profit sector. Non-for-profit organizations have relied heavily on the roles of their various stakeholders, which has become one of the primary distinctions between them and for-profit organizations. Non-profits may consider other aspects, such as service innovation, to differentiate themselves from their peers as well as their for-profit counterparts. Previous research has demonstrated the theoretical foundation, rationality, and benefits of market orientation. Nonetheless, several key impediments remain unexplored, including organizational factors and a narrow dyadic focus on only the customer and the competitor.

THEORITICAL BACKGROUND

Service-Dominant Logic has been proposed as a solution to ending the debate about the narrow focus of conventional market orientation that only focuses on customer and competitor as its dimensions (Line et al., 2019). Until recently, the dominance of the for-profit sector in the market orientation study has made adoption in the nonprofit sector limited, especially as this sector tried to satisfy more diverse and complex stakeholders than the for-profit one (Duque-Zuluaga and Schneider, 2008; Modi and Mishra, 2010). Surprisingly, the development of innovation discussions on both for-profit and nonprofit market orientations might offer a balanced spotlight (Choi, 2014; Sanzo-Perez et al., 2015). Moreover, this opportunity to balance market orientation between for-profit and nonprofit organizations has not been documented in previous studies.

METHODS

This study takes a systematic approach to a review of the literature on market orientation between 2007 and 2021.There are several reasons in the background for doing a systematic literature review. Firstly, the current literature is still dominated by the for-profit sector, resulting in a scarcity of nonprofit market orientation literature review works. Secondly, there is a need to further explore the influence of service-dominant logic and stakeholder theory, especially the potential of service innovation in balancing the spotlight between for-profit and nonprofit market orientation literature. Thirdly, systematic literature review has become a well-accepted literature review approach that has the ability to reduce bias through the use of a systematic method for selecting studies for the review (Tranfield, 2003).

After the research question is set up in the way described above, a protocol is made and a systematic search for relevant articles is done. The protocol has a number of steps, such as planning a search, text mining, choosing a database, keeping records, and reviewing. The screening and appraisal are then implemented. A critical review of the final documented articles will lead to the conclusion of the whole systematic literature review on market orientation.

RESULTS

As co-production activities with customers become more common, an organization's commitment needs to be strengthened to maintain its dynamic capabilities (Chen et al., 2015). Additionally, market orientation is a crucial element that fosters cooperation between an organization and its partner in the service innovation process (Jimenez-Zarco et al., 2011). A current study on service market orientation has found that customer relationship management, if complemented with service innovation, could maximize the relationship between market orientation and performance (Alnawas and Hemsley-Brown, 2019). However, the barriers to developing new services come not only from organizational attributes but also from industry trends that affect organizations' capabilities in designing innovative services (Velayati et al., 2020). Moreover, in today's data-rich environment, service innovation has been a success factor in achieving organization performance (Rahman et al., 2020).

In relation with innovation discussion in the market orientation literature, there were two factors that need further examination. Firstly, the role of leaders including their leadership style aspect has long been subject to examination in the market orientation literature especially the discussion about on facilitating marketing capabilities (Day, 2011; Murray et al., 2011). However, there is still no conclusion on which type of leadership style that the most appropriate to facilitating market orientation approach and implementation although some studies has examined transformational leadership style (Menguc et al., 2007; Kraft and Bausch, 2016) as an option. Moreover, there is still limited exploration and examination on leadership style in nonprofit market orientation context to balance our understanding. Secondly, with the more well accepted Service-Dominant Logic, further discussion about service actor from customer to stakeholder is still ongoing (Hollebeek et., 2022; Mathew et al., 2018). Blending between Service-Dominant Logic and Stakeholder Theory has also attracted several scholar to explore the initiative of shifting narrow focus from only to customer and competitor in the conventional market orientation literature, but also move beyond employee as internal stakeholder to wider potential stakeholder (Line et al, 2019; Verleye et al., 2017).

DISCUSSION

A nonprofit organization cannot be separated from its stakeholders. Along with employee (including organization leaders) and volunteer, nonprofit stakeholders (e.g. sponsor and beneficiary) has more involvement in creating value and reaching social and economic impact on society. Each stakeholder owns their resources, and these potential resources are critical to the sustainability of nonprofit organizations. An integrated mindset from all of the organization's stakeholders on how to manage the shared resources could be strongly bonded under a service innovation initiative that dynamically responds to social issues in the society. Nonprofit organizations not only need to find and nurture a leader who has the vision to transform the organization into one that is innovative but also to maintain a certain level of stakeholder engagement.

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Silver Economy: A research agenda for service management

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Introduction

Population aging is a global phenomenon that has substantial implications for civil society, governments, organizations, public service providers, and, last but not least, businesses. Except for Africa, every single country will experience a general increase in the number of people aged 65 and over (the so-called "silvers") in the next ten years. (Eurostat 2019). The consequence will be a vast array of challenges to firms and governments, as silvers are a multifaceted market segment, expressing very diverse and differentiated needs (e.g., active/healthy silvers; not healthy silvers) (Aging Europe 2020). Such change in population structure is likely to impact profoundly, among others, health and social care systems, labor markets, public finances, and pension entitlements, implying a deep transformation of services, both private and public (Kohlbacher et al., 2011). The aged population becomes a powerful resource for developing a new type of economy, the so-called Silver Economy (SE). SE is recognized by the OECD (2014) as the production and delivery of products and services targeted at older people, shaping the environment in which people over 60 lead healthy, active, and productive lives. In the field of management, the topic of aging has recently been approached according to the perspective of social innovation (Sooraj et al.2020), which refers to the creation of novel, scalable and sustainable ideas and solutions to solve systemic societal problems (Aksoy et al., 2019; Mulgan et al., 2007; van Wijk et al. 2019).

The few academic contributions focus mainly on "the elderly", i.e., the non-active part of the aged population, and address the health and assistance sector (Caic et al., 2018), especially in relation to the use of technology (Neven 2015) - perhaps in line with the popular concept of "gerontechnological innovation," as the OECD has termed this phenomenon, particularly concerning health care. Extant studies on the silver market address only specific industries; for example, few papers deal with the opportunities emerging from demographic change in the tourism and hospitality industry (Kohlbacher et al., 2014; Laperche et al., 2019; Hvozdikova et al., 2015). A recent review has addressed the state of the art of management literature on SE (Colurcio et al. 2022). However, to the best of our knowledge, no studies have systematically examined service literature on SE. Therefore, this study intends to conduct a systematic literature review through bibliometric analysis in order to define the domain of service management knowledge about SE and identify a research agenda to inspire future studies and guide firms in imagining new models of service design and service delivery systems that address the specific needs of older adults. Moreover, this study provides suggestions for policymakers interested in promoting economic growth and social welfare in aging societies.

The remainder of this article is structured as follows. Section 2 details the methodology implemented. Section 3 presents and analyzes the main results. In Section 4, conclusions are drawn and a researchagenda is proposed.

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Method

We combined a systematic literature review and a quantitative bibliometric analysis to depict the current state of the research on SE in the service management field. Systematic reviews of the literature are robust (Ciampi, Giannozzi, Marzi, & Altman, 2021), minimize bias through exhaustive searches of documents in the field, and provide a control schedule of the review's procedure and conclusions (Tranfield, Denyer, & Smart, 2003).

We ran a query on Scopus and Web of Science (WOS), using the operators "TITLE-ABS-KEY" and "TS", respectively, and the keywords "service", and ["senior" or "older" or "elder" or "elderly"] for articles written in English in the field of business and management, and excluded subject areas not pertinent to the scientific domain of our research. We obtained 1045 articles from Scopus and 761 from WOS.

As second step, we merged the two datasets using the Bibliometrix package opensource (Aria and Cuccurullo, 2017) in RStudio (http://www.bibliometrix.org) to ensure a robust bibliometric analysis (Echchakoui, 2020). Duplicates (457) were removed, and keywords cleaned by using OpenRefine, (https://openrefine.org/).

We then refined the search by narrowing the field to journals on service topics and manually cleaning the abstracts to avoid recurring words (such as "purpose"," "results," "limitations"). The final dataset includes 117 articles.

We analysed the data by performing strategic map analysis using Bibliometrix package opensource (Aria and Cuccurullo, 2017) in RStudio (http://www.bibliometrix.org);. Strategic map is a two-dimensional diagram plotting clusters that are derived from co-word analysis according to their centrality and density ranks (Cobo et al., 2011).

Findings

Data description

The dataset consists of 117 articles and 2 reviews from 1986 to 2023.

All publications are from 6 journals, with nearly 44% of the articles published in the Journal of Service Marketing (Table 1).

Table 1- Main sources of publication

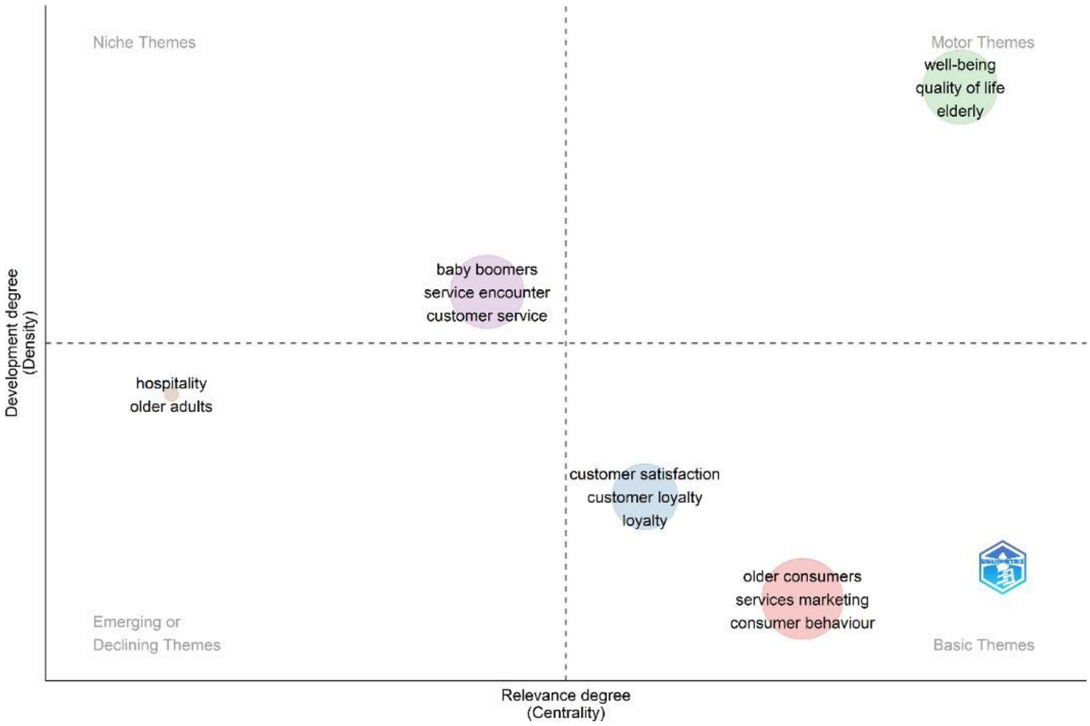
Source	**Publications**	**%**
JOURNAL OF SERVICES MARKETING	52	43.7%
SERVICE INDUSTRIES JOURNAL	27	22.7%
JOURNAL OF RETAILING AND CONSUMER SERVICES	23	19.3%
JOURNAL OF SERVICE MANAGEMENT	7	5.9%
JOURNAL OF SERVICE RESEARCH	7	5.9%
THE SERVICE INDUSTRIES JOURNAL	3	2.5%

Source: Authors

Streams of research in service

The following figures (Figure 1) show the thematic maps based on authors' keywords. We used Louvain as clustering algorithm (Blondel et al., 2008) to group the top 60 words on authors' keywords.

Figure 1. Thematic map on Authors' keywords



Source: Authors

From the thematic map on the authors' keywords, 6 themes emerge. Centrality (x-axis) shows the relevance of the topic in a particular research area, while density (y-axis) measures the development of the topic.

Topics in the upper left quadrant are well-developed (high density) but on the fringe (low centrality). Low centrality means that these topics have strong internal connections but unimportant external connections, so their importance to the research area is low. The **purple bubble** in this quadrant refers to research regarding baby boomers, service encounters, and customer service. Most of the studies inthis cluster are recent publications (published between 2021 and 2022), with the older study being published in 2007 (Falk et al., 2007). Some studies focus on the accessibility challenges that older consumers may face in the store environment (e.g., Kohijoki, 2011) and, more broadly, during the service encounter. For example, Grougiou and Pettigrew (2011) found that older customers evaluate service encounters primarily according to the social benefits resulting from the interactions. Prentice et al. (2022) found that interpersonal encounters with service providers positively affect customer satisfaction, memorable experience, and loyalty in geriatric hotels. In addition, Plaud and Urien (2022) explored the links between the meaning of bereavement for widows and their expectations regarding social support from service providers. Service providers can, however, have a negative effect on shopping behavior. For example, an interesting study by Chéron et al. (2020) shows that older consumers reject patronizing behavior and condescendence from salespeople. A few studies also explored older customers' reactions to a service failure in terms of problem-solving complaining. Specifically, Chaouali et al. (2021) show that future time perspective has a positive and significant impact on wisdom and emotional intelligence but does not directly affect problem-solving complaining. Chaouali et al. (2021) suggest that this finding might lead to assume "that the way elderly customers view time as expansive would influence their accumulated wisdom through their life experience, regulate their emotions and lead them to constructively react to service failures." Israeli et al. (2019) explored differences between younger and older customers' online complaining behavior. Based on their findings, older customers are similar to younger ones in their intentions to communicate negative electronic word-of-mouth (eWOM). However, with higher levels of Internet addiction and escalating technical failures, older customers tend to turn to nasty eWOM communication. In addition, with aging, consumers are likely to modify their consumption behaviorin several aspects, including information processing, as emphasized in the review by Guido et al. (2021).

Some other studies in this bubble address older consumers' likelihood to engage with technology. For example, Falk et al. (2007) explored the possible conflict between offline and online service channels and found that older consumers' satisfaction with the offline channel reduces the perceived usefulness of the online channel. Itani and Holleebeek (2020) found that online grocery shopping increased during the pandemic, with a stronger effect of social distancing on shopping behavior for older consumers. Wu et al. (2021) conducted two experimental studies in the context of food ordering and found that older consumers prefer ordering from human servers than from self-ordering machines, even though when machines are the only option available, they feel comfortable with it. Similarly, Park et al. (2021) investigated self-service technology for online grocery shopping and found that future time perspective explains consumers' adoption intentions of this technology. Bae et al. (2021b) specifically focused on consumer innovation adoption during aging and found that older individuals that are self-aware of their aging avoid innovations to reduce the risk of situations that may confirm negative age-related stereotypes. In addition, Henkel et al. (2022) adopted a transformative research perspective to understand how social robots can increase older individuals' well-being. Social participation and connectedness also emerge as important themes in this cluster. Specifically, Lin and Chou (2021) focused on older people's social participation in long-term care services and found that social participation leads to positive service satisfaction. In later life, social connectedness, together with freedom, independence, and autonomy, may be challenged by changingconsumption activities such as driving retirement, thus leading to value destruction. In this regard, Zainuddin et al. (2021) explored the effect of driving retirement on older individuals' well-being andpropose a model for value re-creation through various resources of the ecosystem.

The themes in the lower left quadrant have low density and low centrality. They are weakly developed and marginal; they can represent either emerging or declining themes, which means that these themesare not consolidated in the literature and can develop in different directions. The lower left quadrantin Fig. 1 shows a **beige bubble**, which includes papers addressing hospitality and older adults. For example, Chrysikou et al. (2018) emphasize the importance of the physical environment in healthcare facilities for the increase of well-being and explore possible synergies between healthcare and hospitality. Specifically, they examined the case study of village-type accommodation for dementia in the Netherlands and drew some implications from analyzing such architectural hybrids. In addition,Kabadayi et al. (2020) provide a conceptual framework for the older adult care experience and propose that quality dimensions derived from service operations, hospitality, and healthcare contextscan be used to evaluate the care experience.

Themes in the lower-right quadrant have very strong external ties but unimportant internal ties; thus, they are very important for the research field, even if they are not well-developed. Specifically, this quadrant comprises two bubbles, the light blue one, which addresses customer satisfaction and loyalty, and the pink one, which addresses older consumers, services marketing, and consumer behavior.

Some studies in the **light-blue bubble** provide a better understanding of older consumers' loyalty behavior in different service contexts, such as dental, hairdressing, and travel services (Patterson, 2007), and third places, such as seniors' clubs (Meshram and O'Cass, 2013; 2018). Sharma et al. (2012) also explored age differences, particularly the moderating effect of gender and age on the relationships in the service evaluation model in various retail contexts. Recently, Kosiba et al. (2020) focused on the role of service quality and satisfaction with the airport service experience in explaining repurchase and patronage intentions among younger and older consumers. Their findings show a stronger association of satisfaction with the behavioral intentions of older customers than younger ones. Some other studies focus on satisfaction in the healthcare service industry. For example, Prenshaw et al. (2006) considered the eldercare service context to examine the satisfaction formation process of adults (as children of an older parent) using a simulation in an online environment. Hur (2015) focused on the context of a home caregiver firm to investigate the mediating effect of employee job satisfaction on the relationship between employee emotional labor and older individuals' satisfaction. The findings highlight the role of job satisfaction in boosting both service quality and customer satisfaction (Hur, 2015). Other contributions address older customers' life satisfaction. With this regard, Mathur et al. (1998) show that value orientation (e.g., health and social satisfaction and life satisfaction) can be effectively used for segmenting the older tourist market. In addition, Zhou et al. (2018) focus on a specific type of tourism among older people with health challenges, i.e., seasonal migration, whereby individuals move to other areas to improve their health and longevity. The findings extend the three traditional external factors of the "therapeutic landscape" beneficial to health (i.e., physical, social and symbolic landscape) and emphasize the great importance on the internal factors (i.e., enhanced personal behavior and a positive state of mind) in improving older individuals' health.

The **pink bubble** includes studies on older consumers, services marketing, and consumer behavior. Altobello Nasco and Hale (2009) focused on older consumers' information search behavior and found that consumers aged 55 and older consulted few information sources for new service purchases. Benand Williams (2010) highlight the importance of customer education programs in guiding older consumers in the complexity of the marketplace. However, as suggested by Chaston (2011), small firms may not fully understand the potential of the older market and still have to revise their marketing practices to address older consumers.

Some scholars explored older individuals' behavior in retail contexts. For example, Omar et al. (2014) investigated older consumers' expectations towards products and services available in the supermarket and food retailers, while Seo and Fiore (2016) examined the effect of the fitting room environment in clothing shops on older women's perceptions and behavioral intentions. Their findings show that a higher accommodation level of the fitting room area decreased both physical and social psychic costs, i.e., "consumer's added mental stress or emotional labor during the shopping experience" (Seo and Fiore, 2016, p. 17). With regard to retail environments, a recent study by Pantano et al. (2022) recommends the importance of developing technologies to support older customers; however, on the other hand, it questions the role of new retail technologies, such as interactive in-store displays or robots because they risk to exclude, rather than include, older customers.

Some other studies addressed age differences in consumer behavior and particularly switching barriers. For example, Tesfom and Birc (2011) investigated switching barriers in the retail banking industry while Tesfom et al. (2016) focused on mobile phone service offerings. Both studies show that younger customers are more likely to change service providers than older customers. Some other scholars focused on customer-to-customer interactions (Nicholls and Mohsen, 2015) and on customer-employee interactions in various service contexts. For example, Rosenbaum (2009) investigated the role of employees in providing social support to their customers, while Wägar and Lindqvist (2010) found that older customers prefer older customer-contact persons to younger ones. Holmqvist and Van Vaerenbergh (2013) also explored customer and service providers interactions.

Their findings emphasize the importance of native language use in service encounters, especially for high-involvement services.

Some scholars also considered older consumers' behavior in case of service failures. With this regard, Paul and Sahadev (2018) explored service failures and problems in a nursing home for older individuals and proposed a framework to improve the internal marketing practices that can increase employees' and customers' satisfaction. Westberg et al. (2021) also explored the experiences of older consumers with service providers and specifically addressed older consumers' age identity. They found that older consumers are exposed to various age-based stereotype threats in service contexts, leading to service failure. It is important to note that the older market is highly heterogeneous and that chronological age is not sufficient to explain consumer behavior. For instance, an interesting study by Kuppelwieser and Klaus (2021) considers the role of chronological age, cognitive age, and future time perspective in consumers' perceptions and behavior and highlight the superior value of future time perspective in predicting age-related differences in service contexts.

Finally, the upper-right quadrant includes the "motor themes". These themes are both well-developed (high density) and very important (high centrality). They have very strong external and internal ties. The motor theme emerging from the analysis is represented by the green cluster, which includes as major keywords "well-being," "quality of life" and "elderly".

Most of the articles in the **green bubble** cluster have been published in the Journal of Service Research between 2020 and 2022; some of them deal with the Transformative Service Research (TSR) approach (Anderson and Ostrom, 2015; Anderson, 2010) and the application of the Service Inclusion lens (Fisk et al., 2018). In general, the cluster articles focus on improving the quality of life of older people and approach "silver" in terms of alleviating suffering. In particular, the role of older people as proactive agents and value co-creators is highlighted (Suarez et al., 2021; Amine et al., 2021), as well as the importance of the social dimension reinforced by technologies (Bianchi, 2020). Another interesting aspect of the cluster is the active role of the family in the co-creation of wellbeing for older people (patients): family members are both mediators in the senior's relationship with others (e.g., the asymmetrical doctor/patient relationship) and proactive agents for the learning and socialisation process (i.e., they support the acceptance of technology). In such a context, the theory of service inclusion is advanced and some authors refer to this particular phenomenon as supportive co-inclusion, identifying primary and secondary customers (Leino et al., 2021)

An interesting contribution comes from Suarez (2021), who applies the framework of value co-creation (Prahalad and Ramaswamy, 2000; Lusch et al., 2010) to the provision of medical services toolder people with chronic conditions. In particular, the authors point to the important role of patient companionship (family member) in improving the doctor-patient relationship and thus older patient satisfaction, which is now one of the measures of health care outcomes (Ng and Luk, 2019).

On the same wavelength is the article by Amine, Bonnemaizon, and Josion-Portail, published in 2021 in the Journal of Service Marketing, which focuses on the fact that older patients' vulnerability depends not only on medical-geriatric frailty but also on the nature of their interactions with caregivers. Referring to the framework of co-creating value with the vulnerable (Johns and Davey, 2019), the authors emphasize the role of caregiver practices in activating the resource integration process (Caridà et al., 2019) through the mobilization of resources in the delivery of care. Specifically, the authors point out that "the vulnerable status is not an immutable state but a possibility, a risk that is increased or, on the contrary, reduced by the practices of care administration" (p. 607) and emphasize the central role that interactions between care providers play in classifying older patients as vulnerable.

Other studies look at how technology can improve the well-being of older people. Ge and Schleimer (2023) use an empirical analysis to show how technology can provide both functional benefits (replacing/helping with housework) and relational benefits (improving communication with friends and family members who aren't nearby). Some research focuses on the socially vulnerable in general and argues the transformative role of technology (particularly AI) in changing the servicescape for the socially vulnerable (Kipnis et al., 2023).

Bianchi's paper (2020), which analyzes how Internet services can improve the well-being of older consumers, expands the TSR by showing how older people are co-creators in the use of Internet services. Namely, the paper emphasizes how proactive participation of older people and their families in Internet services positively impacts five dimensions of the well-being of older consumers (Feng et al., 2019): pleasure, personal growth, mastery, autonomy and social relationship.

Finally, a truly insightful study of the cluster is the work of Feng (Feng et al., 2019), which sheds light on social interaction and the transformative power of resources exchanged between older clientsand service providers for the well-being of older adults.

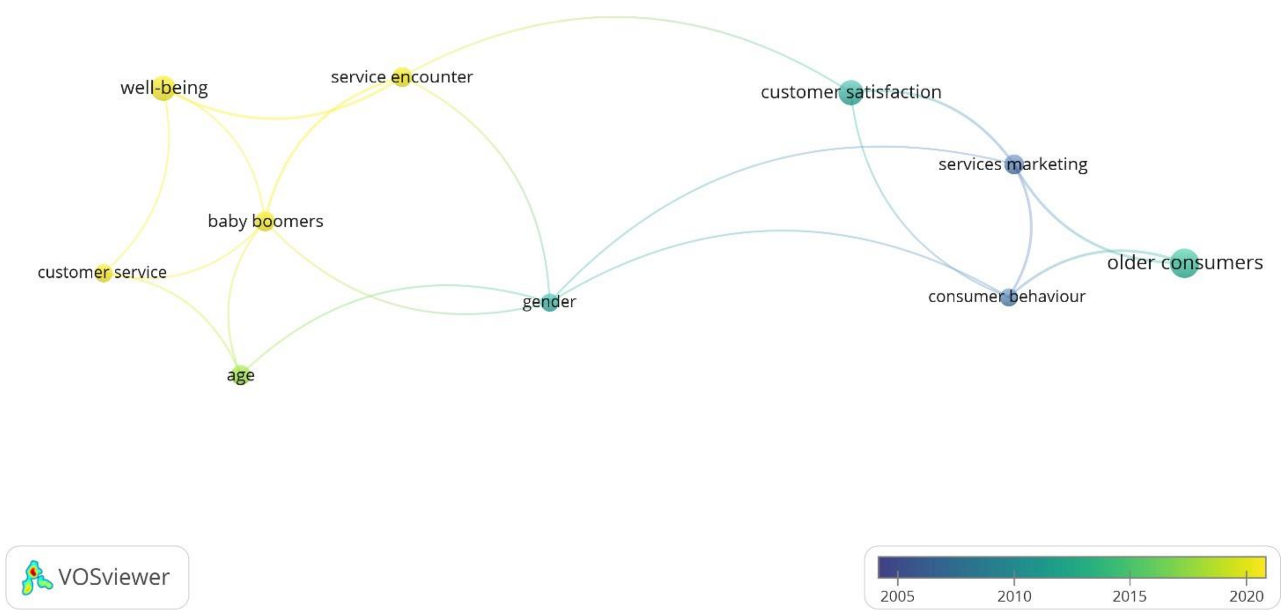
Themes and trends

The trend of research focusing on aging from a service perspective is also confirmed by the analysis of the so-called overlay network (Van Eck and Waltman, 2014), which shows how research has evolved over time in terms of keywords. Figure 2 shows the overlay map: the color shading of the nodes indicates the average year of publication. It can be seen that keywords such as "well-being," "customer service," and "service encounter" are the leading terms in recent research compared to consolidated keywords such as "consumer behavior" and "older consumers." Consistent with the findings from the "well-being" theme cluster, the figure shows a clear trend toward studies that seek solutions to improve active aging within the context of transformative service research. This trend can be read in light of two different issues. First, universal issues such as social inclusion, universal accessibility to technology and services, which are enshrined in the UN 2030 agenda, among others, are gaining priority in marketing and management studies. The centrality of people and their social as well as functional needs becomes a pillar for guiding research and defining policy and institutional agendas. Second, the focus on service research provides a privileged opportunity for observation; infact, research and studies in this area are strongly imbued with the perspectives of value co-creation and the transformative approach (Anderson et al., 2010; Anderson and Ostrom, 2015), whichprioritise social interaction, the collaborative method of value creation, and social well-being (Fisk etal., 2018).

Conclusion and research agenda

This paper systematizes what is known about aging in the service literature and proposes a research agenda for addressing aging in service research. A systematic review of the literature published between 1986 and 2022 was conducted using bibliometric techniques. It provides an overview of service research in service on various topics related to the important and growing segment of modern society, i.e., older individuals. The analysis of the thematic map shows five main research topics ordered by relevance and degree of development, highlighting the heterogeneity of the topic of aging in service research. The analysis of the trend based on the development of the keywords (overlay map) also shows that well-being and quality of life are emerging topics related to the older people.

Figure 2. Overlay map on Authors' keywords



Source: Authors

Future studies could analyze the different clusters in more detail to identify the specific features of aging in service research areas, including their theoretical underpinnings. Empirical studies on various management and marketing challenges are also needed. Based on the discussion of the clusters and the development of the themes, we conclude by outlining a research agenda formanagement scholars seeking to address the challenges and opportunities of the so-called Silver Economy and identify six key challenges for future research and inquiry:

Theme 1 - Silver culture and ethical issues in service. A central task is to define an inclusive andopen-minded culture of aging
- What does aging mean today?
- What is the difference between aging and frailty/vulnerability?
- What are the social and economic challenges for the new silver-dominant society?
- How can service research help shape a better and more inclusive society for happy and active olderpeople?

Theme 2 - Value co- creation: actors and value dimensions. There is a need to clearly define the dimensions and actors for the process of resource integration for both active and vulnerable older people.
- How can we empower older people as co-creators?
- What are the most important value dimensions for active olders?
- What are the most important value dimensions for vulnerable older people?

Theme 3 - The active role of older people and their role in society. This theme deals with the newand changed family and social structures and raises questions such as:

- What role do older people play in the family economy (e.g., caring for older family members or grandchildren)?
- How can older people engage in various volunteer roles and services in society?
- What organizations engage older people in the community?
- What types of caregiving services do older people provide in the community and why?

Theme 4 - Service ecosystem approach. To date, service research has addressed aging issues at themicro level. For a real and transformative move towards a more inclusive world:
- Should service research propose an inclusive framework that captures and empowers older people as key stakeholders to initiate a transformative transition to a virtuous institutional ecosystem of social relationships?
- How can service research contribute to institutional and policy agendas?

Theme 5 – The possible contradictory role of technology on the inclusion or exclusion of older people. This theme refers to the potential role of technology in improving services for older people but also to the risk that technology may exclude older customers. In fact, older people may avoid innovation if they believe it could have a negative impact on their self-image and social image.
- What type of customer education programs can service organizations promote to enhance older people' use of technology?
- What are the key ethical issues related to technological potential?
- What is the role of family and society in promoting virtual adoption and inclusion through technology?

Theme 6 - Marketing, communication, and sales. Research priorities include exploring marketingand communication strategies that address the needs of older people, particularly in terms of:
- the importance of the service encounter and the relationship with staff (older customers rejectpatronizing and prefer older customer contact staff)
- the importance of internal marketing to improve service quality and customer satisfaction
- forms of value response when aging forces customers to change their habits (e.g., driving)
- the importance of reducing mental/psychological and physical stress for older customers in the retailcontext through the servicescape.

We may conclude that the management challenges and opportunities are multifaceted, and the need for further research is evident. This paper has provided one basis for this and contributed some suggestions for future management research in the domain of the SE.

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Designing and orchestrating largescale, complex, and challenging service ecosystems for transformative impact on society

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Purpose – "Designing and orchestrating largescale, complex, and challenging service ecosystems for transformative impact on society is a priority for service research" (SRP5) (Field et al., 2021; Ostrom et al., 2021). This study starts from the above premise and discusses how technologies can be leveraged to enable services for disadvantaged consumers and communities (SRP7) (Field et al., 2021; Ostrom et al., 2021). It focuses specifically on digital platforms that act as resource integrators by enabling the orchestration of new, effective, scalable, and impactful social innovation practices (Caridà et al., 2022). This study bridges resource integration (Caridà et al, 2019, 2022; Colurcio et al 2022; Edvardsson et al, 2014; Findsrud et al, 2018; Peters et al, 2014) and social innovation (Aksoy et al., 2019; de Wit et al, 2019; Mulgan et al, 2007; van Wijk et al, 2019) studies within the broad perspective of transformative service research (TSR) (Anderson et al, 2013; Anderson and Ostrom, 2015; Ostrom et al, 2010). The goal is to provide an interdisciplinary framework that better explains the emerging role of digital platforms (i.e., drivers of transformative social change) and their potential shift from a business-centric to a human-social context (Kabadayi & Tsiotsou, 2022) for orchestrating valuable service ecosystems that promote well-being and have social impact.

Design/methodology approach – This study is an inductive research that follows a qualitative, indepth case study approach (Stake, 2011). It focused on RomAltruista, a digital platform that has been operating successfully since 2011 to promote volunteerism and solve everyday social problems of people in need in Rome by connecting citizens, third sector organizations, non-profit organizations and businesses. It is a suitable example to illustrate and explain how digital platforms enable social innovation practices continuously and at scale (Caridà et al., 2022) to achieve a transformative impact.

Findings – This study combines and leverages the concepts of resource integration, social innovation, and transformative service research to develop a framework that recognizes the power of digital platforms in enabling "transformative charitable experiences" (Rosenbaum, 2015) (i.e., tangible and immediately) to solve macro-level social problems (i.e., providing

services to disadvantaged people) that positively impact individual and community well-being. The practice of simple and flexible volunteering has been specifically codified as a new practice of social innovation that leverages the operating mechanisms of networked technologies and platforms to reach and engage as many people as possible in social innovation (Pel et al., 2020).

Main implications – This study advances both TSR and resource integration studies. By integrating the service perspective and the social perspective, it opens up new research avenues and application opportunities that leverage the inclusive role of digital platforms in social innovation, particularly in the context of volunteering. It breaks new ground in the field of TSR because it focuses on volunteers rather than customers or service employees (Rosenbaum, 2015), and thus on platforms for social purposes rather than platforms for business purposes. The application of the transformative approach to resource integration could offer interesting and valuable insights for the design of services and management practices (Fisk et al., 2020), especially in times of scarce resources. It enables the activation and implementation of social innovation practices and therefore requires new skills, capabilities, and tools for managing such transformative processes.

Originality value – This study advances knowledge about resource integration by providing a framework that integrates the perspectives of TSR and social innovation. It provides some interesting insights into how digital platforms can be designed to rapidly transform existing social practices and scale in empowering people (Fisk, 2022) to take action themselves in response to social challenges (Kabadayi & Tsiotsou, 2022).

Keywords – Transformative Service Research (TSR); resource integration; social innovation, digital platform, service ecosystem, volunteering

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The Dark Side of Technology: Financial Literacy and Consumer Well-being in the Fintech Era

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Keywords: Consumer Well-being, Financial Literacy, Service Innovation, Fintech.

Introduction

The integration of technology into financial services (i.e., Fintech) seeks to foster accessible, convenient, and inclusive services that benefit both consumers and businesses. In doing so, Fintech services utilise various technologies such as Artificial Intelligence (AI), blockchain, and big data to improve the efficiency and productivity of traditional services. Cryptocurrency alone is estimated to be a trillion-dollar industry, with over 320 million consumers worldwide investing in some form of cryptocurrencies (Ossinger, 2022). However, such potentially transformative services may create negative consequences (Blocker et al., 2021). For example, some of the recent Fintech innovations are increasingly associated with misconduct and disservice with serious well-being consequences for consumers. This may be due to the fact that access to Fintech has never been easier, and adults can now trade cryptocurrencies, shares and stocks via apps on their mobile phones.

Bruggen et al. (2017) conceptualise financial well-being and call for further research to uncover the dark side of technological advancement such as Fintech and explore relevant personal (e.g., financial literacy) and contextual (e.g., regulations, transparency, security) factors that impact consumer wellbeing. In the same vein, Field et al. (2021) foreground the changes in the structure of the economy (e.g., innovative technologies) as a determinant of consumer well-being that calls for further research on the interplay of financial literacy and well-being. Accordingly, this study aims to create scholarly insight into the design of robust and resilient Fintech services that can create value for businesses and foster the well-being of consumers (Bolton 2020). This study will address two important research questions:

1. What contextual and personal factors influence consumers' adoption and usage of recent fintech service innovations?
2. What are those factors' differential and collective impacts on consumers' financial and psychological well-being?

Methodology

To address these research questions, this study employs a mixed methods approach. First, a qualitative study will explore the factors driving the adoption and usage of Fintech services. Semi-structured interviews will be conducted with a sample of Fintech users until theoretical saturation is achieved. Second, based on the first study's findings, a quantitative study will be conducted to develop and empirically test the differential and collective impacts of those factors on consumers' well-being. For this, an online survey will be used with a sample of 300 participants with experience in using Fintech services.

Implications

This study will contribute to the growing TSR literature by directly addressing the latest priorities in service research, as outlined by Ostrom et al. (2022). Additionally, the study will provide insights into the adoption and usage of service innovations and the role of Fintech companies in reducing ill-being among consumers. On a higher level, it will also have implications for policymakers informing on how to regulate the adoption and consumption of recent technologies and to devise initiatives for consumers to be more proactive in ensuring their well-being.

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All welcome in socially sustainable service: Social inclusion of senior audiences in performing arts

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Background

As October 1st, 2022, marked the 21st International Day of Older People, we are once again reminded of our aging world and the equity challenges older populations continue to face around the globe (United Nations, 2022). According to 2022 World Population Prospects (UN DESA, 2022), the share of older persons in the society is increasing, which renders the social inclusion of the elderly – considered one of the most disadvantaged groups (UNESCO, 2022) – a growingly significant yet oft-neglected social sustainability issue. Elderly wellbeing and social inclusion (Du, 2013; Galiana & Haseltine, 2019) as well as advancements in service provision to the elderly (Čaić, Odekerken-Schröder, & Mahr, 2018; Nápoles, Páez, Penelas, Pérez, Santacruz, & Pablos, 2020) are burgeoning research fields. However, majority of studies tend to focus on the health-related and social care dimensions at the expense of other elements of social inclusion (Gidley, Hampson, Wheeler, & Bereded-Samuel, 2010) such as engagement in leisure activities (Arslantaş, Adana, Ergin, Kayar, & Gülçin, 2015). Advancements in service provision to elderly continue to be mere amendments to existing service structures or other post-hoc processes, which, at worst, may be dysfunctional to the integration of elderly population in general public, leading to their further exclusion or isolation.

Purpose of the study

The aim of this study is to understand and offer solutions for physical and social challenges within the leisure sphere – specifically attendance in performing arts by senior audiences – from a social inclusion perspective. As opposed to an ad-hoc solution for elderly population that ultimately contributes to their social isolation, the social inclusion perspective utilized in this study envisions inclusion as a necessary mechanism for achieving social sustainability as a cohesive, integrated phenomenon (UNESCO, 2022). Senior attendance and accessibility in performance arts is, then, more than a physical issue enveloped by infra/super-structural elements, but involves all channels, venues, spaces, communication methods, attitudes, perceptions and general sense of belonging.

Methodology

In order for an in-depth and multidimensional understanding of the experience of senior audiences the study employed mixed methodology involving the perspectives of multiple parties, namely senior audiences, service providers, performing artists and general audience. The methodological techniques include i) semi-structured interviews with senior audiences, performing artists and service providers, ii) surveys with general audiences, iii) on-site observations, and iv) review of related documents from performing art institutions.

Originality/Value & Implications

Insight into the unique physical and social challenges faced by the senior attendees of performing arts provides actionable information and guidance for sustainable service management solutions.

This is a unique case study which addresses the existing lack of scholarly knowledge on accessible and socially inclusive service for senior individuals in achieving greater social sustainability in contemporary society. Implications of this study pertain to

Findings

This is an ongoing study. Approximately half of the interviews have been conducted so far. Additionally, the survey for the general audience has been launched whose responses constitute the quantitative part of our study. Once the full results of both the interviews and the surveys are received, they will be analyzed in conjunction with the review of official documents, regulations, and codes of the art venues. The findings of these analyses will be presented at the conference in full.

Research limitations

This study focuses on senior attendance to performing arts in a specific country culture. However, authors believe the implications can resonate with global audiences in this understudied area of socially sustainable service management.

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Optimizing Donation Amount Options In Crowdfunding Platforms

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ABSTRACT

This study delves into the topic of digital fundraising for nonprofit organizations through crowdfunding platforms, with a focus on determining the most effective pricing strategies. The study presents the outcomes of comprehensive multiple regression analyses conducted on three distinct fundraising platforms, revealing the critical factors that influence the success of fundraising campaigns. Additionally, the research identifies the ideal price levels for different fundraising performance indicators, including total funds raised and involvement potential major donors. The study concludes with a discussion of the broader implications of the findings and suggests potential avenues for future research in this domain.

INTRODUCTION

Crowdfunding has emerged as a popular means of soliciting donations, and various donation promotion techniques that have been identified in prior studies regarding mechanisms and operations are implemented by fundraisers. These techniques include the visualization of social information (such as the status of others' donations) (van Teunenbroek et al., 2020), the all-or-nothing type of donation (which refunds the donor's money if a target amount of money is not met, thereby reducing risk on the donor side) (Andreoni, 1998), and transparency through the provision of activity reports (Mejia et al., 2019), all of which have been observed to foster donations.

The size of minimum and maximum gifts on crowdfunding donation options can affect the funds raised due to an anchoring effect, according to De Bruyn and Prokopec (2013). The appeal "Every penny helps!" has been well studied and is referred to as the "Legitimization ofPaltry Favors." A recent meta-analytic review by Lee et al. (2016) found that this appeal oftenraises total donations but lowers the average gift size. However, it is unclear to what extent lowering the minimum gift size is most effective for the total funds raised. Setting a minimum gift size that is too low is likely to lower the average gift size and reduce the total amount obtained, while a minimum gift size that is too high is likely to cause donor backlash and reduce the number of donors (De Bruyn & Prokopec, 2017). The identification of an optimal minimum gift size that maximizes the total funds raised would have significant practical value.

The maximum amount a donor can contribute on a crowdfunding page is determined by the options available, and therefore, setting the maximum amount high appears to be a logical choice. However, there is a decision to be made about how to increase the maximum gift size, either by increasing the number of options or by allowing a considerable gap between the options. Empirical evidence suggests that having a low or high number of options on the donation menu is preferable, as moderate numbers of options lead to worse outcomes. Nevertheless, there is no conclusive evidence indicating the optimal number of options (Herzenstein et al., 2020).

Furthermore, according to a previous investigation, the target donation amount of a project has been identified as an anchor in donors' decision-making (Park & Yoon, 2022), although previous studies have suggested that it has less influence than the donation request amount. The same study also revealed that if the donation request amount is too small, the average donation amount may fall too low, suppressing the total funds raised, as in the previous study on the Legitimization of Paltry Favors. The study employed two well-known large organizations, UNICEF and World Vision, as donation recipients with target amounts of $1,000, $5,000, and $7,000, respectively (Park & Yoon, 2022). These target amounts are one of the factors that make up the pricing.

The concept of "pure altruism" is considered to be a significant determinant of crowdfunding success for nonprofit organizations seeking donations, according to previous research (Gleasure & Feller, 2016). Additionally, factors such as the height of the goal and the degree of information disclosure, including the amount of text, images, and videos, have a considerable impact on the total amount of donations received. These content-related factors are crucial in examining donation-based crowdfunding.

While the total funds raised are important in donation-based crowdfunding, it is also crucial to consider the participation of high-value donors and the recruitment of major gifts through post-campaign communication. A previous study on fundraising for U.S. universities found that an average annual donation of $250 or more was an antecedent of major gifts (Lindahl & Winship, 1992), which, when adjusted for inflation in Japan, would be approximately 50,000 JPY or more.

The present study aims to investigate the impact of pricing strategies (i.e., minimum gift size, maximum gift size, and target donation amount) on the performance metrics (i.e., total funds raised and the number of high-value gifts) of donation-based crowdfunding campaigns. While the total funds raised represent an important outcome, they alone cannot provide a complete picture of a campaign's success. Based on the literature reviewed, we aim to address the following research question in this study. *How does pricing (minimum gift size, maximum gift size, and target donation amount) affect the outcomes (total funds raised and the number of high-value gifts) of donation-type crowdfunding?*

RESEARCH DESIGN

To analyze the impact of pricing on the outcomes of donation-type crowdfunding, we collected data from a Japanese crowdfunding platform with fixed periods and target amounts. We downloaded html files of 19,113 projects published on the platform between March 13 and March 30, 2022, and performed scraping and pre-processing using Python (Ver. 3.8.12) with BeautifulSoup (4.10.0) for scraping and spaCy (3.2.4) and GiNZA (5.1.1) for text analysis. We extracted the projects' contents and attribute information of fundraisers and organized them into CSV files. This platform is referred to as "platform A." Additionally, we used data from twoother platforms for robustness checks.

The statistical records on donations in Japan demonstrate that the amount of 50,000 JPY is considered a significant threshold for a high-value donation (Japan Fundraising Association, 2021). Our definition of high-value gifts refers to those that amount to 50,000 JPY or more. The count of high-value gifts serves as a performance metric that portrays the lasting value of crowdfunding as a marketing endeavor, which cannot be fully compensated by the total funds raised through the campaign.

For the analysis of platform A, we focused on one-off donation-type crowdfunding projects that had already ended, excluding projects soliciting recurring donations and those in progresswith incomplete information. We excluded projects with less than 50 supporters, a maximum menu amount of less than 50,000 JPY, and those without a target amount, as they may not have solicited substantial donations. Out of the 590 projects, 41 organizations had more thanone project, with a maximum of six projects by a single organization. Although it is rare for a single donor to make multiple donations, we considered the data to be approximately independent since the number of donations per donor was less than 1.36 for all campaigns. Therefore, we concluded that statistical methods could be used for data analysis, and the variance inflation factor should be used to check for multicollinearity and potential type I error(Berenson et al., 2012).

Independent variables

The dataset utilized in this study comprises of data on 590 projects, all of which have complete information, and have been obtained and organized through the methods mentioned earlier. Table 1 shows the variables entered into the model, including three variables of interest: Target Amount, Min. Gift Size, and Max. Gift Size, as well as Option Count, which is the number of donation amount options available.

Variables related to the content of crowdfunding pages, including Sentence Count, Image Count, Movie Count, and Report Count, were included based on previous research (Gleasure& Feller, 2016; Kubo et al., 2021; Mejia et al., 2019). Duration was also considered, as the length of the crowdfunding campaign may influence its success. All-in was added as a dummy variable to indicate whether the outcome method is all-or-nothing, and Tax Deductibility was included as a dummy variable since it has been found to significantly impact donor behavior variable to indicate whether the outcome method is all-or-nothing, and Tax Deductibility was included as a dummy variable since it has been found to significantly impact donor behavior in previous studies (Peloza & Steel, 2005). The dummy variables for whether the organizationis a Specified Nonprofit Activities Corporation (SNAC) were also included, as donors in Japanhave shown a preference for organizations without this legal status (Zenkyo & Sakamoto, 2017). University was added as a potential factor that may increase the gift size, as previousresearch has found that donors may be influenced by the prestige associated with universities(Harbaugh, 1998).

Platform-related variables were also included, such as Elapsed Time from the Platform Launch, which reflects the growth of the platform and its potential impact on campaign success. However, the variable Competitor's Min. Price was added to account for the potentialnegative impact of competitors offering smaller minimum gift sizes. Since competitors may include reward-based crowdfunding, the term "price" was used instead of "gift size."

While platforms A and B do not have variables related to campaign objectives, platform C hasa category variable that includes categories such as environmental protection, children's education, and social education. Animal Welfare was found to be the most popular category, while Disability/Care was the least popular. Two dummy variables were included in the analyses of platform C to examine the effect of the popularity of the campaign objectives.

Table 1: Definitions of the variables

Variables of interest	
Target Amount	The target amount of the crowdfunding campaign
Min. Gift Size (JPY)	The value of the minimum donation amount option on the campaign page (platform C has two types of this variable, one-off, and recurring gift sizes)
Option Count	The number of donation amount options on the campaign page
Content-related variables	
Sentence Count	The number of sentences on the campaign page
Image Count	The number of images disclosed on the campaign page
Movie Count	The number of movies disclosed on the campaign page
Report Count	The number of reports disclosed on the campaign page (platform C does not have this variable)
Duration	The duration of the campaign counted from the first and last day of the campaign
Dummy variables	
All-in[1-0]	The full amount of money pledged to the project will be processed regardless of whether the target amount is reached
Tax Deductibility[1-0]	The project is organized by a tax-deductible organization (not applicable to platform B)
SNACs[1-0]	The project was organized by a Specified Nonprofit Activities Corporation.
University[1-0]	The project was organized by a university or related with a university. (Title or summary of the page includes the word "university")

All-in[1-0]	The full amount of money pledged to the project will be processed regardless of whether the target amount is reached
Tax Deductibility[1-0]	The project is organized by a tax-deductible organization (not applicable to platform B)
SNACs[1-0]	The project was organized by a Specified Nonprofit Activities Corporation.
University[1-0]	The project was organized by a university or related with a university. (Title or summary of the page includes the word "university")
Platform-related variables	
Elapsed Time from the Platform Launch (Days)	The elapsed time from the launch of the platform
Competitor's Min. Price (JPY)	The minimum donation or reward price offered by other projects that were running concurrently with the observed project, which was used as a proxy for price competition among projects.

Dependent variables

We identified three primary measures of fundraising performance as our dependent variables, namely Total Funds Raised (log-transformed), HVG Count (count of high-value gifts of 50,000 JPY or more), and Donor Count (a proxy for civic participation). In platform C, donors were presented with the option of making a one-time or recurring monthly gift. Therefore, we also calculated the total funds raised for campaigns on platform C, including the recurring gifts received after the campaign's conclusion. For platform C, the dependent variables were the total funds raised during the campaign and the total funds raised with all the gifts up to the most recent one.

The study employed multiple regression analysis to estimate the coefficients of the independent variables in the total donations model, with Total Funds Raised as the dependent variable. To address the skewed distribution of Total Funds Raised, the variable was log-transformed before entering it into the model. The Target Amount, Min. Gift Size, Max. Gift Size, and Option Count variables were each assigned quadratic terms, as their effects were not assumed to be entirely linear.

For the models of HVG Count and Donor Count, generalized linear regression models were used. The Poisson regression model and the negative binomial regression model (NB2) were both considered, and the appropriate model was selected based on overdispersion. The link function used was logarithmic.

The Poisson regression model and Negative Binomial regression model are generalized linear regression models in which the dependent variable $\square_{\square}$ of project $\square$ follows a Poisson distribution or Negative Binomial distribution, respectively. The link function log($\square$), linear predictor of the expected value $\square$, mean $\square(\square_{\square})$, and variance $\square(\square_{\square})$ are expressed as follows (Cameron & Trivedi, 2013, p74). In the Poisson regression, the mean $\square(\square_{\square})$ and variance $\square(\square_{\square})$ are equal ($\square = 0$ in the equation (2)).

$$\square\square\square(\square) = \square_0 + \square_1\square_1 + \cdots + \square_{\square}\square_{\square} \quad (1)$$

$$\square(\square_{\square}) = \square_{\square}, \qquad \square(\square_{\square}) = \square_{\square} + \square\square^2 \quad (2)$$

The negative binomial regression model is often used when the assumption of the Poisson distribution that the mean equals to the variance does not fit and is overdispersed ($\square \neq 0$ in the equation (2)). NB2 among the negative binomial regression models is used in this paper. The coefficients were estimated by the maximum likelihood method.

RESULTS

Descriptive statistics for each independent variable are shown in Table 2. The dependent variables are shown in Table 3.

Table 2: Descriptive statistics of independent variables

	Mean	Std. Dev.	Min.	Median	Max.
Target Amount	5633411.78	15425603.33	300,000	2270000	300000000
Min. Gift Size (JPY)	3466.78	1337.24	800	3000	10000
Max. Gift Size (JPY)	838101.44	1433518.86	50000	500000	10000000
Option Count	8.86	4.07	3	8	57
Sentence Count	132.52	52.79	23	121	348
Image Count	12.59	6.76	0	11	57
Movie Count	0.46	0.93	0	0	9
Report Count	21.01	16.41	0	17	99
Duration (Days)	54.07	16.89	1	53	90
Elapsed time from the Platform Launch	3252.59	501.63	1721	3356	3955
Competitor's Min. Price (JPY)	395.83	156.07	50	500	1000

*N=590

Table 3: Descriptive statistics of dependent variables

	Mean	Std Dev	Min	Median	Max
Total Funds Raised (JPY)	7658898.16	18476597.00	167000	3233500	269480000
LN_Total Funds Raised	15.09	1.10	12.03	14.99	19.41
HVG Count	38.98	171.87	0	15	3,287

Donor Count	344.63	869.23	50	161	14,605

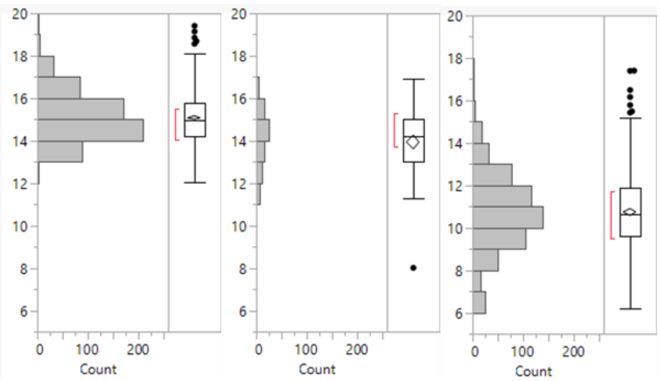
*LN=natural logarithm

The data presented in Figure 1 illustrate the distribution of Total Funds Raised, which were log-transformed, across campaigns on the three platforms. Platform A had the largest sample size, with 590 campaigns, followed by platform C with 586 campaigns, while platform B had the smallest sample size, with only 77 campaigns.

On platform C, donors were presented with a wider range of gift price options. They were given the choice between a one-off gift or recurring monthly gifts, and they were also able to specify the amount of their gift in an input field. This was a unique feature of platform C, not available on platforms A and B. As a result, the impact of gift size option settings on platform C may be less pronounced. However, this feature may be advantageous for smaller organizations as it can maximize market penetration (Chen et al., 2017). The average Total Funds Raised by a campaign on platform C was 385,732 JPY, which was considerably lower than that of platform A and B. It was partly because individual volunteers, not organizations, organized some campaigns on platform C. Such campaigns were referred to as Peer-to-peer campaigns and were relatively small in campaign size.

Figure 1: Distributions of the total funds raised by a campaign on the three platforms

Platform A Platform B Platform C



Results of the regression analyses

Table 4 presents the results of the regression analyses, indicating that a higher Target Amount, larger Max. Gift Size, longer Duration of the campaign, higher Sentence Count, and higher Report Count were significantly and positively associated with higher Total Funds

Raised, HVG Count, and Donor Count. However, Min. Gift Size had a significantly negative association with the Donor Count. As a higher Option Count was significantly and positively associated with higher Total Funds Raised and did not have a significant negative effect on other indicators, a smaller Min. Gift Size could be safely set. Tax Deductibility had a significant and positive association with higher Total Funds Raised and Donor Count.

Interestingly, the higher Competitor's Min. Price was significantly and negatively associated with higher Total Funds Raised, indicating the presence of price competition among projects. Furthermore, the platform's maturity, Elapsed Time from the Platform Launch, was only significant for Donor Count.

Table 4: Summary of regression analyses of the significant main effects of the platform A

	LN_Total Funds Raised	HVG Count	Donor Count
Target Amount	+	+	+
Min. Gift Size (JPY)			-
Max. Gift Size (JPY)	+	+	+
Option Count	+		
Sentence Count	+	+	+
Report Count	+	+	+
Duration	+	+	+
Tax Deductibility[1-0]	+		+
Elapsed Time from the Platform Launch (Days)			+
Competitor's Min. Price (JPY)	+		

Image Count, Movie Count, All-in[1-0], SNACs[1-0], and University[1-0] were insignificant for all three metrics. Adjusted R squared was 0.51 for LN_Total Funds Raised.

In some cases, the variables related to price had optimal levels. For instance, when other variables were held constant (as shown in Table 5), the optimal Min. Gift Size for maximizingthe Total Funds Raised was 4,184 JPY, which is higher than the median of the minimum gift size (3000 JPY). The variance inflation factors for both the Min. Gift Size and the quadratic term were below 1.6. Similarly, the optimal Max. Gift Size was 6,273,474 JPY, indicating thatfundraisers should set higher Max. Gift Size than the median value of 500000 JPY. Likewise,the optimal Target Amount was 166,166,745 JPY. However, these two variables had relatively high variance inflation factors

(7.22 for Max. Gift Size and 6.06 for Target Amount). The quadratic term of the Option Count was not statistically significant.

Table 5: Optimal pricing on platform A for each fundraising performance indicator

	Target Amount (JPY)	Min. Gift Size (JPY)	Max. Gift Size (JPY)	Option Count
LN_Total Funds Raised	166166745.33	4184.08	6273474.13	Not Significant
HVG Count	171898563.52	3597.96	6210151.82	20.72
Donor Count	168184019.29	Not Significant	6246703.15	18.33

In terms of the interaction terms, the results indicated that a higher Target Amount had a significant positive relationship with three performance indicators when the project had Tax Deductibility. Moreover, the coefficient for the interaction term between All-in and Target Amount was significantly negative in the HVG Count model, indicating that a higher target was particularly effective in all-or-nothing campaigns.

ROBUSTNESS CHECK

The robustness of the findings for digital fundraising platform A was assessed in two ways. Firstly, the significant variables and their main effects were tested for robustness. Secondly, the quadratic terms for the pricing-related variables were calculated to further verify the results.

Digital fundraising platform B

The regression analysis showed that Target Amount and Sentence Count were significant variables in predicting Total Funds Raised. The quadratic terms for Target Amount and Min.

Gift Size were also significant, with optimal levels of 12,062,682 JPY and 3,012 JPY, respectively, and all variance inflation factors were less than 5.5 and 2.5, respectively. Table 6 presents the optimal price levels for each fundraising performance indicator.

Table 6: Optimal pricing on platform B for each fundraising performance indicator

	Target Amount (JPY)	Min. Gift Size (JPY)	Max. Gift Size (JPY)	Option Count
LN_Total Funds Raised	12062682.46	3011.90	Not Significant	Not Significant
HVG Count	12202336.92	3271.34	Not Significant	Not Significant
Donor Count	12624937.88	2697.97	Not Significant	Not Significant

Digital fundraising platform C

The Negative Binomial regression model identified the independent variables significantly and positively associated with the total funds raised during the campaign as the Target Amount, Sentence Count, Duration of a campaign, and the Elapsed Time from the Platform Launch. These significant variables remained the same when the dependent variable was the total funds raised by a campaign and the recurring gifts after the campaign ended. In terms of the optimal prices, only Target Amount was significant for all fundraising performance indicators, with optimal values of 5,809,320 JPY for total funds raised, 6,050,543 JPY for HVG Count, and 5,209,831 JPY for the Donor Count.

Regarding the objectives-related variables, Animal Protection was significantly and positively associated with the high Donor Count but insignificant for Total Funds Raised and HVG Count. In contrast, Disability/Care was insignificant for all three fundraising performance indicators.

ADDITIONAL ANALYSIS

Moreover, we utilized the adaptive LASSO regression approach to validate the significance and relevance of the independent variables and their quadratic and interaction terms on platform A. LASSO is a machine learning algorithm that applies a regularization term to reduce the number of predictors (Zou, 2006). The Akaike Information Criterion was used as the validation method, and the R-squared value obtained was 0.61. The outcomes of the effect tests are presented in Table 7, revealing that Max. Gift Size and its quadratic term were the most impactful factors. Nevertheless, Target Amount and Sentence Count also exhibited substantial effects compared to the other predictors.

Table 7: Effect tests of the significant variables of platform A on the total funds raised

Source	Wald ChiSquare	Prob > ChiSquare
Max. Gift Size	92.65	<.0001
Max. Gift Size*Max. Gift Size	29.96	<.0001
Target Amount	25.22	<.0001
Sentence Count	15.27	<.0001
Duration	13.74	0.0002
Max. Gift Size*Option Count	8.72	0.0031
Tax Deductibility	4.47	0.0345
Report Count	3.97	0.0462

DISCUSSION

The results of multiple regression analyses of fundraising campaigns on three platforms indicated that the target donation amount was a robust independent variable that significantly contributed to campaign success. This variable may have mediators that affect performance, such as organizations with higher targets being more active during campaigns. Factors such as the number of social media posts, e-mail solicitations, and fundraising events were potential candidates for these mediators. The underperformance of all-in campaigns supported this interpretation.

The number of sentences in a campaign was also found to be a significant factor in raising more funds, attracting high-value gifts, and increasing the number of donors. This finding is consistent with the theoretical concept that donors face information asymmetry and require more information to reduce perceived risk before deciding to donate. The positive association between the number of reports and all indicators on platform A was also consistent with previous research (Mejia et al., 2019). However, the insignificance of images and movies was inconsistent with previous literature, and potential mediators such as cultural or societal factors should be explored in future research.

This study's unique contribution is the identification of optimal price levels for each fundraising performance indicator. The optimal minimum gift size level on platform B was found to be significant, even with a small sample size, indicating the robustness of this effect. As predicted,gift sizes had no significant effect on the performance of campaigns on platform C.

This resultimplies the potencial boundary conditions of the effect of optimized donation amount options,which are absence of free entry field of donation amounts or recurring gifts option. An alternative explanation is that optimized donation amount options are not effective among campaigns on platform C because of the other characteristics of the platform, such as relatively small campaign size.

From an services operations management perspective, these findings can help organizations optimize their fundraising strategies on different platforms to achieve better results.

CONCLUSIONS AND IMPLICATIONS

This study's multiple regression analyses on three fundraising platforms provided important insights into the factors contributing to campaign success. The target donation amount was found to be a robust independent variable, and factors such as the number of social media posts, e-mail solicitations, and fundraising events could potentially mediate its effects. The number of sentences in a campaign page was also found to be significant, along with the positive association between the number of reports and the performance indicators on platform A.

Furthermore, this study identified the optimal price levels for each fundraising performance indicator based on fundraising objectives. These findings can assist nonprofit organizations in optimizing their fundraising strategies on different platforms to achieve better results, making it highly relevant to services operations management.

The implications of these findings are also valuable for future research in this field. For example, exploring potential mediators such as cultural or societal factors affecting the impact of images and movies on campaign performance could help fill the gap between this study's findings and previous research. Additionally, it is possible that a greater freedom on donation amount and timing options weaken the effect of optimized donation amount options. It will be fruitful to investigate this topic to implement this study's findings into practice.

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Sustainable Value Co-Creation in Welfare Service Ecosystems
Transforming temporary collaboration projects into permanent resource integration

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ABSTRACT

The aim of this paper is to discuss the unexploited forces of user-orientation and shared responsibility to promote sustainable value co-creation during service innovation projects in welfare service ecosystems. The framework is based on the theoretical field of public service logic (PSL) and our thesis is that service innovation seriously requires a user-oriented approach, and that such an approach enables resource integration based on the service-user's needs and lifeworld. In our findings, we identify prerequisites and opportunities of collaborative service innovation projects in order to transform these projects into sustainable resource integration once they have ended.

INTRODUCTION

In the social welfare sector, collaboration and innovation have become the solution to most challenges, especially around complex issues and situations that need to be better managed. The basic reason for collaboration is that no single organization has the resources to tackle a given challenge and find the solution on its own (Mörndal 2023). Collaborative projects are generally conducted from an organizational perspective, an inside-out perspective (Osborne 2021; Grönroos 2019; Skålen et al. 2018). In such a perspective, new innovative solutions have a difficult time naturally transforming into something permanent, gaining a firm foothold, and continuing to develop beyond the project period due to the far-reaching specialisation of organizations and professions; a 'silo' problem (cf. Galbraith 2005; Gulati 2007; Huxham and Vangen 2010). The previous structural organization of resources therefore easily reappears when collaborative projects are terminated, which in turn results in collaborative projects providing only a temporary improvement to the everyday lives of people in need of welfare services (Eriksson 2019). This despite the implicit time aspect, according to which collaboration should be understood as something long-term and sustainable (Huxham and Vangen 2010; Mörndal 2023).

Developing new and innovative ways to solve welfare challenges through collaboration requires knowledge and learning about the user, i.e., user orientation (Grönroos 2021; Osborne 2021). Continuous knowledge and learning about what works, and gives effect to users, contributes to the creation of sustainability (Mörndal 2023). A traditional view of innovation is that it is a combination of new and existing resources. Ideas often arise regarding how to combine resources in a new or different way, but to be considered innovation in a traditional sense, an idea needs to be realised. In the theoretical areas of service research, such as service dominant logic, service logic, and public service logic (PSL), service innovation needs to lead to improvement for the user, otherwise the change will not be a service innovation (Grönroos 2021; Kristensson et al. 2014; Lusch and Vargo 2014; Osborne 2021; Skålén 2018). What is new therefore need to have a positive effect on the user. Service innovation rests on a different perspective on collaboration, an outside-in perspective, where the needs of the users (client, job seeker, patient etc.), rather than the organization, are at focus. In this perspective, a high degree of specialisation is a benefit to the social welfare sector, and neither organizational nor professional boundaries are central. What is central is how stakeholders and their resources can be integrated in an efficient and cohesive way for the user without regard to boundaries. Building relationships and knowledge to adapt and develop processes based on users' needs and situations is key here.

However, few studies of collaborative projects aim to find new innovative and sustainable welfare services based on an outside-in perspective. Previous studies have mainly emphasised service innovation based on how it happens in practice (see, e.g., Fuglsang 2010; Hennala and Melkas 2016; Rønning 2021; Saari, Lehtonen and Toivonen 2015; Skålén 2018). The theoretical framework of public service logic has primarily focused on abstract explanatory models and concepts to understand and explain public services (see, e.g., Chen et al. 2020; Osborne, Nasi and Powell 2021). For example, Skålén (2022) and Torfing (2019) consider it necessary for different approaches to meet and benefit from each other to advance our understanding of public service innovation. Inspired by this approach, this paper aims to use a PSL-based outside-in perspective, to identify and discuss what is essential for temporary collaborative service innovation projects to be transformed into permanent resource integration. We do so by monitoring, for two years, a welfare organization that is a financial collaborative association whose main task is to carry out collaborative projects to find new and innovative solutions to help individuals seeking employment.

THEORETICAL FRAMEWORK

In this paper, we focus on how service innovations can be made sustainable by drawing on perspectives from the theoretical field of public service logic (Osborne 2021). In practice, service innovations involve creating new services that provide value to their users, and are of interest to both public-sector organizations (who want to use the results) and researchers (who want to create knowledge and understand how a service innovation can contribute to value creation) (Skålen 2022). Research on service innovation in the public sector is often based on corresponding research in the private sector, especially service-dominant logic and service logic (Vargo and Lusch 2004, 2016; Grönroos 2019; Skålen 2018). These theories establish an outside-in perspective where the user's needs and situation, rather than the organization's, is the focus. To offer help to someone is to offer a service (Grönroos 2021), and a service requires user participation. From a service-logic perspective, only users themselves can create value, so value cannot be delivered or created by the organization. Rather than considering that organizations change users' lives, one should see the users as active co-creators of the service based on their own resources. Another factor highlighted by the outside-in perspective is that more stakeholders and resources often need to be integrated into value co-creation, as a lone stakeholder rarely has the whole solution.

The characteristics of the public service sector differ from the private sector, including the fact that rather than paying customers there are users of tax-funded services. These users range from voluntary to involuntary users of services (e.g., parents seeking childcare, pupils legally obligated to attend school and the involuntarily incarcerated). However, the mission of the social welfare involves more than creating the conditions for services that add value for individuals. It is also responsible for contributing value to society (Alford 2016; Alford and Greve 2017). A growing number of scholars have therefore highlighted the need to better understand what constitutes services in the public sector (Skålén 2022; Osborne et al. 2013; Osborne and Brown 2011), leading to the emergence of the theoretical field of public service logic (PSL) over the last decade (see e.g. Engen et al. 2021; Eriksson et al. 2020; Grönroos 2019; Osborne and Strokosch 2021; Osborne et al. 2013; Voorberg et al. 2015). In PSL, the main role of public service organizations (PSOs) is to organize service offerings to improve or help the citizen's and the service-user's ability and involvement to make it better than before – to create 'value' – in their lifeworlds (Grönroos 2019, p. 780; Høibjerg 2021, p. 37; Osborne 2018, p. 228). In PSL, value is a dual concept, where the individual's value creation, the improvement, need to relate to the societal value, the greater good of society. However, societal (collective) value may not always be compatible, or even desirable, from the perspective of the individual. Where individual and societal value are seen to clash, societal value is prioritised in the public sector.

With PSL as a theoretical framework for studying service innovations, it is made clear that service innovation have to lead to an improvement for both the individual and society (Grönroos 2021; Kristensson et al. 2014; Skålén 2018). Service innovation is thus about the outcome of a development process, not how it was realised (Gustafsson et al. 2020). The services that the user encounters therefore have to be designed to make it easier for the user to experience improvement, i.e., to create their own value (Grönroos 2022; Skålen 2018; Lusch and Vargo 2014). In service innovation, the user's perspective is at the centre - an outside-in perspective. Kristensson et al. (2014, p. 16) provide the following definition of service innovation:

> Service innovation refers to the new value experienced by a user (i.e., customer, patient, user, client, et al.). A service innovation thus refers to a new, or improved, value-creation process where the user is a key co-creator. For example, this could be a solution that makes everyday life easier for someone.

If the change does not lead to improvement for the user, the change is not a service innovation (Skålén 2018; Grönroos 2021). At the same time, a public service innovation has to contribute to a societal value, such as meeting the policy intentions of laws and regulations or achieving the public sector's need for efficient resource use and frugality.

Another key concept in PSL, in addition to value, is resource integration, which highlights the need to co-create value with multiple stakeholders within a service eco-system (Petrescu 2019). By mobilising and integrating resources in the form of employees, knowledge, technology, motivation, etc., you can enable users to value create. While resource integration can be seen as an enabler, the resource integration does not organise itself but requires some form of coordinator (Eriksson 2019), which can take such roles as coordinator, project manager or innovation manager. These roles are typically leadership roles that lack the mandate and delegation power of a manager, which has inspired studies of how collective leadership can be created to motivate more stakeholders in the service ecosystem to take responsibility for ensuring that resource integration endures and takes root in different parts of the ecosystem (Becker 2019; Danielsson and Westrup 2022a). In order to be verified, the service innovation needs to be disseminated, used and embedded within the organizations so that the benefits of the innovation can be understood (Fuglsang 2010). However, only limited research regarding how to enable the sustainability of innovations in the public sector is available. Similarly, there is also a limited understanding of how public service innovations can move from generic models of value co-creation to being creatively developed for each specific value co-creation based on a user's individual needs and circumstances (Skålen 2022).

METHOD AND EMPIRICAL MATERIAL

This study originates from two years of research into (temporary) collaborative projects governed by a collaborative association, which is also a local form of a legally-established financial association that exists around Sweden. The projects involve value co-creation with service-users and municipal organizations (social services, education), regional organizations (healthcare), and two national organizations (Sweden's social insurance agency and public employment service). The collaborative association is tasked with coordinating rehabilitation efforts so that individuals outside the labour market achieve or improve their ability to engage in gainful employment. The organizations involved are at different levels of society - national, regional and municipal - and in order to coordinate their specialist resources, financial collaborative associations can be formed in which the organizations are also involved as partners. The collaborative association opens doors for developing new coordinated rehabilitation measures through its activities with both managers in the member organizations and a board with representatives from the five organizations. The association creates projects that are led by a project manager whom they themselves fund (usually a full-time employee). As long as projects exist within the association, it appears as a single agency. In this way, the collaborative association becomes an enabler through the projects it creates and finances, and the problem of silos disappears. However, in general, the association has hardly succeeded in creating permanent change through its projects due to the fact that processes rarely take root and become sustainable after the project period.

The empirical material consists of focus group interviews, observations of meetings, interviews and documents. The research material collected for this report includes transcribed meetings (see table below) as well as a body of text consisting of newsletters, minutes, terms of reference and final reports.

Table 1: Table of research material included in this study

Level	#	Minutes per meeting	Date
Operational assignment-leader meetings	8	120 (total: 960)	05/11/20, 03/12/20, 21/01/21, 18/03/21, 20/04/21, 03/06/21, 06/16/21, 28/04/22

Association management meetings	8	120 (total: 960)	05/11/20, 03/12/20, 21/01/21, 18/03/21, 20/04/21, 03/06/21, 14/10/21, 06/12/21
Closing presentations	1	120	21/04/21
Network meetings (of the operational project manager and collaborating stakeholders)	5	60-120 (total 360)	01/10/21, 03/11/21, 10/08/21, 06/12/21, 01/12/21
Management meetings, managers' network	1	60	22/01/21
Board meeting	1	30	29/01/21
Focus group interviews with managers	2	120 (total 240)	11/02/22, 18/03/22
Interviews with board members	5	45-60 (total 240)	21/06/22, 22/06/22

The methodological starting point of the project has been an interactive research approach aiming to enable increased knowledge about service-innovation implementation that is shared between practitioners and researchers (Aagaard Nielsen and Svensson 2006). Traditional research methods were not considered sufficient to address the everyday complexity at the heart of implementing service innovation. Rather, our approach is based on practice-based research, where researchers and practitioners meet at the same level to share knowledge and generate new common knowledge. The project has thus departed from the traditional research approach, where researchers research about, rather than with, practitioners.

FINDINGS & TENTATIVE ANALYSIS

The following section consists of results from our research study in which we tentatively analyse, with the help of the theoretical concepts from PSL, what is essential for the collaborative association's new innovative processes to become sustainable value co-creation processes. We wish to highlight several factors that are challenging with regards to working with a service-innovation approach from a user-centred perspective. What do the collaborative organization presently fail to do, according to the PSL literature, to make temporary processes into sustainable value co-creation processes that can be considered service innovations? The following section is divided into two themes: (1) Take the user's perspective and (2) Launch collective leadership. Both themes emerge as challenges for the collaborative association’s processes when turning temporary projects into sustainable value co-creation.

Take the user's perspective

The collaborative association starts its projects based on a needs analysis. This needs analysis involves the association's management examining the needs of the user, based on prioritised target groups. The analysis is based on a small number of individual interviews regarding their perception of welfare support. Next, an idea-generation exercise is carried out by a number of professionals in the organization. Together, the needs analysis and professional idea generation form the basis for writing project descriptions to support the board's decisions regarding prioritisation and funding of projects. These project descriptions establish what should be done early on and include tasks for the new project manager. In other words, the association finds it difficult to involve those whom it serves (users) early in the process, beyond answering interview questions, in order to build knowledge around them. There is a strong belief that ideas and knowledge come from experts. The experts are seen to own both the problem and the solution.

When the collaborative association works from a service-innovation approach, the intervention have to start from the user and strive to reach the user's everyday life through in-depth insights into their day-to-day behaviour and challenges (Grönroos 2021, Danielsson and Westrup 2022b). This involves overcoming superficial perceptions of user needs and simple problems between organization and user. One has to dig deeper to identify the processes that are really important for user value creation, by mobilising and integrating the resources of the parties involved (including people, skills and methods). One positive is that the collaborative association begins new assignments by obtaining information about the needs of the target group in the needs analysis, but this is not the same as gaining in-depth insight regarding the target group's/user's real situation. This involves adopting the perspective of the user and not, as is so common, starting from a 'user perspective', which is the employees' view of what a user needs. The association needs to let the user in as a stakeholder, at the same time deepening its knowledge of the user's needs to identify which processes are really important. Furthermore, the association needs to ask whether the new rehabilitation programme has contributed to value for the user. In other words, can the new collaborative rehabilitation intervention be considered a service innovation?

To advance, project managers ought to be able to operationalise the concepts of value, value creation and resource integration within their respective assignments. In this study, this has proved challenging and unfamiliar, but, after testing one concept, the project managers have gradually moved on to the next. To able to express the value to be achieved (the improvement in the user's life), the project manager has to understand and describe how the user thinks, feels and behaves, as well as how they create their development and change process.

> I'm sitting here thinking with horrified delight of the complexity of what should be simple and natural. I probably make it much too complicated for myself. What a wonderfully stimulating challenge you have given me!

This concept of value challenges the collaborative association in general, and project managers do not feel that the board, managers or their home organizations are requesting descriptions of value. This creates problems on several levels, as it can be argued that, from an outside-in perspective, there is no effective resource integration without value. The association should also broaden the concept of value to include both individual and societal value. Both the individual value, i.e., what becomes better for the individual, and the societal value, i.e., what becomes better in society, have to be identified, captured and achieved in order for a public-service innovation to be said to have been realised. One of the project managers describes the need to work with others as follows:

> I think if we start from the individual's needs, it will be easier to build this kind of team. Of course, we have different organizational goals and perspectives, but on some level that's not what this team is about, really. It is about the individual and the individual's needs and how we can work together to help the individual. By combining our resources. I think that if we have that perspective, it will be easier to form a team.

This can be done, for example, by developing a new rehabilitation process in practice and capturing how an individual feels their life has improved. This requires capturing generic knowledge and understanding of what created an improvement and translating this into an innovative framework for a specific rehab process, as Skålen (2022) pointed out. If this rehab process then can be developed so that many more people can be offered a similar innovative rehab process, it can be said to contribute to a societal value, as the welfare organizations better understand the process, even if it should be further developed and adapted to each individual's needs. This is also the case because effective rehab processes are considered part of the development of a well-functioning society. In this way, the effects of each new collaborative rehabilitation intervention can be clarified and highlighted in a broader perspective, increasing knowledge about how to improve individual experiences and contribute to the development of the welfare sector.

Launch collective leadership

The funding of projects backed by the association creates a resource (full or part-time employment) that allows for a more effective integration of resources. Paradoxically, there is a risk that the moment funding ends, the project is scaled down or the new working method is abandoned. If this intervention continues to require the collaboration of several different organizations, questions immediately arise as to who will continue to organise this implemented collaboration and make it sustainable. There is an imminent risk that the previous ‘silo’-like organization of resources will re-emerge (Eriksson 2019). It is therefore necessary to clarify, during the assignment, what organization will adopt the new working method and intervention: to whom does the project manager hand over the coordination of the new innovative rehab process? It is hardly reasonable for the change process to go further down in a single organization when shared target groups are involved. The theoretical framework describes how, for innovations in the public service sector to be considered permanent, they ought to lead to an improvement for the user, contribute to society in the form of resource efficiency, and be verified by being used and disseminated in the organization (Fuglsang 2010). One of the project managers describes this problem as follows:

> It is not enough that there are project descriptions; there must be time as well. There must be an interest in monitoring to ensure that it works and how it works. Who receives you on the other side is another matter. We have had many such processes and they always work very well, as long as the process is ongoing. Then, when they are going to be integrated into the organization, it’s mostly garbage altogether.

Such sustainability work cannot be left to the end of the project if you wish to create motivation and commitment for further development of the rehab process. In other words, the process is not considered fully developed just because the project period is over. In a user-oriented perspective, the generic knowledge that has been created, as well as the framework for the innovative rehab process, needs to be capable of constant development in terms of individual needs and conditions, which in turn favours the generic knowledge regarding creation of service offerings. Thus, the same motivation and commitment that existed during the project has to be permitted to continue if the process is to be further developed. What would happen if the project managers initiate meetings with other professionals and users early in the project in order to get closer to the individual's everyday challenges and life? Should this increase the creating an understanding of how the rehabilitation process needs to be developed? An advantage suggested by project managers is that of meeting other actors, including in the following terms:

> It is probably our role to run processes or assignments that create the right pre-conditions. ...It's also very much about seeing people. Do we even have the right forum where they can meet? ...Well, it's not like people from the schools and social services meet spontaneously, for example. Unless there is something specific, I mean. It doesn't have to be so complicated when it is discussed. I think that, in most of our assignments, it remains our responsibility to think in those terms.

According to Galbraith (2005), the project manager has two explicit main tasks: to become an advocate for the user, and to build and manage an infrastructure that puts the user at the centre. In a larger, joint knowledge-gathering exercise, project managers can be helped to visualise relevant stakeholders and their resources, while at the same time monitoring what has already been tested and developed for the corresponding target group.

This means that projects may benefit from being written without clarity regarding how to organise the process. This may permit the project manager to work with users and professional stakeholders to gain knowledge while recognising each other's resources. In other words, the emphasis could be shifted towards generating and disseminating knowledge together initially, and away from pouncing on solutions at an early stage by detailing a method. Working together with the different actors may present the key. Such knowledge sharing provides different conditions for creating motivation and mobilising commitment and collective responsibility at an early stage of the assignment for actors beyond the project manager (Becker 2019). To integrate resources sustainably implies creating the conditions for collective leadership, where different actors can take responsibility and further develop together and in their respective organizations (Danielsson and Westrup 2022a). Furthermore, launching collective leadership may lead to the creation of motivation and commitment from actors for future coordination. It is important here to highlight the creativity expected by staff working from an outside-in perspective, as they cannot rely on manuals, project descriptions or their own expertise, but should creatively and together with different actors to co-create solutions based on each individual's needs and life (Grönroos 2021). The potential for sustainability is likely to be found in increased knowledge development that better coordinates the efforts of different organizations.

Conclusions

This study is based on a collaborative association that has adopted a service-innovation approach to create more sustainable rehabilitation processes together with several welfare actors. Opportunities arise when this collaborative association act as a single agency, where traditional organizational silos blur when a temporary project is conducted within the association, but then reappear when project funding ceases.

First, broaden the concept of value to include both individual and societal value, ensuring organizational learning and creating employee motivation by clarifying contributions to the good of society. Second, initial knowledge-sharing in projects could contribute towards a collective leadership where different actors are identified and can gain motivation and commitment to drive the processes in their organizations. This ensures that innovation processes can take root both within and between participating organizations. Third, incorporate the user as a participating actor with its own resources, in order to ensuring that the user's needs goes deeper than superficial questions. Because it is only if the new rehab process has an impact on the user’s value-creation that it is a service innovation. The tentative overall conclusion is that using an outside-in perspective visualise these three prerequisites when transforming collaborative projects into sustainable value co-creation in the welfare sector.

Finding new ways of enabling sustainable coordinated processes in our welfare services affects not only this study, but all forms of organizational collaboration in the public sector. Studying how complex welfare services become sustainable also entails knowledge, either in whole or in part, potentially becoming valid in many other contexts in public service sector. The ability to put the user-oriented approach before the organizational perspective enables different areas of specialization to jointly contribute towards the user's own value creation and societal value without competing logics, values, operational goals, etc. However, our study has its limitations in that it is only a brief study in a Swedish context, and thus further research is needed.

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Understanding Sustainable Service Ecosystems: A Meso Level Perspective

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ABSTRACT

The purpose of this paper is to understand how organizational activity at the meso level can nurture sustainable service ecosystems that lead to wellbeing outcomes for individuals, business, society, and the planet. Case study data is gathered from eleven sustainable fashion organizations operating within a complex ecosystem, including interviews with founders/managers. The findings identify key elements of a sustainable service ecosystem and inform a novel framework that can be used in other contexts. Importantly, the study offers implications for service marketing, macromarketing, sustainability, marketing research and practice in terms of important factors that expedite service sustainable ecosystems to enhance wellbeing.

INTRODUCTION

As we continue to be plagued by grand challenges that are increasingly complex, there is growing awareness that a holistic and collective effort is central in creating pathways to a sustainable future. Poverty, climate change, environmental degradation, and inequality arise from systemic problems and impact global landscapes of business and society. Crafting a response to the grand challenges we contend with requires a holistic purview that transverses the entire ecosystem – from production to consumption and inclusive of all stakeholders along this chain of value provision. A systems approach to explore multidimensional and complex issues, such as sustainability, supports calls for both service and macromarketing societal development research (Bolton, 2020; DeQuero-Navarro, Stanton and Klein, 2021; Ekici, Genc and Celik, 2021; Field et al., 2021).

Large-scale and complex service ecosystems provide a focus on how transformation along the value chain can create a system where stakeholders are all engaged contributors to future change addressing the global challenge of sustainability (Field et al., 2021). Although advances have been made to understand service ecosystems more empirical studies are needed (Banoun, Dufour and Andiappan, 2016), and attention needs to extend beyond human actors and organizations to other non-human elements, such as natural and technological aspects (Lusch, Vargo, and Gustafsson 2016). Research on integrating a systems view within a sustainable service ecosystems perspective remains sparse (Frow et al., 2019; Ostrom et al., 2015; Vargo and Lusch, 2017).

Given the increasing requirement for all organizations to contribute to achieving the Agenda 2030 Sustainable Development Goals (SDGs) (United Nations n.d.), it is a pertinent point at which to explore the place of service ecosystems to promote real change. The purpose of this paper is to understand how organizational activity at the meso level can cultivate sustainable service ecosystems leading to wellbeing outcomes for individuals, business, society, and the planet. This research takes a Service-Dominant Logic (SDL) ecosystems perspective that considers the involvement of all actors and stakeholders within the system to co-create value and integrate resources to ensure the betterment and wellbeing of all (Frow et al., 2019; Leo et al., 2019; Vargo and Lusch, 2011).

We make several important contributions. First, we take a macromarketing approach to explore sustainable service ecosystems advancing work is service marketing. Second, we further the service ecosystems literature by understanding the role of organizations at the meso level in envisioning a sustainable future and creating a holistic system that is sustainable in ethos. Third, we offer evidence that a sustainable service ecosystem can facilitate more focussed wellbeing outcomes. Our fourth contribution is to highlight the importance of managerial attention to key sustainable practices. Most importantly, decision making needs to be inherently cognizant of sustainability and wellbeing outcomes. Finally, our framework provides a platform for further research in this critical area.

METHODOLGY

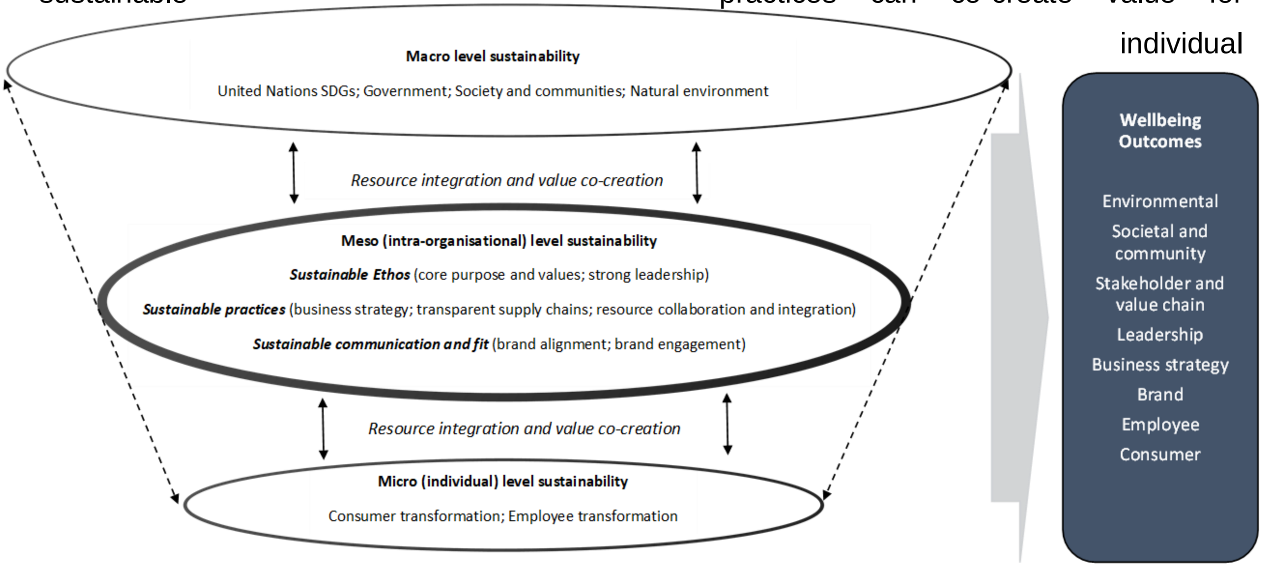
An in-depth case study approach is implemented to enable an exploration of the complexities of sustainable service ecosystems (Yin, 2018). Cases were selected to allow the development of new insights and theory (Eisenhardt, 2021). The unit of analysis are sustainable organizations operating at the meso level within a sustainable service ecosystem (Frow et al., 2019) as research indicates sustainable business model approaches and transformative service ideals are embedded in the values and practices of an organization (Ordonez-Ponce et al., 2021). The context for our study is Sustainable Fashion (SF) defined as “the variety of means by which a fashion item or behaviour could be perceived to be more sustainable, including (but not limited to) environmental, social, slow fashion, reuse, recycling, cruelty-free and anti-consumption and production practices" (Mukendi et al., 2020, p. 2874). SF brands that have sustainability at the core (i.e., not just a token gesture) are now making headway to not only mitigate the issues associated with fast fashion but to forge 'real' transformation within the system (Bly et al*.,* 2015; Park and Lin, 2020; Simões and Sebastiani, 2017). Our research focuses on SF retail brands that are purpose-led (concerned about social and environmental impacts at every level of the retail ecosystem) and have embedded sustainability at the heart of their business structure.

Utilizing the Eisenhardt Method (Eisenhardt, 2021), organizations were selected based on their immersion in 'sustainability' and the complex nature of their ecosystem. Eleven SF organizations representing a variety of ages, sizes, and structure (private enterprises versus social enterprises) were identified. To ensure an in-depth case analysis, multiple sources of data were collected and used including secondary data from company websites and publicly available reports and interviews with either the founder or high-ranking managers within the organization as the main source of data. In several cases we interviewed multiple members of the organization. We also include in our analysis recorded transcripts from presentations by key members of two organizations discussing sustainability.

Analysis of the data follows a historical retrospective approach which allows for an integration of both historical secondary data and first-person accounts. First, each of the three authors analyzed the case study data individually to identify themes related to sustainable service ecosystems. We then cross-checked for inter-coder agreement and thus followed the iterative inductive and deductive process recommended by Strauss and Corbin (1990). Our research of eleven cases enabled cross-case analysis and thus facilitated theory-building (Yin, 2018). After identifying emergent themes, we derived first order themes centered around the macro, meso, and micro levels. We then cross-checked sustainability and ecosystem literature in relation to our emerging themes. Our second order themes emerged and focused on sustainability considerations and wellbeing outcomes. A final analysis of the data involved selecting illustrative quotes to support the identified themes.

CONCEPTUALIZING A SUSTAINABLE SERVICE ECOSYSYTEM

Incorporating the findings of our empirical study with relevant literature on sustainability and ecosystems we propose a sustainable service ecosystems framework (Figure 1). Underpinning our framework is an SD logic service ecosystems perspective whereby inter-relationships between the levels (macro, meso, and micro) and intra-organizational collaboration at the meso level are established through *resource integration* and *value co-creation* (Vargo and Lusch, 2016). Foundational to our ecosystem design is the notion of "collaboration" that can facilitate lasting change (Vink et al., 2021). From this perspective, *resource integration* denotes the use, exchange, and collaboration of 'sustainable' resources within the ecosystem to improve the circumstances and outcomes of all actors' and stakeholders within the system (Saviano et al. 2017). Specifically, the exchange of operant resources such as knowledge and skills (Vargo and Lusch, 2017) about sustainability and sustainable practices can co-create value for individual



actors/stakeholders in the system. *Value co-creation* emphasizes the importance of collaboration between actors within a sustainable service ecosystem to maintain equilibrium and enable the ecosystem to thrive.

Figure 1: Meso-level view of a macro marketing sustainable service ecosystem

Our framework also adopts a holistic 'systems' thinking approach to sustainability and explores the complex dynamics of implementing sustainable principles and practices, often requiring extensive stakeholder engagement, synergistic participatory process, and a multilevel perspective (Little et al., 2019; Saviano et al., 2017). Although our primary data is collected at the meso level (key findings are highlighted in figure 1), this view provides valuable insights into the entire ecosystem by focusing on the complexities of actors' relationships and practices and their influence on sustainability and transformation within the whole ecosystem (Little et al., 2019). At the macro level sits global organizations advocating sustainable futures, such as the United Nations or government organizations. Of particular importance is the United Nations SDGs (United Nations n.d.). More broadly at this level is the consideration of sustainable practices and policies on society and communities, and the natural environment. Meso level sustainability is critical to the design and development of a sustainable service ecosystem (Vink et al., 2021). At this level, sustainability is underpinned by intra-organizational resource integration and value co-creation through actors (firms, leaders/founders, suppliers, intermediaries, other stakeholders) having a *sustainable ethos*, implementing *sustainable practices*, and engaging in *sustainability communication and fit*. Understood in this way, the meso level participatory value co-creation processes are crucial to ensuring collaborative efforts within the ecosystem. Micro level sustainability considers the *transformation* of individual actors (*employees, consumers*) who are influenced by the service ecosystem. Actors at this level are mostly affected through value co-creation activities with organizations at the meso level.

We also consider the impact organizations at the meso level have on the wellbeing of other actors/stakeholders in the system (Frow et al., 2019), including non-actors such as environment (Lusch et al., 2016). This stems primarily from the notion that a service ecosystem has a purpose with regards to actor/stakeholder wellbeing, "as a partial function of collective wellbeing" (Vargo and Lusch 2017, p.49). In conjunction with the visual framework, we also propose the following conceptualization of a sustainable service ecosystem, extending Frow et al.'s (2019) view of service ecosystem wellbeing to incorporate a sustainable perspective:

> A sustainable service ecosystem is a holistic and dynamic entity that is contextually determined and characterized by an embedded sustainable ethos, sustainable practices throughout the value chain, sustainable design and innovation, and alignment of values, facilitated through the adoption of collaborative resource-integrating practices resulting in shared value-co-creation and wellbeing outcomes for individuals, business, society, and the environment.

CONCLUSION

Adopting an in-depth case approach that considers multiple levels has enabled us to capture key sustainable practices that facilitate the function of the service ecosystem to create wellbeing outcomes. Practices include embedding a sustainable ethos, implementing sustainable strategies that embrace innovation, stakeholder collaboration and relevance of fit in brand messaging around sustainability. One of the most important contributions of our work is in understanding how the meso level, with multiple stakeholders and resource integration, is the most crucial for (co-)creating action towards a sustainable future. We further the work of Frow et al. (2019) to provide additional evidence that a service ecosystem leads to multi-faceted wellbeing outcomes. We also build on Leo et al.'s (2019) service system wellbeing conceptualization by providing a nuanced exploration that embeds sustainability. Seven wellbeing outcomes are identified in our study and linked back to sustainability at the macro, meso, and micro levels. Our case method has provided deep insights that were required for framework development, enabling us to capture a selection of organizations in terms of scale and focus. However, examining the framework within differing contexts and sectors is now important. Evolving understanding of the elements outlined in our framework can provide the basis for a testable model in future research.

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Improving hotels' operational efficiency through esg investment: A risk management perspective

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ABSTRACT

This study examines how ESG standards improve hotels' operational efficiency by sampling 24 international hotel firms during the period of 2013-2019. Our results reveal that ESG, particularly the social and environmental aspects, can indeed enhance hotels' efficiency. In the context of the Covid-19 pandemic, hotel firms with the best ESG practice can be more efficient than others, especially those that have high environment and social scores. Overall, our findings suggest that hotel firms should consider ESG investment not only as an effective and sustainable strategy during normal time, but also as a crisis management strategy to overcome unexpected crises.

INTRODUCTION

As a consensus on the importance of social values is being formed, demands for corporate to pursue social values from the government, institutions, investors, and particularly customers are growing. According to the results of a survey of PWC in 2021, 76 per cent of consumers answered that they will not continue their relationship with firms that poorly treat the environment, employees, or the community in which they operate. In the same study, when asked if they think companies' actions are shifting to realize Environment-Social-Governance (ESG) values, only about 40 per cent of consumers said yes, compared to more than 60 per cent of executives. This shows that consumers and companies have a big difference in perception of the company's efforts for ESG values. Consumers believe that companies still have a long way to go to realize and incorporate ESG values in their businesses.

This shifting business environment is a burden on companies, but on the contrary, it also means an opportunity to bring financial rewards and ensure better operations to companies that comply with ESG standards well. Acknowledging the growing call for ESG, companies are making great efforts to run their business in a better way in terms of ESG standards. Diverse ESG practices can impact companies' values and reputations critically, which can secure a better position in the market and bring new opportunities (Buchanan et al., 2018). In addition, since ESG standards fundamentally require sound and desirable practices from an environmental, social, and governance perspective, they could enable transparent and efficient operations, leading to improvements of operational performance (Chen et al., 2018).

With the increasing importance of ESG standards, researchers on the hotel industry are also paying greater attention to the impact of ESG implementation. The hotel industry has long been accused of consuming huge amounts of single-use items, wasting energy, generating waste, etc (Su & Chen, 2020). Therefore, ESG standards can be more critical in the hotel industry. In this study, we examine how hotels' ESG standards improve hotels' operational efficiency using DEA analysis, during both normal time and the Covid-19 pandemic period.

LITERATURE REVIEW

Great attention is given to ESG which is becoming one standard for firm management. ESG is measured by three distinct aspects: environmental, social, and governance aspects of a firm. The environmental aspect focuses on a firm's sustainability, which is reflected by practices such as energy savings, efficient waste discharge, and positive climate action (Whitelock, 2019). The social aspect concerns a firm's interactions with both internal and external stakeholders. This criterion considers how a firm manages its relationships with employees, partners, customers, communities, etc (Whitelock, 2019). Finally, the governance aspect concerns the management structure that directs and controls a firm. It relates to issues such as business ethics, anti-competitive practices, and tax transparency, and factors such as internal controls, board of directors, audits, shareholders' rights, and responsibilities distribution are taken into account (Pal, 2021).

ESG standards can play a critical role in hotel operations. Consuming a huge volume of consumable goods, the hospitality and tourism industry to which the hotel industry belong has had a significant impact on the environment (Su & Chen, 2020). Fundamentally, in the hospitality and tourism industry, the basis of products and services are the social, cultural, and/or natural capitals of travel destinations (Uyar et al., 2020). While it leads to the economic growth of local areas, negative consequences from social and environmental aspects are also inevitably entailed, such as biodiversity loss, pollution, climate change, etc. (de Grosbois, 2012; Uyar et al., 2020). The hospitality and tourism industry, therefore, has raised concerns among stakeholders and had to witness continuous criticism putting on it for social and environmental reasons (Kularatne et al., 2019). In response to this, the hospitality and tourism industry has been promoting eco-friendly and socially desirable management and practices in earnest. In this context, hotels are also making great efforts for responsible operations and implementations of corporate social responsibility (CSR) (de Grosbois, 2012).

As the importance of ESG grows in the hotel industry, researchers started to investigate the relationship between the implementation of ESG criteria and firm performance. Because the ESG concept was introduced relatively recently, studies using clear indicators of ESG criteria adoption have only started recently (e.g., Torres & Augusto, 2021; Uyar et al., 2020). However, the implementations of ESG criteria correspond to conducting CSR in a broad sense, and thus previous studies examining the effect of CSR implementation, of which relevant discussions started earlier, provide rich related knowledge.

Previous literature about the effects of CSR implementation on firm performances has sometimes found confounding results and has not yet reached a unified common view. Both arguments are found; implementing CSR negatively impacts financial performance by incurring additional costs (Barnett and Salomon, 2006) versus CSR practices lead to better financial performances by sending positive signals to markets and enhancing trustworthiness and building a reciprocal relationship with stakeholders (e.g., Eccles et al., 2014). However, as the discussion deepens, positive effects of CSR implementation have been supported quite stably by empirical studies (Rodríguez and Cruz, 2007). More recently, Franco et al. (2020), who analyzed the effects of CSR on the financial performance of hospitality firms, found that CSR affects financial performance in a U-shape. It is revealed that a weak level of CSR is related to negative financial performance, but after a peak of negative financial performance, CSR implementation positively affects financial performance.

Building on the intensifying discussions on the effects of ESG criteria implementation, the current study examines the impact of ESG performance on hotels' operational efficiency. In hotel productivity research, efficiency refers to the ratio of outputs to inputs, representing the degree to which a hotel efficiently transforms its inputs into outputs. While input means resources such as employees and fixed assets, outputs are performance measures including financial and operational aspects, thus efficiency scores indicate how cost-effectively a hotel uses its resources to produce hotel services (Grönroos & Ojasalo, 2004). We presume that a hotel's efficiency is positively impacted by its implementation of ESG criteria. By incorporating ESG criteria into long-term strategic planning and communicating it with investors, a more concrete and complete picture of firm value and vision can be suggested, which lowers the cost of capital. Solid ESG practices that pursue sustainability save not only energy but also operational costs (Kularatne et al., 2019). Improved firm image and differentiation can further pay off with increased sales by appealing to today's customers demanding environmentally desirable products and services (Kularatne et al., 2019; Radwan et al., 2012). Since implementing ESG criteria allows a firm to be better prepared for new and tightening environmental regulations, it also lowers the risk that financial investors should take. These mechanisms all together improve financial and operational performances, which in turn can lead to better operational efficiency.

A number of researchers have been trying to find the drivers enhancing hotel efficiency by examining the effects of various practices and internal/external factors, e.g., location (Assaf & Tsionas, 2018), operation type (Hu et al., 2009), size (Assaf & Tsionas, 2018; Fernández and Becerra, 2015), hotel age (Wang et al., 2006), star rating (Oukil et al., 2016), ownership structure (Parte-Esteban & Alberca-Oliver, 2015), employee expertise and productivity (Arbelo et al. 2016), service quality (Fernández and Becerra, 2015). Despite this growing number of studies, research on the impact of ESG standards on hotels efficiency is relatively scant with two exceptional studies by Radwan et al. (2012) and Kularatne et al. (2019). With a focus on the environmental aspect, a recent study of Kularatne et al. (2019) investigated ESG practices' impact on hotel efficiency for hotels in Sri Lanka during the period from 2010 to 2014. They calculated efficiency scores using DEA. The scores were regressed on explanatory factors related to ESG practices and the results show that energy efficiency and waste management improve hotels' efficiency. Extending their work, the current study examines the effects of ESG performance on hotel efficiency as well as its role as a risk management mechanism, by focusing on all ESG components including social and governance aspects as well as an environmental standard.

METHODOLOGY

For our main analyses, we constructed an unbalanced panel data of 103 firm-year observations from 24 international hotel firms (SIC code 7011) during the period of 2013-2019. These sampled hotel firms are selected based on their availability for both financial data and ESG data. Financial data of hotel firms in our sample are retrieved from the Compustat Global database. ESG data is sourced from Thomson Reuters Refinitiv ESG. Macro-economic data is obtained from the World Development Indicators databased provided by the World Bank. All data are winsorized at the 1st and 99th percentile.

The Data Envelop Analysis (DEA) is employed for the measure of hotel efficiency. DEA is a non-parametric method to estimate efficiency score of DMUs relatively to an estimated frontier (Boussofiane et al., 1991). The frontier serves as the benchmark, comprising of DMUs with best practices to convert inputs into outputs. The efficiency of each DMUs can be calculated, once the frontier is constructed, by comparing the distances from the points that are below the frontier to the points in the frontier. In line with prior literature (i.e., Kularatne et al. 2019; Parte-Esteban and Alberca-Oliver, 2015), we estimate a variable returns-to-scale (VRS) DEA model. A VRS model assumes that firms are not operating at the optimal scale under the impact of imperfect competition, regulations, or financial constraint, etc. (Coelli et al., 2005). In fact, VRS is a reasonable assumption in hotel efficiency analysis because the hotel industry requires high initial investments, making hotel firms with large capacity more likely to attain the scaling effects (Haugland et al., 2007).

In this study, we estimate an input-oriented DEA model. This approach tests to what extent a DMU can reduce their input consumption while keeping the outputs level unchanged. The input-orientation is a reasonable assumption as hotel managers provide services to meet demand needs (i.e., the outputs are in part externally determined by demand) and mainly control for costs to increase hotel performance (Wang et al., 2006).

We adopt the VRS and input-oriented DEA model as developed by Banker et al. (1984). Let assume a group of *n* hotel *j* transforms *m* inputs (*x*) into *s* outputs (*y*). For the hotel under examination ('O'), the input-oriented efficiency estimator (θ_o) can be estimated by solving the following linear programming:

$$\text{TE} = \min \theta_o \tag{1}$$

Subject to the following constraints:

$$\sum_{j=1}^{n} z_j\, x_{vj} \leq \theta_o x_o \qquad v = 1,2,\ldots,m \tag{2}$$

$$\sum_{j=1}^{n} z_j\, y_{rj} \geq y_o \qquad r = 1,2,\ldots,s \tag{3}$$

$$z_j \geq 0 \qquad j = 1,2,\ldots,n \tag{4}$$

$$\sum_{j=1}^{n} z_j = 1 \tag{5}$$

where z_j denotes the weights to be determined by the program for observation *j*.

The linear program is solved for *n* times to determine the efficiency score, one for each hotel in the sample. A measure of θ_o = 1 indicates that the hotel is on the frontier, or being technical efficient. Otherwise, a measure of θ_o < 1 (i.e., the hotel is below the efficient frontier), indicating that the current inputs can be further reduced to achieve optimization. In short, higher θ_o scores indicate greater efficiency. By including a convexity constraint (i.e., restriction (5)), we account for variable returns-to-scale effects (VRS).

In accordance with previous studies (i.e., Fernández, and Becerra, 2015; Parte-Esteban & Alberca-Oliver, 2015), we use sale revenue (*Rev*) to proxy for hotel firms' outputs. In the context of hotel industry, input resources include operational cost, staff, capital and equipment (Barros et al., 2011). Following this guidance and the data availability, we use two inputs measures: (i) capital expenditure (*CAPEX*) to proxy for the investment in physical capital; and (ii) selling and administrative expenses (*XSGA*) to proxy for operational costs.

Once the efficiency score is obtained from DEA, we use this score to examine the relationship between hotel efficiency score and its potential determinants (including ESG scores). In a panel data setting, we develop the following model:

$$\theta_{jit} = \beta_o + \beta_1 ESG_{jit} + \beta_2\ Leverage_{jit} + \beta_3\ Size_{jit} + \beta_4\ Cash_{jit} + \beta_5\ GDP\ Growth_{it} + \beta_6\ Inflation_{it} + \beta_7\ Unemployment_{it} + \varphi_j + \sigma_t + \varepsilon_{jit} \quad (6)$$

where θ_{jit} is the efficiency score for hotel *j* in country *i* in year *t*. ESG_{jit} proxies for ESG score as well as its E-S-G components scores. We sourced the ESG scores from the Thomson Reuters Refinitiv ESG. These scores are computed across 10 dimensions including innovation, emissions, resource use, human rights, workforce, management, product responsibility, CSR strategy, shareholders, and community. Specifically, the Environment Pillar score (*ENV*) evaluates firms' performance in evading environmental risks and caring for the environment under three categories: emissions, resource use, and innovation scores (Refinitiv, 2022). The Social Pillar score (*SOC*) assesses how firms maintain diversity and equal opportunity within the workforce, comply with human rights, promote community development, and deliver goods and services in a safe and healthy way (Refinitiv, 2022). The Governance Pillar score (*GOV*) measures firm management's ability and success in communicating firms' CSR practices with stakeholders, treating shareholders equally, and implementing corporate governance principles (Refinitiv, 2022). These three sub-components are aggregated to compute the *ESG* score, with higher scores indicating better ESG practice.

Following prior literature (i.e., Kularatne et al., 2019; Parte-Esteban & Alberca-Oliver, 2015), we include several factors that are commonly related to hotel efficiency and corporate performance as control variables in Equation (7). Specifically, firm-level variables include *Leverage* (total liabilities to total assets) to proxy for the level of financial leverage, *Size* (natural logarithm of total assets) to proxy for firm size, and *Cash* (cash and short-term investments to total assets) to proxy for the liquidity condition. Additionally, we also included country-level variables to control for the wider impact of macro-economic conditions. These variables include *GDP Growth* (measured as the change in annual GDP) to proxy for economic growth rate, *Inflation* (measured as the change in annual consumer price index) to proxy for the increase in Consumer Price index, and *Unemployment* (measured as the number of unemployed people to labor force) to proxy for the unemployment rate.

Table 1 reports the summary statistics of all variables. In this regression model, all control variables are lagged for one year to mitigate the potential endogeneity problem; φ_j accounts for the hotel firm fixed effect; σ_t accounts for the year fixed effect; ε_{jit} is the error term. We employ the robust standard error to obtain the unbiased standard error. Since the efficiency score is bounded between 0 and 1, we employ a Tobit regression model for our analyses.

Table 1: Descriptive statistics

Variable	Obs.	Mean	Stdev.	Min	Max
Efficiency	100	0.594	0.371	0.056	1
Revenue	100	2740.793	3913.808	94.330	17072.000
XSGA	100	322.884	640.654	0.000	2849.480
CAPEX	100	193.712	229.368	5.753	1532.690
ESG	100	57.372	20.560	8.965	87.650
ENV	100	54.986	31.627	0.000	96.291
GOV	100	58.105	20.138	5.929	91.727
SOC	100	58.484	24.962	3.777	92.999
Leverage	100	0.597	0.279	0.095	1.590
Size	100	8.058	1.308	4.962	10.129
Cash	100	0.090	0.078	0.000	0.331
GDP growth	100	2.424	1.426	-1.680	9.030
Inflation	100	1.714	1.425	-0.900	6.595
Unemployment	100	7.484	7.399	0.210	28.470

To examine whether the relationship between ESG practice and hotel efficiency can remain during the Covid-19 pandemic, we also study the period of quarter 1/2017 to quarter 3/2021 using quarterly financial data. The reason for us to switch to quarterly data is to ensure a sufficient sample size for our panel regression. We augment Equation (6) as follows:

$\theta_{jit} = \beta_o + \beta_1 High\ ESG_{ji} + + \beta_2\ Covid_t + \beta_3\ High\ ESG_{ji} \times Covid\text{-}19_t\ + Controls + \varphi_j + \sigma_t + \varepsilon_{jit}$ (7)

where θ_{jit} is the efficiency score of hotel firms *j* in country *i* in quarter *t*. $Covid_t$ is a dummy variable that equals one during the Covid-19 pandemic (i.e., from Quarter 1/2020 to Q3/2021), and zero otherwise. $High\ ESG_{ji}$ is a dummy variable, that equals one if the ESG score (as well as its three components) in 2019 (i.e., the year before the outbreak of the pandemic) being higher than the 90th percentile value of the sample. We retain other model specifications from

Equation (6). The inclusion of firm- and quarter-fixed effects also means that *High* ESG_{jit} and $Covid_t$ are omitted from our model. In this model, we focus on the coefficient of the interaction of *High* ESG_{jit} and $Covid_t$ (i.e. β_3) as it indicates whether hotel firms with the best ESG practice could attain higher efficiency score during the Covid-19 pandemic.

RESULTS

Our baseline results, showing the impact of ESG on hotel efficiency, are reported in Column 1 of Table 2. Overall, the results support our prediction that ESG performance has a positive impact on hotel efficiency. The coefficient of ESG is 0.010, significant at the five percent level, suggesting that an increase in ESG score is associated with higher efficiency for hotel firms. This finding aligns with the studies by Kularatne et al. (2019) and Radwan et al. (2012), which conclude that hotels with an environmental focus can attract more customers, enhance sales, and subsequently improve efficiency. Our results extend this conclusion by showing that hotel firms should focus not only on environmental protection but also on the composition of three factors E-S-G to enhance their efficiency.

Several robustness checks are conducted to confirm our baseline findings, which are reported in Columns 2 to 4 of Table 2. First, the efficiency scores obtained from the DEA approach applied in the baseline results may suffer from an upward bias, meaning that those scores relative to the frontier are too optimistic (Coelli et al., 2005). To correct this potential bias, we apply a biased-corrected procedure as described in Simar and Wilson (2000). Specifically, a bias factor for each hotel firm is estimated using smoothed bootstrapping procedure with 1,000 replications; then subtracted from the original efficiency scores estimated in the baseline. This process provides us with the bias-corrected efficiency score (*BC Efficiency*). We rerun the regression with *BC Efficiency* being the dependent variable and report the results in Column 2 of Table 2. Next, we adopt the alternative measures to provide additional robustness checks to our selection of inputs, outputs in the baseline analysis. First, we replace the "selling and administrative expenses" with "interest expenses" as input to estimate efficiency scores (*Efficiency1*). Second, we also replace our baseline measurement of output (i.e., sale revenue) with operating income to attain the *Efficiency2* score. We report the regression results with *Efficiency1* and *Efficiency2* scores being our dependent variable in Columns 3 and 4 of Table 2. Across these above-mentioned modification changes, the coefficients of *ESG* remain significant and positive as in our baseline findings.

Table 2: The impact of ESG on hotel efficiency: Baseline regression and robustness tests

	(1)	(2)	(3)	(4)
VARIABLES	*Efficiency*	*BC Efficiency*	*Efficiency1*	*Efficiency2*
L.ESG	0.010**	0.004**	0.008***	0.013***
	(0.005)	(0.002)	(0.003)	(0.004)
L.Leverage	1.918***	0.472**	1.364***	1.028***
	(0.499)	(0.179)	(0.419)	(0.245)
L.Size	-0.095	0.086	0.048	-0.077
	(0.200)	(0.072)	(0.139)	(0.071)
L.Cash	0.265	0.027	0.787	4.252***
	(0.729)	(0.266)	(0.537)	(0.950)
L.GDP growth	-0.062*	-0.041*	-0.072***	0.009
	(0.034)	(0.024)	(0.025)	(0.053)
L.Inflation	0.013	0.032	0.001	0.074
	(0.045)	(0.028)	(0.026)	(0.046)
L.Unemployment	-0.036	-0.016	-0.062**	-0.008
	(0.027)	(0.011)	(0.024)	(0.011)
Observations	85	85	74	84
Pseudo R-squared	1.075	5.853	1.538	1.190
Year & Firm FE	Yes	Yes	Yes	Yes

Next, the three E-S-G components are examined separately to test for the impact of each component on hotel efficiency. Specifically, we replace *ESG* in Equation (6) with each of its three sub-components and rerun the regressions. The results are reported in Table 3, showing that environment and social scores have a positive impact on hotel efficiency, whereas governance score shows no significant association with efficiency. Specifically, in Column (1), the coefficient of *ENV* is 0.003, significant at the ten percent level. This means given a one-standard-deviation increase in *ENV* (i.e., 31.627 – see Table 2), hotel efficiency improves by 15.97 per cent from its mean value (i.e., 15.97 per cent = 31.627 × 0.003/0.594). Similarly, in Column (3), the coefficient of *SOC* is 0.009, significant at the five percent level. This suggests that a one-standard-deviation increase in *SOC* (i.e., 24.962) results in a 37.82 per cent enhancement in hotel efficiency from its mean (i.e., 37.82 per cent = 24.962 × 0.009/0.594). In Column (2), however, the coefficient for *GOV* is not significant.

Table 3: The impact of ESG's component scores on hotel efficiency

VARIABLES	(1) *Efficiency*	(2) *Efficiency*	(3) *Efficiency*
L.ENV	0.003*		
	(0.002)		
L.GOV		0.001	
		(0.005)	
L.SOC			0.009**
			(0.004)
Observations	85	85	85
Pseudo R-squared	1.060	1.051	1.080
Control variables	Yes	Yes	Yes
Year & Firm FE	Yes	Yes	Yes

Table 4 reports and discusses the results of our test for the impact of ESG on hotel efficiency during the Covid-19 pandemic. Focusing on Column (1), the coefficient for the interaction *High ESG×Covid* is 0.291, significant at the one percent level, suggesting that hotel firms with high ESG score are more efficient in revenue generation during the Covid-19 pandemic than those with lower ESG score. Given that the average *Efficiency* score is 0.594 (see Table 2), this result suggests that hotel firms which belong to the top 10 per cent in terms of ESG score are around 50 per cent more efficient than the remaining firms during the pandemic crisis (50 per cent ~ 0.291/0.594). Similarly, in Column (2) and (4), the coefficients for *High ENV×Covid* and *High SOC×Covid* are 0.250 and 0.264, respectively, also statistically significant. This means hotel firms can achieve around 40 per cent higher efficiency during the pandemic crisis if their *ENV* or *SOC* score ranks in the top 10 per cent of our sample (i.e., 40 per cent ~ 0.250/0.594 or 0.264/0.594). In Column (3), however, the coefficient for *High SOC×Covid* is not statistically significant, suggesting that hotels with good governance practice is not more efficient in revenue generation than other hotels during the Covid-19 pandemic.

Table 4: The impact of ESG's on hotel efficiency during the Covid-19 pandemic

VARIABLES	(1) *Efficiency*	(2) *Efficiency*	(3) *Efficiency*	(4) *Efficiency*
High ESG×Covid	0.291***			
	(0.100)			
High ENV×Covid		0.250**		
		(0.117)		

High GOV×Covid			0.153	
			(0.100)	
High SOC×Covid				0.264**
				(0.109)
Observations	230	230	230	230
Pseudo R-squared	0.771	0.759	0.749	0.759
Control variables	Yes	Yes	Yes	Yes
Quarter & Firm FE	Yes	Yes	Yes	Yes

Overall, the results in Table 4 suggest that although the hotel industry suffers greatly from the Covid-19 pandemic, hotels with good ESG practice can be more efficient than others during this turbulent period, especially those that have very high environment and social scores.

DISCUSSIONS

The literature on hotel efficiency mostly focuses on finding a more accurate measure of hotel operational efficiency using different inputs and outputs (Sainaghi et al., 2018), whilst only very limited studies have examined the drivers that can enhance hotel efficiency given the same level of inputs (e.g., Kularatne et al., 2019). We add to this literature by studying how ESG performance, as a comprehensive set of various standards, can make hotels more efficient in generating revenue. Our study, therefore, adds more insights to the research direction that examines the factors that can promote hotel efficiency and, from there, proposes valuable suggestions for hotel firms to strategically become more efficient.

Our research also extends the strand of literature that examines the impact of ESG practice on hotel performance. Prior studies only focus on one narrow aspect of ESG, for example, care for the environment (Radwan et al., 2012; Kularatne et al., 2019), workforce satisfaction (Harris, 2007), safety and healthiness in the delivery of goods and services (Chan et al., 2021), and community development (Saeidi et al., 2015). Our study contributes to this literature by examining the composite ESG score together with its three components (i.e., environment, social, and governance aspects). In this way, we can provide a more holistic view of ESG practices and how these enhance hotel performance. At the same time, this enables us to evaluate the relative importance of each ESG component in promoting hotel firms' efficiency so that the firms can effectively prioritize their resources to their ESG strategies.

In addition, our study adds to the rising literature on disaster/crisis management in the hospitality sector. Whilst research in this literature mostly focuses on spontaneous measures in response to the Covid-19 pandemic, for example, human resources management (Jung et al., 2021), marketing strategies (Jiang & Wen, 2020); service changes (Mensah & Boakye, 2021); or digital transformation (Busulwa et al., 2022), our study emphasizes the importance of pre-crisis proactive strategy, in particular, focusing on ESG performance. This can be an effective and sustainable strategy for hotels to maintain revenue and efficiency to overcome any unexpected shocks in the future.

Finally, the results of our study provide useful insights for hotel practitioners. So far, hotel efficiency analyses mainly focus on cost-related factors with the aim to achieve cost efficiency. Our results propose that, instead of trying to minimize operating costs, hotel firms can elevate their efficiency in revenue generation by implementing effective ESG strategies. We also show that, among the three ESG components, the social aspect is the most important factor that contributes to the operational efficiency of hotel firms. Thus, it is highly recommended that hotel firms should put lots of emphasis on maintaining diversity and equal opportunity within their workforce, promoting community development, and delivering goods and services in a safe and healthy way. These strategies will allow hotels to attract more customers and effectively boost their operational efficiency. Environment aspect ranks as the second most important factor among the three ESG components that can enhance hotel efficiency. Hotel practitioners, therefore, should avoid environmental risks whilst showing more care for the environment. These can be achievable by limiting emissions and resource use whilst promoting innovation for environment protection. Finally, although the quality of corporate governance is one major pillar of ESG practices, we find that this aspect does not add to the improvement of hotel efficiency. Thus, corporate governance should not be the top priority in hotels' ESG strategies.

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Transforming service ethics through service responsibility: Enabling well-becoming to serve human diversity

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PURPOSE – The study seeks to develop a conceptual framework to explain how to transform service ethics through service responsibility to assess the need for well-becoming by moving beyond solely creating well-being. By doing so, we craft an ethics discussion within the service research community and aspire to design service responsibility that necessitates the collaborative nature of value creation embedded in the societal perspective. Transformation is understood as systemic, emergent in nature, and driven by multiple collaborating stakeholders and their interactions (Sebhatu & Enquist, 2022; Sebhatu et. al. 2021). We build this conceptualization on S-D Logic (Lusch and Vargo 2014) and Transformative Service Research (TSR) (Anderson et al. 2013), which advocates doing service research that improves human well-being. Fisk et al. (2018) introduced service inclusion as a TSR concept that includes the “full diversity of the human species.” More recently, ServCollab, a human services nonprofit based on TSR, expanded its mission "to serve humanity through research collaborations that catalyze reducing suffering, improving well-being, and enabling well-becoming.” (www.servcollab.org). We focus on enabling well-becoming to serve human diversity. With 8 billion different humans sharing the precious resources of our planet, we urgently need to enable each other’s well-becoming by respecting and even celebrating human diversity. Transforming service ethics enables opportunities for human diversity to flourish. This is well-becoming, but it is only possible by developing norms of service responsibility that develop a pathway for shifting from fragile and contentious service systems to resilient, harmonious, and regenerative service systems. This is also about keeping the integrity of the inherent borders and moral limits of markets (Sandel, 2012) by focusing on the more humane or ethical ethos of S-D logic (Murphy and Laczniak, 2019). In modern service research literature, human interactions are conceptualized as service interactions. This means that all ethic of human interactions topics are also service ethics topics, Business ethics, marketing ethics, and even public service ethics (Bowman and West 2022) are major research topics. Yet service ethics is still an unexplored area of study. The conceptual framework developed in this paper responds to this knowledge gap by embracing that ethics concern the

morality of human actions, which warrant major research attention to service ethics. The theoretical and conceptual framework of our paper is grounded in the concepts of ethics, responsibility, transformative service, transformation, and S-D logic embedded in collaborative service thinking.

The concepts of the theoretical framework and their interdependencies are illustrated in the conceptual framework. The framework drives the constituent parts of service ethics through service at the age of digitalization, which is illustrated as the relationship between the platform (app), the service provider, and the consumer in the context of accountability. In the sharing economy, the consumer gets a free platform for collaboration. However, this doesn't mean without responsibility.

METHOD - There is a widely accepted view in narrating ought to explain how. In this study we explain how to transform service ethics for service responsibility. The explanatory power of our conceptual framework is shown in an empirical study of two provocative case studies of the challenges of David (a blind para-Olympian), and the case of housemaids and male drivers contract trading in few countries in the Middle East; with a narrative of a CEO on taking responsibility for Uber. In the first case, David reported to the police his inability to fulfill his basic human needs by moving around due to irresponsible human actions of dumping e-scooters in the streets. The case of trading contracts of housemaids using different trading apps explores a modern version of labor exchange that resembles several characteristics of human slavery in the few countries in the Middle East and other countries in the region. They all illustrate the need for service responsibility to enable well-becoming by transforming service ethics.

FINDINGS – We identify and reconcile the connections between value co-creation and value-responsibility embedded in ethics to transform service ethics for enabling the well-being of humans. Our conceptual framework also introduces a new construct by building on the service ethics and service responsibility construct (Jaakkola 2020) to explain how to transform from well-being thinking to an enabling mindset.

RESEARCH IMPLICATIONS - Our paper is a conceptual paper focused on service research, ethics, and responsibility from well-being to well-becoming with in-depth case studies.

ORIGINALITY- There is a fundamental lack of service research on service ethics that emphasizes the critical shift from value co-creation to value responsibility embedded in well-becoming. This research seeks to transform service ethics for service responsibility.

KEYWORDS: Service Ethics; Transformation; Service Research; Responsibility; Value co-creation; Well-Being; Humanity; diversity

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Human Rights in Service Ecosystems: A Transformative Service Research (TSR) perspective

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ABSTRACT

As "consumer rights" movements become popular, linking consumers' rights to human rights principles and processes based on international law and consensus is important. This study takes a human rights perspective on service ecosystems to examine systemic issues and stakeholder responsibilities in services. Thus, it integrates TSR with service ecosystem perspectives and proposes the Serving Human Rights Framework (SHRF) for achieving sustainable development goals. We offer a future research agenda and advocate that implementation of the SHRF should be multidisciplinary and multi-stakeholder.

INTRODUCTION

The notion of human rights in service ecosystems provides a framework for addressing abuses in service settings and holding all relevant stakeholders (e.g., governments, policymakers, and service providers) accountable for them. A human rights perspective on services zooms out beyond the interaction between the individual customer and service provider to examine systemic challenges and stakeholder obligations. This broader approach to human rights is consistent with existing approaches to the service ecosystem (Edvardsson and Tronvoll, 2023; Fisk and Alkire, 2021; Tsiotsou, 2016; Vargo and Lusch, 2016).To this end, we integrated TSR with service ecosystem perspectives and developed the Serving Human Rights Framework (SHRF) for achieving sustainable development goals. The SHRF addresses the need to incorporate human rights in the design and delivery of services in diverse service ecosystems with a wide variety of demands and many stakeholders at several levels. We offer a future research agenda and advocate adopting a relational engagement method based on beneficial interactions between diverse stakeholders. Future research on the implementation of SHRF must be multidisciplinary and involve several stakeholders.

THE PROPOSED SERVING HUMAN RIGHTS FRAMEWORK (SHRF)

Human rights are widely recognized norms that respect and safeguard the dignity and worth of all human beings, regardless of their nationality, race, gender, or economic or social standing (United Nations, 1948). Human rights encompass concepts about equality and justice, as well as the rights of individuals to live a life free from fear, harassment, and discrimination. Thus, human rights are essential for a dignified and self-determined existence (Sen, 2004, pp. 319). Individuals' relationships with the State and the State's responsibilities to them are likewise governed by human rights. They provide universal legal protections for people and groups against activities that violate basic liberties, rights, and human dignity (OHCHR, A). Hence, governments, organizations, and corporations must respect and uphold these rights to guarantee that everyone receives equal treatment and respect (Vaughn and Munoz Quick, 2021).

Human Rights share six core principles: universality and inalienability; indivisibility; interdependence and interrelatedness; equality and non-discrimination; participation and inclusion; and accountability and rule of law. These principles recognize that human rights are inherent to the dignity of every human person and cannot be ranked in a hierarchy. They also recognize that the realization of one right depends on the realization of others, making it difficult to realize any specific human right in isolation. Human rights contribute to human development and promote well-being (Fisk et al., 2020) and freedom based on all people's inherent dignity and equality, and the efforts to improve well-being require the realization of all fundamental freedoms and rights like the right to work, health, and education.

Human rights are global institutions, the “institutions of all institutions” that should be protected, respected, and fulfilled at all levels of all service ecosystems (micro, meso and macro). Institutions are constraint frameworks and motivations guiding actor behavior in a society (North, 1998). Institutions are made up of three pillars: the *regulative pillar* (rules, laws, and restrictions), the *normative pillar* (societal norms, roles, and values) and the *cultural-cognitive pillar* (shared symbols, frameworks, and ideas) (Scott, 2014). Hence, institutions are very resilient social systems (Scott et al., 2000). They can be transformed through three primary mechanisms: coercive (by modifying aspects of the regulative pillar), normative (by shifting expectations of what is right and fair), and mimetic (by imitating excellent practices) (DiMaggio and Powell, 1983). Human rights should above all be regulative, normative, and cultural-cognitive institutions to guide social interactions for a just and peaceful symbiosis of all actors. Thus, human rights should not be just vague and ideal guides or a utopian approach to living but a central "regulator" of actors' interactions in the global ecosystem.

SHRF includes the three levels of interactions in service ecosystems and specific obligations and rights attached to each level (Figure 1):

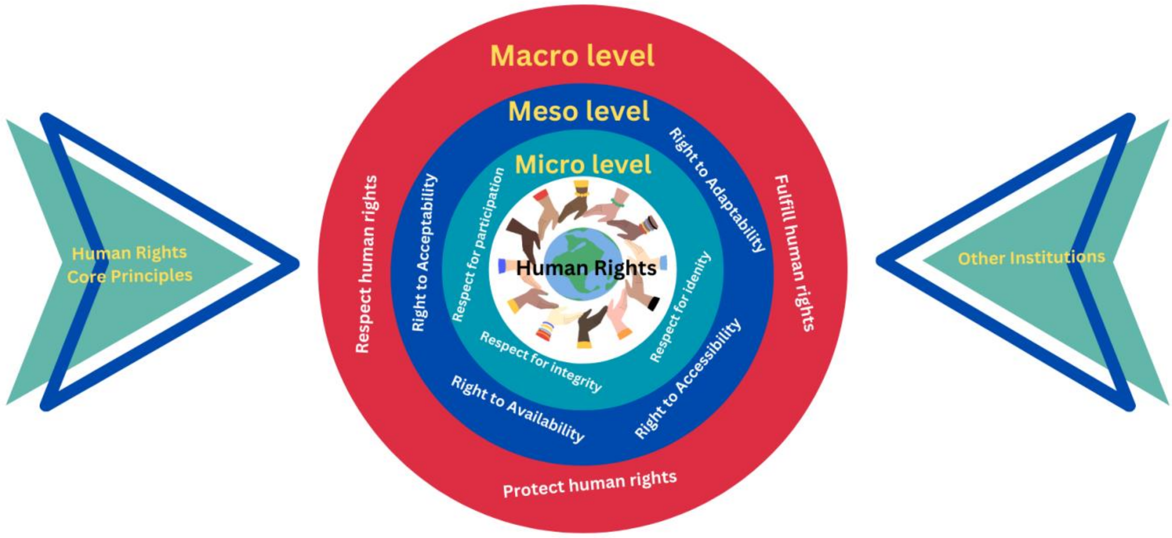

Figure 1 The Serving Human Rights Framework (SHRF)

The policymaker/government (macro) level: At this level, policymakers, including governments and other government agencies, have three important human rights-related obligations to perform when they design and regulate public service systems:

a. *To respect human rights.* This requires them to avoid any action, legislation, or decision that would interfere with individuals' enjoyment of their rights or prevent or limit some individuals' access to services based on their individual or group characteristics.
b. *To protect human rights.* Governments should take the necessary measures to ensure that third parties do not interfere with individuals' enjoyment of their rights and services. In other words, they need to ensure that individuals' rights to all services are realized without any barrier or restriction from others.

c. *To fulfill human rights.* This means that they will lay the groundwork and infrastructure so all services are available for all individuals, and everyone will benefit from those services whenever and however they want.

The service organization (meso) level: At this level, we adopt the 4As framework proposed by Tomaševski (2001). Thus, service organizations need to ensure four rights when they design and deliver services:

a. *The right to availability*: Requires that there will be a sufficient quantity of functioning services and service facilities available for all individuals.
b. *The right to accessibility*: Requires that services must be physically accessible to everyone without discrimination or limitation and economically affordable for all, even for the most marginalized groups.
c. *The right to acceptability*: Requires that all organizations design and deliver people-centered, ethical, culturally appropriate, and high-quality services and ensure those services are acceptable for all their users given their specific or unique needs.
d. The *right to adaptability:* Requires that organizations must necessarily adapt to the various needs of individual consumers rather than expect them to fit within the provided services or manage difficulties and problems on their own.

The human with human interaction (micro) level: This micro-level includes personal interactions in private roles (among family and friends) and public interactions in public roles (among employees, among employees and customers, and customers). All of these humans with human interactions should demonstrate three different types of respect:

a. *Respect for identity:* Meaning respect for individuals, including their race, sex, language, religion, ethnicity, etc.
b. *Respect for integrity:* Meaning respect for the integrity of each individual, avoiding any humiliation or abusive behavior.
c. *Respect for participation:* This means respect for an individual's rights to express their views and opinions on all matters of concern.

AN APPLICATION OF THE SHRF TO THE HEALTHCARE SERVICES ECOSYSTEM

The World Health Organization (WHO) Constitution advocates that the greatest achievable quality of health is a basic human right (WHO, 2017). Yet, there have been several instances of health-related human rights violations. From broad violations of patients' rights to informed consent, privacy, confidentiality, and non-discrimination to more severe abuses such as torture and humiliating treatment, healthcare infractions range in severity. In addition, the human rights perspective on healthcare services emphasizes the discrimination and social marginalization that commonly contribute to patient mistreatment. A human rights perspective on health is not restricted to "patients' rights," which is anchored in a consumer mentality, but instead derives from intrinsic human dignity and uses universally recognized human rights concepts. To this purpose, the SHRF provides essential recommendations and insights for stakeholders at all levels of the healthcare service ecosystem.

Government-level obligations/responsibilities regarding the right to health and healthcare service provision include respecting human rights to health, protecting human rights when it comes to healthcare, removing legal and structural barriers to healthcare, creating equality of opportunity, and fulfilling individuals' right to health. Governments must include their respect for human rights in all their policies, decisions, and legislation regarding healthcare and require similar respect from all public and private healthcare organizations. They must also create conditions and environments in which private healthcare institutions will deliver the needed healthcare services to all those who need them, and they must be prepared to directly provide healthcare services if such services cannot be realized by the existing private companies or market structure.

Organizational level obligations/responsibilities include ensuring that four different rights are realized when service organizations design and deliver healthcare services: availability, coverage, accessibility, and affordability. Availability is a critical issue, and organizations need to identify coverage gaps and come up with solutions to ensure everyone has access to their services. Accessibility is also important, as it requires a commitment to providing universal access to anyone regardless of who they are, including the most marginalized or disadvantaged members of society. Service inclusion should be the driving mindset behind their service design and delivery by offering fair access to healthcare services, fair healthcare treatment, and a fair opportunity to exit healthcare services. Service organizations should ensure the acceptability of their healthcare services for diverse populations by following international standards of medical ethics and making their service provision culturally appropriate. They should also respect the privacy and confidentiality of individuals and ensure that their healthcare services are of high quality regardless of their profile or socio-economic-legal status. Finally, they should ensure the adaptability of their health services to accommodate the needs and interests of all patients, facilitate their integration, and secure their physical and mental health. Human rights can help ensure an equitable distribution of health resources and contribute to humans' well-being, physical and psychological.

Human with human interaction-level obligations/responsibilities requires employees in the healthcare sector to respect individual human rights, such as respecting customers' identities, integrity, autonomy, rights, and value. All individuals have the right to make their own informed and responsible choices concerning their sexual and reproductive health, free from discrimination, coercion, and violence. The Act includes the right to informed decisions, comprehensive/comprehensible information for patients and decisions based on the collaboration of healthcare personnel and patients. Patients' active engagement in their care is related to increased motivation to improve their health, adherence to prescriptions, improved treatment outcomes, and satisfaction with the received care. A recent review of the related literature shows that the desire to maintain control, lack of time, personal beliefs, type of illness, training in patient-caregiver relationships, patients' social status, and ethnic origin influence healthcare personnel's acceptance of patient participation.

FUTURE RESEARCH DIRECTIONS

The SHRF was created to address the need to incorporate human rights in the design and delivery of services in diverse service ecosystems with a wide variety of demands and multiple actors at several levels. Thus, we recommend adopting the relational engagement strategy, which depends on constructive interactions between multiple stakeholders to build a research topic (Ozanne et al., 2017). This strategy entails employing an interdisciplinary perspective to address challenges pertaining to diverse service ecosystems and establishing and sustaining ongoing connections between academics and other relevant stakeholders. In addition, future research on the application of SHRF needs to have two essential and related dimensions: a) interdisciplinary approach and b) multi-stakeholder approach that is *Authentic, Advancing and Applicable* (Kabadayi and Tsiotsou, 2022).

Multidisciplinary methodology. Our research agenda necessitates systematic cooperation between academics from many fields to study how SHRF might be implemented in diverse service ecosystems. Given the complexity of service design and delivery in general, as well as specific services such as healthcare and education, interdisciplinary collaborations with researchers from related fields could provide crucial insights not only to academic researchers but also to policymakers, service organizations, and practitioners.

Multi-stakeholder approach. Given the SHRF's multi-level nature, future research will also require a multi-stakeholder approach in which different actors and their voices and opinions are incorporated to ensure that specific research projects have the desired impact. Developing and implementing a research agenda would need the engagement of various stakeholder groups at varying levels, according to us. In their research initiatives, service scholars might incorporate viewpoints and comments from diverse stakeholder groups.

Based on these two approaches, we propose a research agenda with specific themes and questions below regarding the implementation of SHRF in the healthcare service ecosystem. However, this proposed agenda can also be adapted to other service ecosystems. A summary of research themes for each level, exemplary relevant disciplines, and stakeholders that service researchers can collaborate with are summarized in Table 1.

To address research problems pertinent to the policymaker/government level of the SHRF, service scholars can cooperate with academics from a variety of relevant disciplines, such as human rights or legal studies, public policy, anthropology, or sociology. To boost the efficacy and impact of their research initiatives, service scholars can also work with diverse stakeholders, such as government officials and policymakers at various government levels and organizations, NGOs, and international assistance organizations.

Table 1: Potential themes for future research

The Policy/government Level	
Research Themes	**Relevant Stakeholders**
- Barriers to respecting, promoting, and fulfilling human rights - Populations with limited/no access to services - Sources of discrimination/biases - Potential measures to reduce and remove	- Policymakers - Government officials - NGOs - International aid organizations - Labor unions - Professional associations

discrimination/bias - Emergency services for unexpected crises - Potential collaborators/partners - Designing sustainable public services	- Citizens/patients
The Organizational Level	
Research Themes - Existing capacity to serve - Alternative methods to increase capacity and coverage - Organizational audit for service inclusion - Assessment of service compatibility - Consistency of service quality - Training service personnel in fulfilling human rights and meeting the 4As	**Relevant Stakeholders** - Service organizations/networks - Service managers/supervisors - Technology companies - NGO's - Local communities - Service suppliers - Consumer groups
The Individual Interaction Level	
Research Themes - Nature of employee-customer/user interactions - Violation of human rights at the interaction level - Identifying the most often violated human rights in service settings and their remedies - The use of technology to fulfil human rights in human to human interactions	**Relevant Stakeholders** - Users/patients - Families, caregivers - Service providers, i.e., managers, personnel , nurses, etc.

Research themes and questions at the policy/government level. Service scholars can collaborate with researchers from various disciplines to address research questions relevant to the policymaker/government level of the SHRF. They can examine barriers to respecting, promoting, and fulfilling human rights when designing and delivering services, identify sources of discrimination and biases, develop and implement measures to reduce or remove such discriminatory or biased service practices, investigate alternative ways to increase the preparedness of governments for crises, and redesign service ecosystems capable of fulfilling human rights goals and securing sustainability.

Research themes and questions at the organizational level. Service scholars can reach out to disciplines like organizational behavior and psychology, healthcare management, communication, or public health studies to build research collaborations. Assessing and evaluating the existing capacity of service organizations to deliver human rights-based services would be a relevant topic for research projects. Studies can also investigate alternative and innovative ways to offer services using technology, building partnerships, or resourcing. Additionally, they can perform an audit to ensure service organizations provide and deliver services to all people regardless of their race, ethnicity, legal status, etc. Finally, training methods for service personnel and service providers to ensure that they fulfil human rights within the SHRF framework can be studied to effectively design and deliver such training.

Research themes and questions at the individual interaction level. Service scholars can use insights, theories, and frameworks from disciplines like ethics/bioethics, humanistic management, or psychology to better understand human-to-human interactions and their impact on SHRF. Partnering with service providers, users of such services would help researchers have a more holistic understanding of human rights and the various actors' perceptions and actions toward their implementation. Specific questions include studying barriers that hinder interactions in a respectful and dignified manner, examining factors and conditions that violate both customers' and service employees' autonomy or privacy, and studying various methods and tools to ensure customers' opinions and perspectives are considered and included in decisions and policy making. Future studies can focus on understanding how those technologies can detect human rights violations and fulfil human rights.

CONCLUSION

The proposed SHRF provides a valuable tool for monitoring, documenting, and analyzing human rights abuses in service ecosystems and for holding governments, policymakers, and other parties accountable. SHRF proposes serving humanity though human rights and emphasizes their pivotal role for achieving the highest attainable standard of living while considering all social actors without discrimination. The SHRF is a dignity architecture that respects, secures, and promotes the human rights of all individuals in service ecosystems. Thus, the proposed framework serves as a blueprint for a more sustainable future and as a powerful instrument to mobilize changes, direct investments, and solutions toward urgent social issues. Service research is needed to identify service ecosystems where violations of human rights are taking place, the sources, the stakeholders involved, and remedies for those violations, to secure human dignity, and contribute to a just and well-becoming society.

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Transformative Impacts on Transformers: Volunteers in Botanic Gardens

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ABSTRACT

PURPOSE OF THE STUDY

Transformative Service Research (TSR) has highlighted how volunteer engagement in services can create a plethora of health and wellbeing outcomes for a range of stakeholders (Di Pietro *et al*., 2022; Mulder *et al*., 2015; Rosenbaum, 2015). This research explores value co-creation practices and transformative learning experienced by a sample of volunteers from community-based, charitable groups across three UK Botanic Gardens. The findings add to the emerging TSR literature across novel contexts and enhances understanding of the role of volunteers across service settings (Rosenbaum, 2015). First, we provide empirical evidence to expand the list of volunteer well-being outcomes presented by Di Pietro *et al*., (2022). Second, our evidence supports the Transformative Charity Experience (TCE) framework developed by Mulder *et al*., (2015), offering insights about immersion, value co-creation and epistemological change. Our study contributes to the TSR paradigm (Rosenbaum, 2015), and reinforces the value, significance, and importance of volunteering as co-creative, transformative service experiences and provision regarding Sustainable Development Goals (SDG) (United Nations, 2023). Our findings also contribute to insights on reciprocal relationships and self-development for planetary and community-based health strategising and promotion (Chou *et al.*, 2023; Patrick, Henderson-Wilson and Ebden, 2022), health benefits on older people including effective healthy aging intervention (Jongenelis *et al*., 2022; Pettigrew *et al*., 2020), and considerations of service work and service-giving for well-being outcomes via volunteering (Wilson, 2000; Thoits and Hewitt, 2001; Smith 1994,1981).

METHODOLOGY

Eighty-four garden volunteers participated in the study, which began with an open call for interest sent out across UK Botanical Gardens via an online newsletter. This received the

support of Botanic Gardens Conservation International (BGCI), a membership organisation, representing Botanic Gardens around the world, and PlantNetwork, a charity organisation who provides training and network support to gardens and gardeners throughout Britain and Ireland. Three garden Directors/Managers who responded first were chosen to facilitate the next stage of data collection. Each centre was of a similar size with similar facilities, services, and volunteering numbers. Follow-on emails, telephone exchanges, online and in person interviews, free flowing discussion, and field observations, generated narratives from volunteers aged between 22 to 87 years of age, of mixed gender, ability, and levels of education. Narratives were analysed using Computer-Assisted Qualitative Data Analysis and manual content analysis (Silverman, 2022), to generate themes and concepts linked to Di Pietro *et al*., (2022) well-being outcomes, and the TCE framework (Mulder *et al*., 2015).

FINDINGS

The findings add to the emerging TSR literature across novel contexts and enhance understanding of the role of volunteers across service settings (Rosenbaum, 2015). First, we expand the list of volunteer well-being outcomes presented by Pietro *et al*., (2022). Within the category of satisfaction and realisation (Pietro *et al*., 2022) we identified additional benefits including opportunities for enhanced knowledge/learning, physical benefits, 'structure' to life, enhanced social interaction, improved self-esteem, and mental health benefits linked to feelings of support, transformative value, and inclusion. Second, we provide empirical evidence from a new setting to support the TCE framework offering examples of immersion, value co-creation and epistemological change. Most significant of our findings is the nature of the epistemological change experienced by our volunteers. Extracts from the narratives indicate '*alterations in how participants act, think about themselves and the world, and the interaction between the two*' (Mulder *et al.*, p.875). Volunteers describe their experience as '*THE best thing ever!*' and many talked about volunteering giving renewed purpose to their life; one stating their experience as '*Life-saving. Soul-saving*'. Another participant described how volunteering had brought them back from the brink of suicide. Such remarkable well-being impacts cannot be underestimated in these transformative, cocreated service exchanges across such service settings as Botanic Gardens. Our research highlights the importance of the context for epistemological change, emphasising how volunteering has helped participants cope with retirement, a major 'transformation' milestone in their lives.

RESEARCH LIMITATIONS/IMPLICATIONS

As this is a UK-centric study, we recommend further research in other geographical areas and contexts. This might focus on Botanic Gardens and wider garden volunteering but could also examine volunteers associated with other community groups with diverse cultural interests and identities. Implications of the research will inform the ever-changing global Botanic Garden sector, which, according to BGCI (2023), supports over 3,087 Botanic Gardens in the world, located in more than 160 countries. In our findings we realised that various actors/entities, and volunteers in our studies were connected to numerous other gardens, service settings, and communities. We envisage our new insights into well-being outcomes with such transformative elements, especially epistemological change, will highlight the importance of volunteering in Botanic Gardens, and inform policy, practice, and innovation across the Sector.

ORIGINALITY/VALUE

Aside from the research cited in this abstract, little is known about the transformative impact of volunteers and the well-being outcomes across different service settings regarding TSR. Our TSR facilitates a discussion about volunteering service exchange in the novel context of UK Botanical Gardens. Our findings add new insights, extend Di Pietro *et al.*, (2022) categories of well-being outcomes, and provide support for the TCE framework (Mulder *et al*. 2015). We have responded to the call from Rosenbaum *et al*. (2015), to shine a spotlight on the role of volunteers who play an integral supporting role in many service settings. Recommendations contribute to a broader discussion of how service ecosystems and underexplored resources can be brought together to attain and enhance significant transformative service for people, place, and planet, alongside meeting and measuring SDG (Verleye and Reber, 2022; Field *et al.*, 2021; Vink *et al.*, 2021; Finsterwelder and Kuppelwieser, 2020; Vargo and Lusch, 2018; Elmqvist *et al.*, 2013).

Emphasis of our key finding of the dramatic and significant epistemological change across older aged volunteers is insightful. Volunteering across the UK Botanic Gardens in our study shows evidence of transformative experiences for various retired individuals in a variety of ways. While there is limited TSR specifically on the transformative effects of Botanic Garden volunteering for retired people, there is evidence from our studies that suggest its benefits and health and well-being outcomes. Volunteering in these Botanic Gardens provides opportunities to connect with nature, which has been linked to improvements in mental and physical health and well-being, whilst contributing to SDG (Chou *et al.*, 2023; Elmqvist *et al.*, 2013). Studies have shown that spending time in natural environments can reduce stress, anxiety, and depression, and improve mood and self-esteem (Wilson, 2000). For retired individuals who may have fewer opportunities for social interaction and physical activity, volunteering can provide a sense of purpose, place attachment and community engagement (Jongenelis *et al*., 2022). Volunteering in the UK Botanic Gardens in our studies offer opportunities for transformative service and learning. This type of experience involves fundamental shifts in how individuals view themselves, others, and the world around them (Mulder *et al.*, 2015). Through volunteering, individuals and groups can learn new skills, gain new knowledge, and develop a deeper understanding of the interconnections between human beings and nature, and *vice versa*, especially with the older aged volunteers in our study; volunteering can lead to long-term epistemological change. This refers to a shift in how individuals think about knowledge, learning, and their own capacity to contribute to society. By engaging in meaningful work in these UK Botanic Gardens and other garden-related service settings, retired individuals develop a sense of mastery and competence that lead to a more positive self-image and greater sense of empowerment, whilst contributing to the efficacy of their aging process. Findings are salient for ongoing conceptualisation and theorisation regarding TSR, and for strategic planning and development of policy and practice for transformative services, SDG, and individual and societal good health and well-being.

Findings support significant well-being outcomes of volunteering in gardens and as a result we encourage a holistic, ecosystemic approach to service management and marketing. Participation in volunteering activities across Botanic Gardens and other novel service settings as part of health and well-being related policy could be established as part of a social prescription effort for older aged people among others. Opportunities of such policy and related transformative service can be co-created between key actors and agents across service ecosystems. Service management and marketing pertaining to recruitment, engagement and retention, and innovation leading to individual and societal health and well-being can be further explored. Botanic Garden' service settings, and their contribution to SDG are worthy of ongoing TSR to consider ongoing transformative value, service innovation and the vitality and viability of the Sector.

KEYWORDS

Transformative Service Research (TSR), Volunteers, Well-being outcomes, Transformative Charity Experience (TCE), Sustainable Development Goals (SDG).

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The Relationship between Corporate Social Responsibility and Customer Trust: The Effects of Customer Commitment and Corporate Image

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ABSTRACT

Purpose of the study: The study investigates the effects of customer commitment and corporate image on the relationship between corporate social responsibility (hereafter CSR) and customer trust.

Methodology: The project employed a causal survey design. The respondents were 200 consumers who have used services and knew about CSR programs of a luxury hotel. The data were analysed by structural equation modelling to test the hypotheses.

Findings: The mediating effect of customer commitment and corporate image positively impacts the relationship between CSR and customer trust.

Research limitations/ Implications: The study only uses Vietnamese sample. The results could be tested in other different cultural contexts.

Originality/value: Previous publications have not looked at the mediating effects of customer commitment and corporate image on the relationship between CSR and customer trust.

Keywords: CSR, customer trust, customer commitment, corporate image.

Hospitality service interaction: An exploration the perceptions of customers and employees with disabilities.

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ABSTRACT: The interaction between customers and employees with disabilities (EWDs) during service delivery process has significant meaning for both parties. A thematic analysis of 20 dyadic interviews with EWDs and customers revealed that direct interaction between them assisted EWDs in building confidence in their ability to live independently and connect socially, while customers emphasized the ethical significance of supporting socially responsible businesses.

INTRODUCTION

Despite numerous efforts to create inclusive workplaces for employees with disabilities (EWDs) in the hospitality industry, they continue to face structural barriers and stereotypes on the job (Kim & So, 2023). In this industry, challenges abound, including employers' concern for customer service, the aesthetic requirements for frontline staff, customer acceptance, and the costs of accommodation and training. Moreover, the lack of empirical evidence in the literature makes it even more challenging to address the issue of an exclusive culture in the service sector. This study aims to explore the perceptions of EWDs and their customers in cafes and restaurants in Vietnam regarding service interactions and the factors that contribute to an outstanding interactive service experience.

LITERATURE REVIEW

Service encounters typically involve a dual interaction between customers and service providers, where customers experience the service provided and compare it to their expectations, while providers aim to achieve business goals. Fitzsimmons, Fitzsimmons, and Bordoloi (2014) have labeled this interaction as a "moment of truth" that can determine customer satisfaction and the success of the business. The level of engagement between customers and service employees significantly influences their roles in the service delivery process, which is crucial for business success (Weeks, 2015).

For service encounters involving employees with disabilities (EWDs), customers' perceptions of the service experience can impact their behavior and evaluation of the service quality. Negative attitudes toward people with disabilities can lead to discomfort when interacting with them, potentially leading to an unfair judgment of the service quality (Kalargyrou et al., 2020; Poria et al., 2021). Therefore, understanding the differences in perceptions of the service interaction between EWDs and their customers is essential for service organizations.

Kalargyrou et al. (2020) suggest that when the overall service experience is positive, customers and service employees may share similar perceptions, but divergent views may arise when the experience is negative. Additionally, research by Dedeoğlu and Demirer (2015) has found differences in perceived values of service quality dimensions between hospitality employees and customers, with employees rating their service performance higher. Acknowledging perceptual differences between customers and employees is crucial for effective service management.

METHOD

To gather information about the day-to-day service experience of EWDs and their customers, a study was conducted through a series of in-depth interviews. An emancipatory approach was used to empower the voice of disabled employees and to allow them to share their insights on research issues. The study was conducted in the Vietnamese foodservice industry, which was chosen to extend the literature on EWDs as previous studies were primarily conducted in developed countries. Convenience sampling was used to recruit 10 employees with various disabilities and 10 customers for the study, which took place in 10 cafés/restaurants across 4 major Vietnamese cities. The interview data were analyzed using the 6-step procedure of thematic analysis by Braun and Clarke (2006).

Table 1. Profile of participants with disabilities and customers

	EWDs		Customers
Total	10		10
Disability Type		**Nationality**	
Blindness or poor vision	2	Vietnamese customers	4
Hearing and speech	4	Expatriates living in Vietnam	3
Mobility	4	International travelers	3
Position		**Occupation**	
Manager	2	Service business	3
Supervisor	3	Teachers/students	2
Entry-level staff	5	Non-Government Organizations	2
		Self-employed/Business	3
Age		Age	
18 – 30	6	18 – 30	5
30 – 45	3	30 – 45	2
45 – 60	1	45 – 60	1
		More than 60	2
Gender		**Gender**	
Male	5	Male	5
Female	5	Female	5

FINDINGS

The results of the thematic analysis revealed several important themes from both the perspectives of EWDs and their customers about their perceptions of the service interaction, as shown in Figure 1. The interviews showed that EWDs were highly aware of their disabilities when interacting with customers, but still displayed proactive behavior and a strong desire to engage with customers. They perceived the opportunity to serve customers as a rewarding moment, allowing them to demonstrate total attentiveness and impress customers with their superior service while establishing social connections. For EWDs, the opportunity to communicate and connect with customers at work was highly valued and considered a priceless experience.

Three main themes were identified from the interviews with EWDs: total attentiveness, impressing customers, and social connection. The customers appreciated the exceptional service provided by EWDs, which was characterized by genuine hospitality and was seen as an opportunity to contribute to social change.

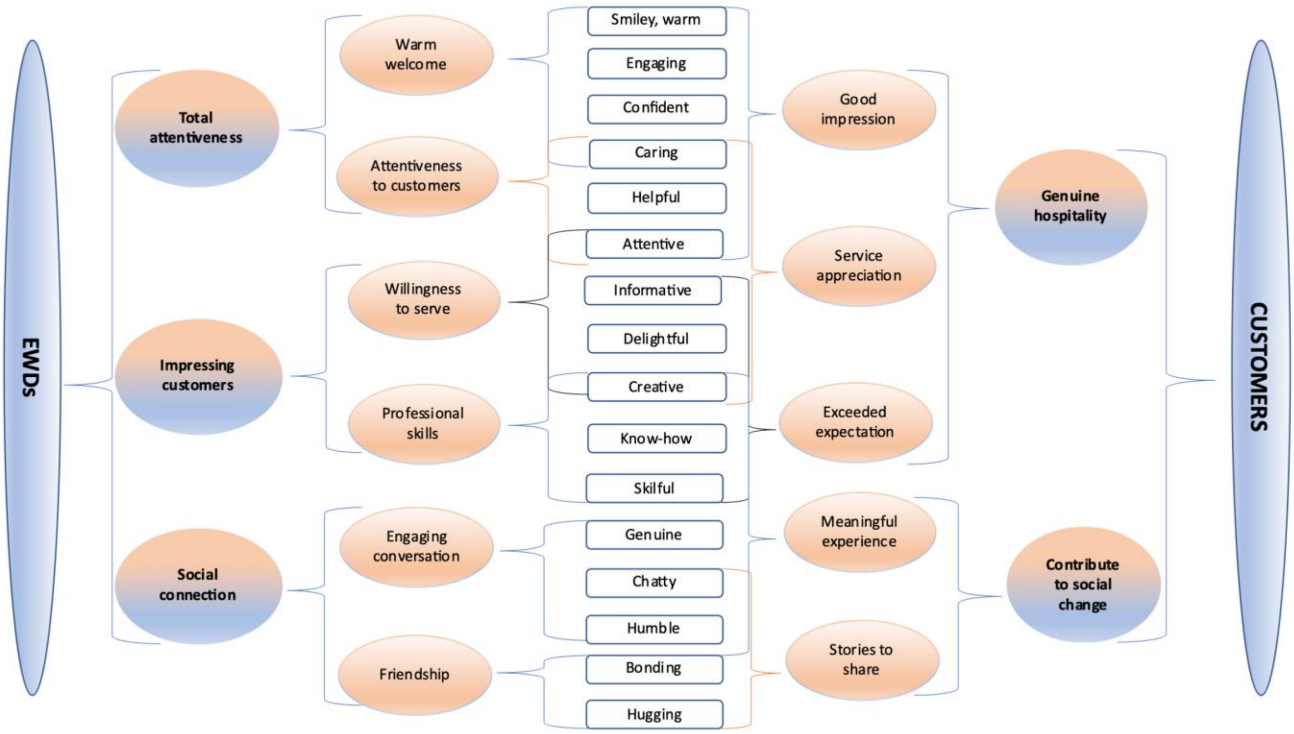

Figure 1. An interactive model of EWD's and customer's perception of the service interaction

IMPLICATIONS

The in-depth interviews conducted in the context of the foodservice industry revealed a new understanding of how interactions between EWDs and customers influence their perceptions. This study addresses the need for further research on disability-related issues in the service industry, which Kim and So (2023) identify as a red cluster of factors contributing to service failure and recovery. Despite the challenges they face due to their disabilities, EWDs demonstrated a strong customer-centric approach. Customers also expressed a sense of ethical consumption when visiting foodservice businesses that employ EWDs, similar to making a donation.

The study's unique findings have significant implications for both EWDs and hospitality businesses. EWDs benefit from a satisfying job, and employers benefit from having loyal and committed employees who provide exceptional service experiences. EWDs approach each customer individually and demonstrate their professional competency, which helps develop their positive social identity and establish social connections, even though they may be anxious at first.

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Sustainable service ecosystem for a transformative change

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ABSTRACT

The paper proposes a conceptual framework to explore sustainable service ecosystems based on transformative collaboration and sustainable value co-creation that lead to transformative change. A qualitative approach is adopted to conduct an empirical study for investigating the sustainable service ecosystem model, here referred as Albergo Diffuso (AD) model, an innovative hospitality and accommodation system in the sustainable tourism sector. Data from multiple AD hotels are collected through in-depth interviews and field observations. The study provides an insight into how actors' efforts are orchestrated through transformative collaboration and sustainable value creation for more responsible resource integration, and service ecosystems design.

INTRODUCTION

The transition toward a more sustainable future requires behavioral, institutional, and sociocultural changes (Nie et al., 2019) to establish a sustainable partnerships or dialogues (Sebhatu and Enquist, 2022). Partnership is an important matter to consider, especially in the pursuit of the Agenda 2030 Sustainable Development Goals (SDGs) which depends on human activities both at individual and collective levels (United Nations - Sustainable Development 2020).

Modern human societies face new problems relating to their service systems due to the increasing complexity of the world. For this reason, service research must address these emerging difficulties by devising new ways to improve society's needs (Ostrom et al., 2015; 2021).

According to Field et al. (2021), studying the *transformative impact on society and planet welfare in large-scale and complex service ecosystems* has become a service research priority. In addition, the need to tie research to the UN SDGs has been highlighted, along with the urgent emphasis in TSR literature to understand the important role of interactions among individuals in accelerating human progress toward more inclusive and sustainable practices (Anderson et al. 2022). In line with these priorities, analyzing the impact of service ecosystems on sustainable development and well-being is an important issue to be stressed. Accordingly, transformation from a firm-centric to a more societal well-being perspective is required (Sebhatu and Enquist, 2022) to understand how the interrelationships among consumers, organizations, employees, institutions, and communities contribute to develop sustainable value creation and to enable the integration of economic, social, and environmental aspects in service ecosystems (Reynoso, 2009, Saviano et al. 2017). In this regard, transformative collaboration, referring to the willing engagement of all participants in addressing challenges (Fisk et al., 2019; 2020; Fisk and Alkire 2021), is crucial to turn vulnerable service ecosystems into sustainable and resilient ones to enhance effective change of planet and society (Patricio et al., 2021).

In a sustainable tourism and hospitality ecosystems all actors play a crucial role and are responsible for the pursuit of good tourism performance, as the way they act can result in positive and/or negative social, environmental, and economic impacts (Simone, 2021). Our study contributes to explore sustainable service ecosystems with transformative impact by focusing on sustainable tourism ecosystems. We depict crucial elements that foster transformative collaboration for sustainable development and well-being construct (Jaakkola; 2020), bringing empirical investigations to the research through the case of the Albergo Diffuso, an Italian innovative business model in the sustainable tourism and hospitality sector.

The conceptual paper is organized as follows: first, a theoretical framing of the study and an explanation of the methodology is provided to clarify the literature as well as data collection and analysis. Then, the authors outline preliminary findings and discussion on transformative collaboration and sustainable value co-creation for the design of sustainable service ecosystems. Specifically, through the exploration of the Albergo Diffuso (AD) model, we display key elements that contribute to the improvement of social and planet welfare in sustainable service ecosystems. Finally, the original value, limitations, and future research of the study are presented as conclusions.

THEORETICAL FRAMING

A service ecosystem is "*a relatively self-contained, self-adjusting system of resource-integrating actors connected by shared institutional arrangements and mutual value creation through service exchange*," (Vargo and Lusch, 2016, 10-11) and it can be analyzed and conceptualized at various levels, including micro, meso, macro, and meta/mega (Chandler and Vargo 2011). Transformative Services Research highlights the impact of service and service ecosystems on both individual and collective well-being. Its primary aim is to provide positive transformations on society by understanding how services improve the lives of current and future generations of people and consumers (Ostrom et al., 2010; Anderson et al. 2013). The TSR literature has been stimulated by an emerging concern for well-being related to sustainability issues and collaborative behaviors to co-create transformative value (Ostrom et al. 2021; Field et al., 2021). In line with these trends, Fisk et al. (2019) introduced the notion of transformative collaboration, conceptualized as the highest form of co-creation able to facilitate a systemic transformative change across the micro, meso and macro levels (Fisk et al., 2019). Transformative collaboration "*occurs when all participants are able to contribute at their full human potential*". It reflects an emerging shift in individual and collective mindsets linked to a new paradigm whereby greater connection and mutualism among people is necessary to enable systemic change (Fisk et al., 2019; 2020; 2021).

According to service ecosystem and transformative perspectives, the tourism sector can be conceptualized as a service ecosystem based on a set of interdependent actors that exchange resources and interact to co-create value for a tourism purpose of a destination (Simone, 2021). Furthermore, it is claimed that sustainable tourism represents a crucial area in tourism research (Çetinkaya e Öter,2015) contributing to challenges arising from the Agenda 2030 SDGs Sustainable Development Goals. The United Nations World Tourism Organization (UNWTO) defined sustainable tourism as "*tourism that takes full account of its current and future economic, social and environmental impacts, addressing the needs of visitors, the industry, the environment and host communities*"(UNWTO, 2011). Since tourism industry represent one of the most significant service sector worldwide (UNWTO, 2014; Çetinkaya e Öter,2015; Simone, 2021) it is assumed to have the potential to enhance numerous actor's well-being such as, tourism customers, service providers and local communities (Gao et al., 2022).

Transformative collaboration approach as a conceptual model allows to explore how actors contribute to design sustainable tourism ecosystem in which all can benefit from sustainable value cocreation process and better experience both individual and collective well-being.

METHODOLOGY

The research uses a qualitative methodology to explore and conceptualize how transformative collaboration works in sustainable service ecosystem to facilitate value cocreation process for transformative change. Qualitative methodology is recognized as a valuable approach to investigate complex and new phenomena (Sofaer, 1999) and how individuals and communities interpret a specific issue (McCusker and Gunaydin, 2015; Boulay et al., 2014).

To achieve our research aim, of an empirical study construct (Jaakkola 2020) of the AD model, an Italian formula of hospitality and accommodation in the sustainable tourism sector, is presented. AD model is an innovative and sustainable business based on the recovery and redevelopment of ancient and rural villages, rich in sociocultural and environmental resources. It is presented as a hotel that is not built but created with a network of pre-existing houses close together used as a reception and refreshment space and as guest rooms. The horizontal structure allows the guest to behave as a temporary resident and get deeply involved in the local culture. The peculiarities of the model make construct (Jaakkola 2020) the AD particularly suitable to be read through an ecosystem and transformative lens, providing a useful learning opportunity to studying transformative change (Aal et al., 2016) and investigate transformative collaboration for sustainable value co-creation (Fisk et al., 2020; Patricio et al., 2021).

The study was conducted using the triangulation method, collecting data from multiple primary and secondary sources. Specifically, in-depth interviews and on-field observations were conducted. According to multiple researchers, the use of different data collection methodologies increases the reliability of the results and avoids possible bias derived from a single source. In addition, triangulation of results allows comparative studies to be conducted at different stages of analysis (Eisenhardt, 1989; Boyer and McDermott, 1999; Hyer et al., 1999; Voss et al., 2002; Bowen, 2009; Barratt et al., 2011; Di Pietro et al., 2021).

The methodological approach consisted of two phases, following a sequential method approach in which the results of one are used for the development of the other (Venkatesh et al., 2013). This method allows us to progressively enrich model knowledge and triangulate results using the lens of sustainable practices and transformative collaboration, highlighting their contribution to transformative change in the ecosystem.

Specifically, in the *first phase*, an in-depth interview was conducted with the founder of the model, and different data were gathered from multiple sources - i.e., the website of national association of Alberghi Diffusi (Adi), Albergo Diffuso books, and articles published in leading journals. The objective of this phase was to *i)* get a clear picture of AD model, *ii)* understand relevant actors involved in its design, preservation, and development, *iii)* interpret the model through the environmental, social and economic to clarify the sustainable concerns mitigated by the model.

In the *second phase*, three illustrative cases of AD hotels were investigated to explore the model in a real context. A purposive sampling strategy was used to select the three hotels from all member hotels (Bernard,2002). Accordingly, to develop a sample of illustrative application of AD model, three in-depth interviews with the owners of AD hotels were conducted. The objective was *(i)* to identify actors involved in different ecosystems *(ii)* to understand AD sustainability activities actual detectable in a real context and, *(iii)* to get evidence of their transformative effects at societal level. Simultaneously, direct on-field observations were carried out and a checklist was compiled to confirm previous findings and

gain general understanding. All structures were visited as a guest, to temporarily take part in the ecosystem and have direct involvement in the specific activities and context in which each hotel operates. Specifically, the sample was selected based on three inclusion criteria: i) heterogeneity ii) longevity, and iii) Adi membership. Specifically, the adaptation of the AD model to divergent contexts in socio-cultural, environmental and tourism terms is intended to be highlighted. In addition, the consistent presence of the hotels in a given context allows us to gain more evidence about the mechanisms and dynamics that triggered sustainable practices and transformative change over time. Finally, the affiliation of the structures with Adi provides the basis for studying the hotels based on the construct (Jaakkola 2020) of the theoretical framing.
The selected AD hotels are: “La casa sul blu” in the small hamlet of Pisciotta (Sa), “Trullidea” in the famous village of Alberobello, and “Albergo Diffuso Monopoli” in the historical part of the town.

RESULTS

The results are organised based on the above two methodological phases that allow us to develop the transformative collaboration framework (Fig.1) and construct a conceptual model (Fig.2) as a result of this study. In this section we present the preliminary results of each phase. The analysis and interpretation provided a basis for understanding how AD formula steers toward transformative collaboration (Fig.1) for sustainable value co-creation and, enabling us to highlight general key elements that lead to a transformative change in a sustainable service ecosystem (Fig. 2).

Phase 1

In the first phase, the characteristics of the Albergo Diffuso model are fully understood by observing them through the lens of social, environmental, and economic sustainability.
Generally, the model is presented as an original tool for the development of territories. It stems from the desire to enhance the value of old abandoned traditional Italian dwellings and to characterize them with a hospitality formula that fully complied the identity and was culturally and socially integrated.
From a sustainability perspective, the model promotes environmental well-being. It avoids negative impacts on the local environment, since it is based on buildings that already exist, thus solving the problem of excessive building constructions for tourism purposes that significantly impact territories, preserving them. In addition, the model fosters the valorisation and enhancement of local identity and authenticity, by promoting social sustainability. Since AD brings attention on the unique cultural, historical, and natural resources of territories it prompts the community to raise awareness about its resources, enabling the recovery of local productive activities and traditions. This contributes at creating an authentic tourism experience, stimulating interaction and exchange between tourists and local communities and promoting a more responsible production and consumption of resources. Finally, economic sustainability is pursued by leading more tourism back to the area while boosting the creation of new services, helping to prevent depopulation and to enhancing local supply chains. In addition, it proposes a de-seasonalize touristic model. By offering the hamlet lifestyle, the Albergo Diffuso constantly creates networks with other local activities, seeking to foster a steady trend in local economy. Table 1 describes major sustainable elements codified from first phase data collection. They are organized based of the social, environmental, and economic dimension of sustainability. Final themes created and examples of quotes used to support the understanding of the themes are showed.

Table 1: Sustainable elements of Albergo Diffuso model

Sustainability dimension	Codes	Final themes	Examples of quotation (Translated from Italian by authors)
Environment	*Renovation conservation*	(1) Renovation of ancient unused buildings (2) Conservation of local and traditional environment	*(1) "The first impact a new Albergo Diffuso generates is the reuse of abandoned and previously discarded structures."*
Social	*Cultural exchange*	(1) attention on local identity and authenticity	*(1) "AD guests seek authentic experiences and human relationships. Hence, the local community returns to produce local traditional goods as a result of this type of in-demand experience."*
economic	*service development* *promotion of local tourism*	(1) Decreasing depopulation risk	(1) *"Albergo Diffuso is regenerative for the village […]. People understand that indirectly they gain from this project. If you bring tourism, there is work for everyone."*

Phase 2

The distinctive features of the model highlight the sustainable value proposition of Albergo Diffuso. At this stage, we assess how sustainable elements detected in the previously phase determine transformative change in the selected AD ecosystems, deriving primary evidence on how transformative collaboration and value co-creation work to enhance a sustainable and transformative local resource integration value network.
From the owner's perspective, we understand the reasons underlying AD projects, the state of the place at the origin of their activities, and the resources network integration they support. In addition, we identify with on-field observations the actual sustainable activities implemented, the recovery and refurbishment of the existing architectural heritage, and the current state of the hamlets.
Specifically, the Albergo Diffuso "*La casa sul blu*" is located in the small hamlet of Pisciotta (Sa), of about 2,400 inhabitants and within the Cilento National Park. The project was developed in a context in which the tourism system consisted mainly of maritime activities and was therefore more linked to the more renowned surrounding locations. The potential of the village has always been clouded by this aspect. Today, the village is experiencing growth in services related to the hamlet's tourism, i.e., restaurants, transport services, and cultural activities, and the Albergo Diffuso contributes to networking the traditional local structures it owns, as well as promoting the environmental heritage and local culinary traditions, sharing their value with guests and the local community. After facing some initial resistance from the locals, the AD is now part of a great local network, crucial for promoting and enhancing local traditional resources.
"*Albergo Diffuso Monopoli"*, on the other hand, is located within the historical center of the city, which since 2013 counts exponential growth in tourism-related activities. To date, it is one of the favourite destinations in the Puglia region. Here, the AD Monopoli promotes conviviality and relationships with the local community, strengthening the connection between guests and residents and promoting attention to the environmental context to limit the impact of tourism within the historic center. The presence of residents in the historic center remains essential to maintain the identity and authenticity of the place.

Finally, "*Trullidea*" is located in the world-famous tourist destination of Alberobello, Apulia. Here, the presence of traditional rupestrian dwellings, the so-called "trulli," which are a UNESCO World Heritage Site since 1997, annually attracts thousands of tourists from all over the world. Trullidea was the first AD in the Puglia region and one of the first to renovate and network *trulli*. It pioneered a new way of reusing and enhancing the structures, which, as most of the local community moved to the new part of town, were facing significant depletion. Trullidea AD perfectly preserves the traditional trullo structure, offering guests the experience of living inside ancient Italian dwellings. Today, most of local hospitality structures follow the scattered structure depicted by AD business model. However, the massive flow of tourism has somehow damaged the identity of the site and indirectly the authenticity and experience of the Albergo Diffuso. This aspect further highlighted the importance of a multi-level transformative collaboration that both enhances and co-guides the development of sustainable practices carefully designed to stem the identity depletion of the area.
Generally, all the three structures share the same tight connection with the local area, which appears since the design of the project, and the common intention to promote locally grown resources. Moreover, the transformative changes resulting from the implementation of sustainability practices and proactive collaboration are outlined.
Table 2 shows the link between AD sustainable elements and its transformative impacts of societal well-being.

Table 2: Transformative implications of AD sustainable practices

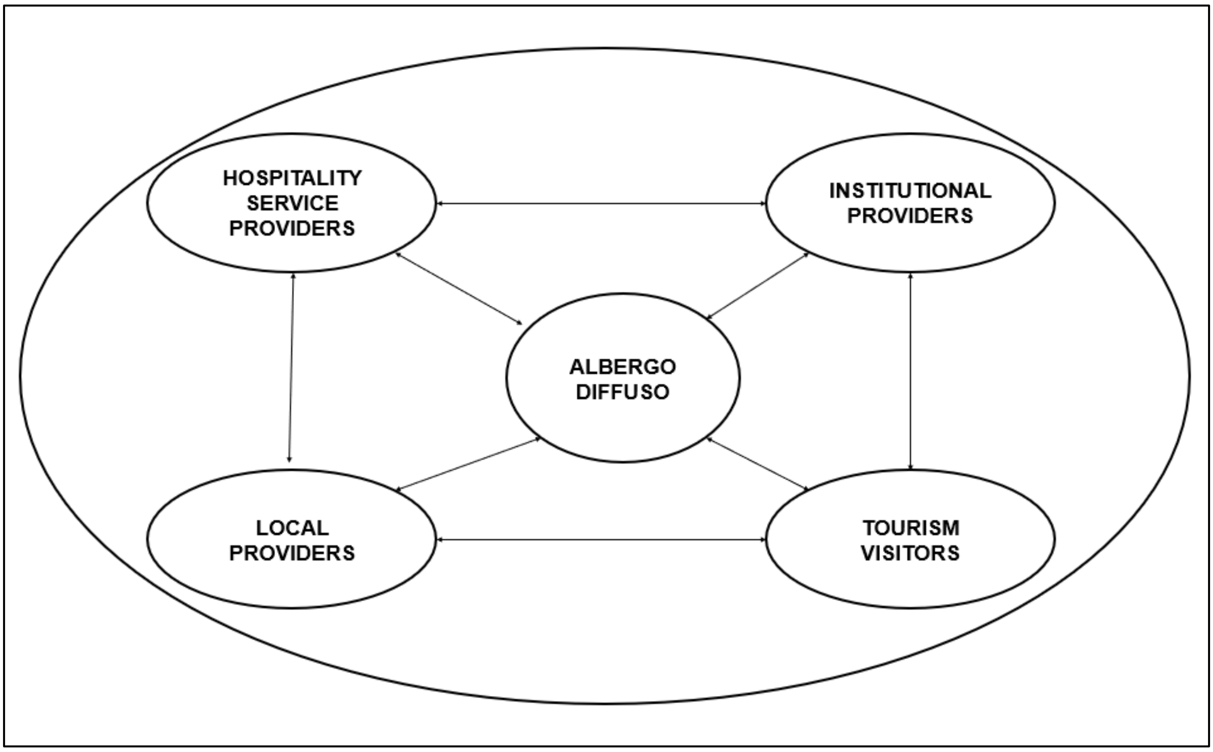
AD Sustainable elements (themes)	Transformative implications on collective well-being	Examples of quotation
Environmental dimension • **Renovation of ancient unused buildings** • **Conservation of local and traditional environment**	Enable the community to access quality services	*(1) "The hamlet has been revalued so much by tourism and the AD concept. There are a lot of renovations that improve the hamlet requalification. Residents have started their own businesses too. There is a general tendency among all residents to raise the standard of the hamlet". La casa sul blu*
Societal dimension • **attention on local identity and authenticity**	Community consciousness for the development, adaptation and co-creation of services and recognition of self-responsibility in contributing.	*(1) "We create a network with local wineries for tastings, travel agencies for excursions, oil mills for product processing, and more". Trullidea*
Economic dimension • **Decreasing depopulation risk**	Increase exchanges and interactions to extend the value gained from services by identifying possible costs and trade-offs for the community to design and promote sustainable services.	*(1) "The Albergo Diffuso has contributed to increase services in the old town [...]. In 2010 there were only three B&Bs, currently there are 101"*

DISCUSSION

The study aimed to first identify the sustainability concerns mitigated by the AD model (first phase). Next, we sought to link the actual implementation of sustainable activities of the considered AD hotels to the transformative issues recognized in the literature that impact collective well-being (second phase). We identified main transformative issues used a macro perspective view to study sustainable service impacts in collective well-being, where real

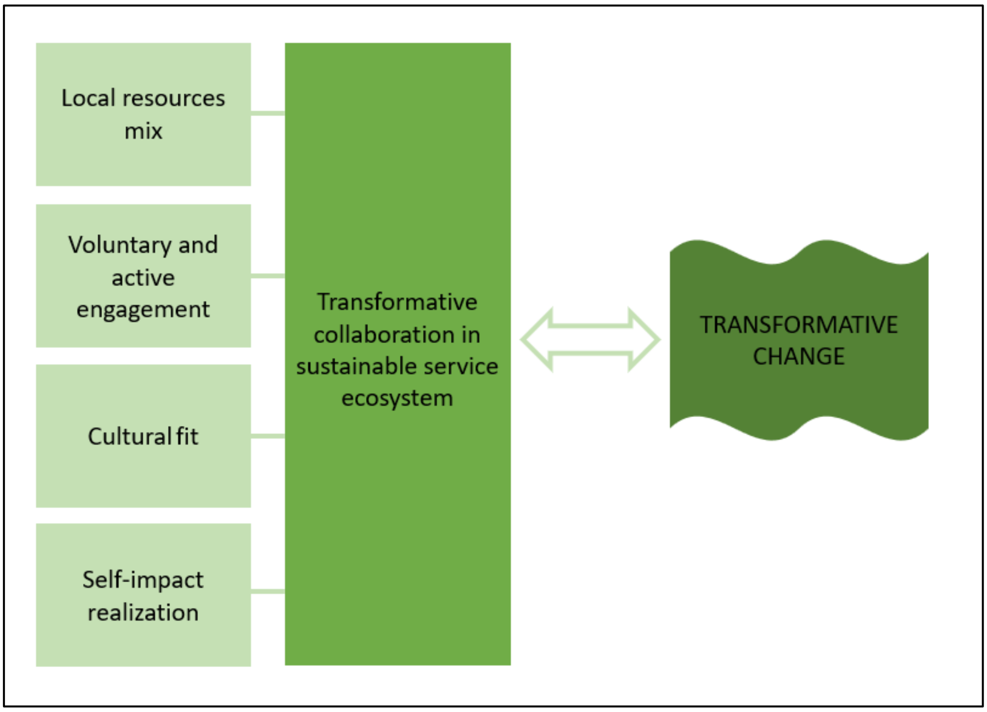
transformative change emerges (Ostrom et al. 2010; Anderson et al., 2013; Ostrom et al., 2021; Field et al., 2021).
The strong relationship with the identity and traditions of the area and the primary intent of resource enhancement shed light on the crucial sustainable value co-creation practices as well as the essential role actors play in the AD ecosystem. Effective implementation of sustainable practices and real transformative impacts emerge from collaborative efforts of multiple actors. These are critical to preserve and develop the whole ecosystem wellness through mutual and voluntary sharing and exchange of knowledge, resources, and traditions. Therefore, collaborative networking is essential to sustain culture, socioeconomic and environmental well-being aspects within the ecosystem (Fisk and Alkire, 2021). Transformative collaboration framework illustrated in Figure 1 sheds light on the interactions that occur at various levels of the AD ecosystem, showing the AD's role as *equity designer* and the role of *design allies* of other actors, who support it in achieving a sustainable service ecosystem (Fisk et al., 2019).

Figure 1: Transformative collaboration for designing sustainable service ecosystem in tourism



The empirical analysis reveals the collaboration in co-creating sustainable service ecosystem contribute to co-create transformative change generating well-being outcomes for all actors involved. Mainly, combining existing literature with the results of qualitative analysis we proposed a framework identified key drivers that enhance transformative collaboration in sustainable service ecosystem with transformative change (figure 2). The coexistence of all four elements fosters transformative collaboration in the ecosystem by effectively bringing transformation in social and environmental well-being.

Figure 2: Transformative change implementation



CONCLUSION

The paper focuses on service research, sustainability, and transformative research from a sustainable service ecosystem perspective. We studied, in this paper, the transformative change in society with the lens of collective well-being to highlight the relevance of each actor in designing sustainable service ecosystems. Our qualitative study contributes to current knowledge by providing valuable insights into transformative collaboration that enables actors to contribute at their full human potential by pursuing transformative change from a social, economic, and environmental perspectives (Fisk et al., 2019; 2020; Fisk and Alkire 2021; Patricio et al.2021). In addition, Field et al. (2021) highlighted the need to examine the impacts of service ecosystems on individuals' well-being. According to Jaakkola (2020), a conceptual model study identifies previously unexplored connections between constructs, which is we identified and explored the connections between sustainability and service research. Indeed, we propose a framework that stresses the essential elements for the design and management of large-scale, complex, and dynamic service ecosystems that have a transformative impact on society and the environment.

Finally, the potential of sustainable service ecosystems in pursuing the Agenda 2030 SDGs sustainable development goals is stressed.
The construct of the empirical case (Jaakkola, 2020) of the Albergo Diffuso sheds a light on the community-based sustainable tourism. The engagement of the local community in the development of new tourism services and activities results in the improvement of the quality of life for residents and in authentic experiences for tourists. The paper contributes to TSR studies by bringing evidence from the tourism sector, highlighting the potential of tourism services in improving societal well-being and addressing sustainable development challenges. Since the empirical case refers only to qualitative data collection, future quantitative studies can be conducted to confirm and extend the results presented. The current research provides primary evidence on the essential items for transformative change. To refine the proposed framework, larger analyses and further investigation of other AD hotels can be conducted to gather more information from different sources. In addition, the study is contextualized in Italy,

and it might be interesting to develop the research in other countries to evaluate the application of the proposed framework in different contexts. Then, the study could be scaled up to other transformative businesses.

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Elucidation of an Effective Customer Journey Design and Customer Experience Quality in Omni-Channel Service: The Intervening and Contingency Roles of Service Journey Quality and Touchpoint Frequencies

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ABSTRACT

Under the parasol of the theory of the conscious mind, this research develops and investigates a novel theoretical model reflecting how an effective CJD in omni-channel services influences three aspects of omni-channel service journey quality (i.e., journey seamlessness, journey coherence, and journey personalization), which, in turn, has a spill-over effect on customer experience quality. Using data obtained from 474 omni-channel shoppers, the findings indicate that an effective CJD is significantly related to three aspects of the omni-channel service journey quality, which in turn enhances customer experience quality. The mediating mechanisms of the omni-channel service journey quality on the linkages from an effective CJD to customer experience quality are also demonstrated. In addition, the positive impact of an effective CJD on the quality of the omni-channel service journey is intensified among consumers with a high-level touchpoint frequency. The validated results provide omni-channel service scholars and executives with theoretical insights and practical guidance pertaining to customer journey design and its effectiveness in facilitating the quality of omni-channel service journey and consumers' pre-, during-, and post-purchase experience at all touchpoints.

INTRODUCTION

As a result of digital technology development, the interactions between customers and firms have been broadened with the blurring of boundaries between the offline and the online world (Brodie et al., 2019; Pantano & Gandini, 2018; Swaminathan et al., 2020; Timoumi et al., 2022). Such phenomenon has led to an emerging concept, called omnichannel retailing which expresses the integration and cooperation of the various channels organizations used to interact with consumers for a consistent brand experience, and ultimately gain customer lifetime value (Verhoef et al., 2015). Compared with traditional multichannel shopping, this omnichannel form results in more complicated customer journeys and higher customer expectations for a superior customer experience (Herhausen et al., 2019; Rahman et al., 2022). Besides, the channel preference of customers is fragmented, and several channels can be utilized throughout their customer journey (Timoumi et al., 2022; Tueanrat et al., 2021). Therefore, the concept of omnichannel customer journeys has been gaining prominence as a means for companies to understand and manage their customers, so as to gain value from them (Barwitz & Maas, 2018; Cui et al., 2022).

In this line, effective customer journey design (CJD)—as the extent to which customers perceive multiple brand-owned touchpoints such as thematic cohesion, consistency, and context sensitivity of touchpoints—has become a key driver of customer value in increasingly complex digital-service ecosystems. However, the effectiveness of CJD from a consumer perspective has been neither explored in the context of omni-channel services nor empirically tested how the effects of the effective journal design on customer experience quality. This study is one of the first to explore the effects of effective CJD and omni-channel service journey quality on customer experience quality; therefore, it contributes to omni-channel service material. This extends the study of consumer experience across the customer journey by developing and validating a novel moderated mediation theoretical framework underpinning the parasol of the theory of the conscious mind.

HYPOTHESES DEVELOPMENT

The complete hypotheses statements are proposed as below:
H1: Effective customer journey design has a positive effect on a) journey seamlessness, b) journey coherence, and c) journey personalization.
H2: a) journey seamlessness, b) journey coherence, and c) journey personalization have positive effects on customer experience quality.
H3: The effect of effective customer journey design on customer experience quality is mediated by a) journey seamlessness, b) journey coherence, and c) journey personalization.
H4: Consumer touchpoint frequency will positively moderate the effect of effective customer journey design on customer experience quality through the mediating roles of a) journey seamlessness, b) journey coherence, and c) journey personalization.

METHODOLOGY

Research context and data

The sample selected are consumers, who are used to shopping through at least two different channels of one of the omnichannel retailers (e.g., through physical stores, websites, social networks, mobile applications, or e-commerce platforms) within a period of six months from the date of purchase to the date of sample collection. An offline survey approach was used to obtain the data through a convenient sampling method. A convenience sample (also known as grab sampling or availability sampling) is a type of non-probability sampling method where the sample is taken from a group of people easy to contact or reach. This technique was chosen as a result of the availability and convenience of researchers' relationships with which they can easily reach respondents to the questionnaire (Talwar et al., 2021). The survey was conducted at different times of the day throughout the week to increase the representativeness of the sample. A survey of 474 customers was conducted for testing the proposed theoretical models. The participants were requested to recall the situation to fill in the questionnaires.

The field study was conducted in the Vietnamese, where the retail sector is the fastest-growing in Southeast Asia and is poised for rapid modernization (McKinsey, 2019). Within Vietnam, Ho Chi Minh city—an important economic, cultural, educational, scientific, and technological center—has retail business activities striking and leading (Le & Nguyen-Le, 2021). Moreover, the flagship Vietnamese omnichannel retailers such as CoopMart, BigC, Lotte Mart, VinMart, Aeon, Maximart, MegaMarket, Satra Foods, or Bach Hoa Xanh do business in HCM City. As a result, the current project employed HCM City for data collection. In the offline survey, five well-trained interviewers were recruited and assigned to the main metropolitan districts to collect data. To increase the response rate, we offer respondents incentive gifts such as keychains or notepads. To minimize bias in answering the survey, the respondents are clearly informed that the study is for academic purposes only.

Measurement instrument

The operationalization of the studied constructs basically adapts from well-established scales in the prior studies. A slight modification and adjustment are required to fit the research setting. Effective customer journey design was measured by the second-order construct with the three-dimensional scale derived from the study of Kuehnl et al. (2019) with twelve items reflecting perspective thematic cohesion of touchpoints (four items), consistency of touchpoints (four items), and context sensitivity of touchpoints (four items). We measured journey quality with the three-dimensional scale adapted from (Jaakkola & Terho, 2021), reflecting journey seamlessness—the degree to which touchpoints are integrated allowing a customer's smooth transition between various service process touchpoints—(six items), journey coherence—the degree to which service process touchpoints provide consistent experience cues—(six items), and journey personalization—the degree to which the combination of service process touchpoints is tailored to fit the customer's preferences and situational context—(four items). This study considers customer experience quality as a multi-dimensional construct, the scale was adapted from Kuppelwieser and Klaus (2021) and consisted of 25 items. There are three levels of customer experience quality which cover brand experience, service provider experience, and postpurchase experience. Regarding the moderator, touchpoint frequency is measured by single-item borrowed from Baxendale et al. (2015). We included several demographic variables such as age, gender, internet usage experience, and prior experience, which was measured by the single-item scale, as control variables.

Bias countermeasures

Primarily in following Le et al. (2021) and Lucianetti et al. (2019), we deployed two separate non-response assessment procedures. The first procedure was based on-time responses following Armstrong and Overton (1977); we pairwise compared the first and the last quarter of the sample (referring to early and late respondent groups, respectively) and export intensity. In addition, we tried to rule out the difference between early and late groups based on all the measurement items of the focal study constructs, a more rigorous homogeneity test than difference assessment based on constructs (Onofrei et al., 2019).

Common method variance (CMV) is a systematic measurement error that can bias relationships between predictors and outcomes (Johnson et al., 2011; Podsakoff et al., 2003). We minimized CMV through procedural remedies as discussed in Podsakoff et al. (2003). We also employed statistical remedies to detect CMV.

RESULTS

Scale accuracy analysis

The research model has three uni-dimensional constructs (all reflective measures) and two multi-dimensional constructs with the reflective-reflective hierarchical component model. As suggested by Sarstedt et al. (2019), the disjoint two-stage approach of the sequential latent variable score method was used for analysis. We evaluated the reliability and validity of the first-order constructs and uni-dimensional constructs by using a Cronbach's α coefficient of 0.70, a composite reliability (CR) value of 0.70, and average variance extracted (AVE) index of 0.50 (Hair et al., 2020). All values were above their respective thresholds, providing evidence for acceptable validity and reliability of all scales. Additionally, the indictor loadings of all scale items on their corresponding constructs exceeded the threshold value of 0.50 (Hair et al., 2020). Discriminant validity was assessed by three criteria, including the Fornell-Larcker' criterion, Heterotrait-Monotrait (HTMT) ratios, and the factor structure (Hair et al. [7]). A series of statistical tests confirmed discriminant validity for construct measures. Overall, both convergent and discriminant validity for the first-order constructs and uni-dimensional constructs were evident. We also investigated the Cronbach's α value, CR value, AVE index, and reflective indicator loadings to examine convergent and discriminant validity in the higher-order constructs. The results offer clear support for the validity of the reflective-reflective higher-order construct.

Structural model testing

The R^2 and Q^2 values were used to assess the explanatory power and the predictive relevance of two endogenous variables, while the SRMR value was used to measure the goodness of fit of the proposed structural model. These results implied a satisfactory and substantive model of the current research. Then a bootstrapping procedure (5,000 samples; 474 cases) proceeded to evaluate the hypothesized effects using a *t*-test, while Cohen's Indicator (f^2) was used to measure the effect sizes of the studied relationships. The hypotheses test revealed that all hypotheses were statistically significant and in the positive direction.

CONCLUSION

The results provide evidence for the positive influence of an effective CJD on three aspects of the omni-channel service journey quality, which in turn enhances customer experience quality. Importantly, an effective CJD is found to have the most substantial impact on journey seamlessness, which most strongly affects customer experience quality. The mediating mechanisms of the omni-channel service journey quality on the linkages from an effective CJD to customer experience quality are also demonstrated. In addition, the positive impact of an effective CJD on the quality of the omni-channel service journey is intensified among consumers with a high-level touchpoint frequency. Thus, a set of practices pertaining to designing an effective CJD in omni-channel services is provided.

This research, being distinctive from the others, develops and validates a novel moderated mediation theoretical framework linking the effectiveness of CJD, three aspects of omni-channel service journey quality (i.e., journey seamlessness, journey coherence, and journey personalization), and downstream customer experience quality. The validated results provide omni-channel service scholars and executives with theoretical insights and practical guidance pertaining to customer journey design and its effectiveness in facilitating the quality of omni-channel service journey and consumers' pre-, during-, and post-purchase experience at all touchpoints.

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Sustainable communities: the role of collaboration in tackling the energy crisis in the european union

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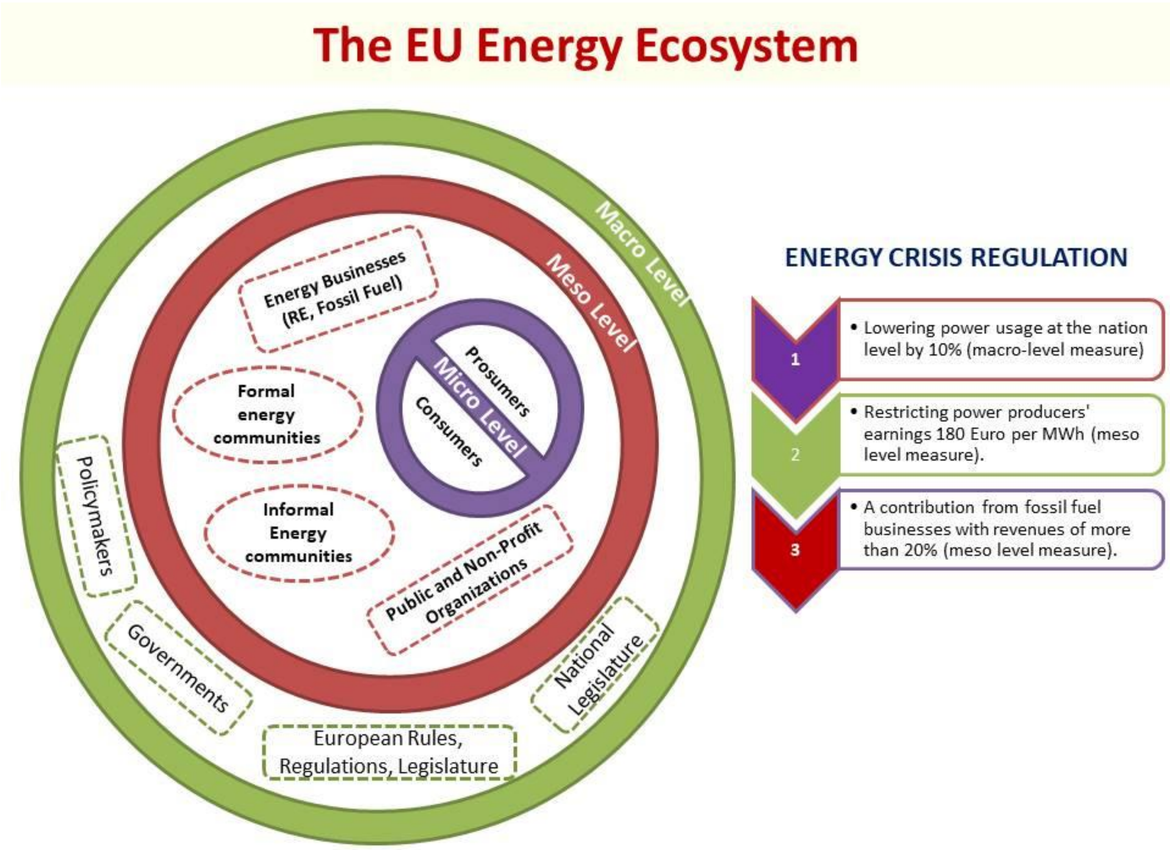
PURPOSE **-** It is critical for the future of life on Earth to enable and support sustainable communities (SCs). Addressing the escalating climate change crisis begins with community sustainability. In 2015, all UN Member States adopted the 2030 Agenda for Sustainable Development to end poverty, protect the planet, and ensure prosperity for all. The Agenda affirms an integrated vision of different development dimensions, prioritizes the global society objectives, and highlights the importance of developing SCs. SC are self-contained, self-adjusting systems in which each stakeholder is linked by shared institutional arrangements and mutual value creation through service exchanges that contribute to individual and social well-being (Lusch and Vargo, 2014). The main characteristics of SCs are: i) the promotion of the local economy, ii) the development of a healthy environment, iii) the well-design of neighborhoods, and iv) the construction of good transportation infrastructure and buildings (Power, 2004). In SCs, engaging all stakeholders is pivotal in the definition of choices (Shaukat et al., 2021). Important stakeholders include residents, local authorities, private and public companies and organizations, and the society managing housing estates (Barton, 2000; Priemus, 2005; Power, 2004). As a result, residents, local communities, organizations, businesses, authorities, and (inter-)national governments should be directly engaged in developing sustainable decisions. To gain a better understanding of SCs in the European Union, our research explores how communities in Germany, Greece, Italy, and Sweden respond to the impending energy crisis in 2022, focusing on the role and development of energy communities.

METHOD - This project is based on the serving humanity logic advocated by ServCollab (Fisk, 2022) and supports its mission "to serve humanity through research collaborations that catalyze reducing suffering, improving well-being, and enabling well-becoming." (www.servcollab.org). We integrate research on collaborative advantage theory, ecosystem services, energy crises, institutional theory, service ecosystems, Transformative Service Research, and sustainability with multiple case studies of EU. The data was collected and analyzed through both quantitative and qualitative methods.

THE PROPOSED FRAMEWORK - Under the Green Deal, EU nations must develop a 10-year integrated national energy and climate plan (NECP) for 2021 to 2030. The Energy Ecosystem of the European Union (EU) involves public and political actors, the third sector and civil society, in collaboration with economic actors. It consists of three levels: macro (EU

nations, their governments, EU and national policymakers), meso (organizations and communities), and micro (consumers and prosumers) (Figure 1). The recent regulation decreasing energy consumption by 10% in each EU country is a measure agreed upon among EU members (macro level), which affects the actors at the meso (e.g., businesses) and micro level (individual consumers) because it limits their energy consumption. Due to increased energy prices, the EU energy regulation restricted energy producers' prices by a quota of 180 Euro per MWh while imposing a solidarity contribution to fossil fuel businesses. Households (micro level) and businesses (meso level) will profit from this approach since surplus funds will be distributed to people and businesses affected by the energy crisis. Energy communities, formal and informal, benefit the energy ecosystem by enabling consumers to participate in the energy industry, enabling the adoption of new solutions on a bigger scale, reducing energy costs, and increasing economic activity and local job opportunities. They may help solve present and future energy crises by lowering EU and country reliance on imported fossil fuels.

Figure 1 The EU Energy Ecosystem and Crisis Regulation



FINDINGS – The study investigates the role of communities in achieving sustainability, develops research propositions, and reviews what was learned from efforts to enable and support SCs in the European Union during the 2022-2023 energy crisis. Energy communities (EC) are an example of developed SC for energy services, where interactions and resource integration between national, local, and citizen actors ensure clean energy transitions. EU Directives establish modes for Member States, regulatory bodies, and system operators to collaborate in developing energy communities to achieve environmental and social sustainability through the production and use of renewable energy sources at the most local power grid level 7 (VKU, 2015; Directive (EU) 2018/2001; 2019/944, 2019, 2022). Thus, in the energy ecosystem, ECs are interdependent with the EU and Member States while impacting and being impacted by the actions of consumers/citizens to secure environmental and societal sustainability.

IMPLICATIONS - Our project focuses on SC and the role of communities in achieving sustainability based on the EU cases in response to the energy crisis.

ORIGINALITY- This is the first study that examines the role of SC, such as EC, in facing a crisis at all levels of a service ecosystem. It contributes to the ongoing discussions on sustainability and service research and the emerging perspective of the SC framework.

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Do Perceived Switching Costs Influence Customer Dysfunconal Behavior?

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ABSTRACT

Switching costs are regularly used by service firms to retain customers. The literature advises managers to be careful when using these constraint-based retention strategies as customers may feel locked into the relationship with the firm and engage in dysfunctional behaviors and negative word of mouth (WOM). To better understand the underlying mechanisms, this research uses survey data from 241 banking customers to test the mediating role of customers' self-determination perceptions between perceived switching costs and dysfunctional customer behavior and negative WOM. The study finds that different switching costs impact not only customer repurchase intentions, but they also lower the customers' level of self-determination, which in turn increases the likelihood of dysfunctional behavior and negative WOM.

KEYWORDS

Perceived switching costs; customer retention; dysfunctional customer behavior; self-determination theory

INTRODUCTION

Investments in customer experience has been an imperative in determining the success of a bank's offering. The intense competition in banking services has compelled banks to offer products and services that enhance the customer experience. However, many banks also try to lock customers into the relationship with the firm through the establishment of switching costs. Perceived switching costs are "the onetime costs that customers associate with the process of switching from one provider to another" (Burnham et al., 2003, *p.*110). They are regularly used by service firms to increase customer retention. At the same time, perceived switching costs are discussed to increase the likelihood of dysfunctional customer behavior. Jones et al. (2007, *p*. 336) remind service firms to be careful when establishing switching costs since "customers who find themselves locked into relationships that they would prefer to not be in may become resigned, belligerent, or even hostile, and may engage in behaviors that have serious negative long-term consequences for the firm, such as negative WOM or sabotage". Thus, the present study develops and tests a research model integrating research on perceived switching costs with insights from self-determination theory and dysfunctional customer behavior literature to better understand the process of how switching costs lead to such outcomes. Specifically, our research model considers the mediating role of customers' self-determination perceptions between perceived switching costs and dysfunctional customer behavior.

Self-determination theory (SDT) focuses on human beings' "nature". SDT means that behavioral initiation and regulation are determined by one's own choice (Deci, Connell, and Ryan 1989). The underlying assumption of this theory is that "human beings are active, growth-oriented organisms who are naturally inclined toward integration of their psychic elements into a unified sense of self and integration of themselves into larger social structures" (Deci and Ryan 2000, *p.* 229). SDT differentiates between five types of extrinsic motivations, including non-self-determined and self-determined regulations (Ryan and Connell, 1989; Deci and Ryan, 1985). The two non-self-determined regulations consist of *external* regulation (e.g., behaviors are performed to satisfy an external demand and to obtain an externally imposed reward, or due to external constraints) and *introjected* regulation (e.g., individual's replacement of the external source of control by an internal one, making individuals to impose pressure on themselves to ensure that the behavior will be emitted). The two self-determined regulations include *identified* (e.g., when individuals identify with a specific behavior, it is highly valued and judged as important for the individual) and *integrated* behavioral regulation (e.g., engagement in the behavior willingly because the self-regulation is consistent with the individual's self-concept). The last type of motivation is called *amotivation* (e.g., the state of lacking an intention to act) which is classified as neither self-determined nor non-self-determined regulation. When people perceive a lack of contingency between their behavior and the associated outcomes, they are amotivated.

Six types of perceived switching costs are proposed to differentially affect the different motivational regulations. Perceived switching costs are usually classified into three groups:

Procedural, relational, and financial switching costs (Burnham et al., 2003). *Procedural* switching costs (e.g., economic risk and information costs) and *relational* switching costs (e.g., brand relationship and personal relationship loss costs) are rooted in two opposite sources of constraints. The former utilizes the time, complicated informational procedures, and hassle as a basis to explain the negative source of constraint generated. The latter creates a positive source of constraint providing customers with additional benefits of personal relationships or brand bonds through external rewards. Independent of the underlying source of constraint, switching behavior is in both cases regulated through external regulations which are either the loss of rewards, effort, or time associated with switching providers (Blut et al., 2014, 2015). *Financial* switching costs, which include benefit loss costs and monetary loss costs, may also influence external regulations.

METHODOLOGY

In total, 241 usable questionnaires were collected in our survey among banking customers. The average age in the sample was 32.9 years. Regarding other socio-demographics, 49.8 percent of the study participants were female with an annual income of 46,366 US-Dollars. Measurements of latent constructs were adapted from the literature. Our measurement model suggests a good fit to the data: Comparative Fit Index=.91; Tucker Lewis Index=.90; Root Mean Square Error of Approximation=.05; Standardized Root Mean Square Residual=.08 (Hair et al. 2006). We have also tested the extent of common method bias and did not find it to be problematic.

FINDINGS

Results of our study suggest that amotivation increases dysfunctional behavior and negative word of mouth behavior. Introjected regulations also positively impact dysfunctional behavior, but not WOM. In comparison, identified regulation is found to lower the likelihood of dysfunctional behavior. Surprisingly, integrated regulations increase the likelihood of dysfunctional behavior which is contrary to our predictions. Several of the examined switching costs increase the likelihood of dysfunctional customer behavior and negative WOM through these mediators. While most of the examined switching costs were found to display some negative effects, the strongest effects were observed for information switching costs, monetary loss costs, and personal relationship loss costs.

RESEARCH LIMITATIONS/IMPLICATIONS

The impact of COVID-19 has profound and long-term structural and transformational changes for the banking industry. The data of our study was collected prior to the pandemic. Moreover, future studies are encouraged to investigate generational customer differences which may impact the relationships in our model. For instance, Gen Y customers (e.g., 25-40 years old) had the highest switching rates among all generations during the COVID period. It is unclear whether switching costs display the same effectiveness for these customers.

ORIGINALITY/VALUE

SDT provides the literature new insights into perceived switching costs effects. Customers being unable to switch providers are discussed to engage in dysfunctional behaviors which have serious long-term consequences for the firm, such as malicious WOM or sabotage. The present study, therefore, examines the impact of various types of switching costs on these negative outcomes. SDT provides insights into the underlying mechanisms of these effects.

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Efficiency in the cath lab: Pursuing value-based improvements following a sociotechnical approach

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Abstract

Introduction: Cardiac catheterization laboratories (cath labs) are commonly designed to achieve the best clinical outcomes while being efficient. This study develops methods to support healthcare managers in analyzing the added value of improvement measures, following a value-based healthcare (VBHC) framework.

Methods: Based on a sociotechnical approach, the applied methods aimed to increase efficiency, reduce duplication of tasks, cut costs, and improve patient care, while creating a more inclusive and trusting decision making process. Within the process of building a multicriteria evaluation model, meetings, interviews, and a decision conference were designed. In parallel, a workflow discrete event simulation model was built to replicate current patient flow and activities and to reproduce the impact of implementing improvement measures and variations in human resources.

Results: Four evaluation criteria were considered for workflow improvement: contribution to the efficiency of the admission process, compliance with schedules, agility among procedures, and human resources training. The designed improvement measures sought to 1) improve the start-up of the day, 2) improve pre-exam assessment, and 3) improve staff training. Results prioritize ‘Measure 2’ and demonstrate that improving human resources allocation increases efficiency and offers significant cost savings.

Conclusions: The proposed solution is in line with VBHC principles, as it improves efficiency and care delivery while optimizing costs. Simulation was an effective tool to replicate and explore possible changes. Multicriteria modeling proved to be a useful approach for a transparent prioritization and redesign of improvements in the healthcare sector.

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Supporting climate-friendly consumer decisions: A utility-based decisionsupport approach

Purpose of the study

The global climate crisis has increased the pressure on societies and consumers to reduce theircarbon footprint (IPCC 2021). Therefore, consumers have to be encouraged to behave more climate-friendly and to choose the climate-friendly actions that are most suitable for them.
Available tools suggest climate-friendly actions (e.g., UN carbon footprint calculator), but do not consider the subjectively perceived utility (i.e., benefits and costs) of these actions (e.g., money, time). If consumers due to complexity cannot properly assess utility, they might behave less climate-friendly or choose less effective climate-friendly actions. The investigation of the effectiveness of a decision support approach considering consumers' subjective utilities of climate-friendly actions has not yet received scholarly attention. Therefore, the goal of this research project is to provide evidence for the positive effects of autility-based compared to a non-utility-based decision support approach on relevant motivational and perceptional variables.

Methodology

In experiments, we show (a) the effects of a utility-based decision support approach (vs. non-utility based) on motivational and perceptional variables (e.g., goal commitment, perceived decision improvement), (b) we show the underlying mechanisms of these effects (e.g., knowledge acquisition), and (c) we show when a utility-based approach is more or less important.

Our experiments include the manipulation of the decision support approach (i.e., utility-based vs. non-utility-based). In the utility-based condition, consumers evaluate the importance of attributes relevant when deciding on climate-friendly actions (i.e., convenience, money, health, self-fulfillment, social belonging, social-ecological impact). We obtained the attributes in half-standardized interviews using free elicitation technique. Further, consumers evaluate the attributes in terms of costs and benefits for each climate-friendly action. Overall utilities for each climate-friendly action are determined based on multi-attribute utility theory (Dyer 2016). For aggregating consumers' importance weights of the attributes and their single-attribute evaluations of the climate-friendly actions, we use the weighted linear additive preference function. After the evaluation process, participants chose climate-friendly actions given the information on overall utilities. In the non-utility-based condition, participants chose climate-friendly actions without information on overall utilities. After choosing climate- friendly actions, participants completed the survey. For data analyses, we use regression- based mediation and moderation analysis.

Findings

Preliminary findings show a significant indirect effect of utility-based decision support on goal commitment (b = 0.16, 95% bias-corrected bootstrap CI with 5000 samples: 0.04, 0.31) and on perceived decision improvement (b = 0.23, 95% bias-corrected bootstrap CI with 5000 samples: 0.09, 0.49) via knowledge acquisition.

Research Limitations/Implications

We provide policymakers and companies with an approach for supporting climate-friendly consumer decisions considering subjective utilities. This approach is beneficial as it increases,for example, goal commitment of consumers. Integrating a utility-based decision support approach in CO_2 apps may help reduce the carbon footprints of consumers by increasing the adoption of climate-friendly actions and by helping consumers to stick with them in the long run.

Originality/Value

We are the first to demonstrate the effectiveness of a decision support approach consideringconsumers' subjective utilities of climate-friendly actions based on attributes relevant for climate-friendly decision-making.

Keywords

climate change, decision support, subjective utility, sustainable consumer behaviorPresentation Format
Long formal or short

Well-being in service research: review and foundational premises

Purpose of the study: The construct of well-being has been investigated differently in many fields such as philosophy, sociology, economics and psychology (Burr and Floridi, 2020; Veenhoven, 2018, Diener and Seligman, 2018, Diener et al. 1999). In service research, recent studies identify well-being as a hot topic among academics, practitioners and policymakers (Donthu et al., 2021; Ostrom et al., 2021). Indeed, over the last decade an increasing number of studies are focusing on well-being, addressing different perspectives and aspects (Falter and Hadwich, 2020; Berry et al., 2020; Finsterwalder and Kuppelwieser, 2020; Mele et al., 2021;2022). Despite the growing interest, the research field is in its infancy in serviceresearch with a scattered puzzle on the theoretical constructs and its tenets. This paper aims:
a) to form a comprehensive state-of-art overview of well-being research; b) to offer foundational premises on well-being and c) to map a research agenda.

Methodology: To achieve a longitudinal view of extant literature on well-being we conducted a bibliometric analysis (Donthu et al., 2021; 2022) using R Studio Biblioshiny (Aria and Cuccurullo, 2017) and VosViewer software (Van Eck and Waltman, 2010). A total of 295 publications published between 2003 and 2022 were retrieved from the WoS and Scopus to investigate the genesis and development of themes within the literature. A range of bibliometric techniques (co-occurrence network, thematic evolution, etc.) has been employed to map a state-of-art of literature. We then developed a conceptual framework by following McInnis (2011) and Jaakkola (2020)

Findings: We reveal the conceptual underpinnings of well-being in terms of key topics, and foundational premises. The results provide guidance for researchers as well as recommendations for managers.

Originality/ value: To the best of our knowledge, this is the first study aimed at evaluating the evolutionary nuances of well-being by applying a bibliometric analysis. This paper also sheds light on the emerging research areas.

Keywords: well-being, bibliometric analysis, conceptual structure, intellectual structure

Factors that shape customer satisfaction

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ABSTRACT

Medical tourism as one of the fastest-growing fields of tourism industry has a huge contribution to a destination's economy development. Medical tourism as a popular field that offers a combination of leisure and treatment services could bring a lot of benefit to a host destination (Ruamsak, Rian & Apichati 2011). Despite all the popularity and positive advantages of medical tourism, there are challenges as well for both customers and providers that need to be addressed (Abd Mutalib et al. 2016; Enderwick & Nagar 2011). Problems such as lack of after-treatment care could potentially prevent medical tourism improvement in most known Asian medical destinations such as Thailand and Vietnam.

This research is designed to identify important factors that contribute to prosperity of medical tourism industry mainly in Thailand for performing its best service to its potential and current travellers. Netnography was used as the research methodology, data was collected from Google reviews and trip advisor reviews. Three factors of service quality, price and staff behaviour were identified and discussed. The research was concluded by providing some suitable suggestions regarding improving professional behaviour of medical staff.

INTRODUCTION

According to Rerkrujipimol and Assenov (2011), Thailand has emerged as one of the leading countries in medical tourism by providing a diverse range of medical services to both domestic and international tourists. The country is renowned for offering affordable packages for various medical treatments, including cosmetic and laser surgeries. In 2019, the market size of Thailand's medical tourism industry reached USD 54.4 due to its low-cost services and efficient healthcare system (Research 2020).

The popularity of medical tourism in Thailand can be attributed to the desire for a higher level of medical care that travellers seek when choosing destinations like Thailand. Despite the numerous advantages of Thailand's medical tourism industry, there are some issues that need attention from healthcare organizations, such as the lack of professionalism among medical staff (Cohen 2008). To address these challenges, the current study aims to investigate the obstacles facing Thailand's medical tourism industry and recommend solutions to overcome them.

LITERATURE REVIEW

Medical tourism research

Medical tourism, also known as health tourism, refers to the practice of traveling to another country to receive better medical care, often for the purpose of enhancing one's mental or physical well-being (Carrera & Bridges 2006; Lee & Spisto 2007). This industry has been growing significantly over the past decade, with more and more individuals seeking advanced medical services at a lower cost (Fisher & Sood 2014). As reported by Ugalmugale (2021), the global medical tourism market was estimated to be around 10 million USD in 2020.

Thailand has emerged as one of the top medical tourism destinations, ranking sixth globally in 2016 according to KPMG (2018). The country is renowned for its high-quality medical treatments such as cosmetic surgery, gender reassignment, and dental care. In fact, there are over 400 international hospitals and private clinics, including Bumrungrad, a well-known medical facility in the country (Post 2019).

Fisher and Sood (2014) suggest that several Asian countries, including Thailand, Singapore, and India, are increasingly developing medical tourism strategies on an international level. They argue that medical tourism has the potential to revolutionize the future of healthcare systems. The global market size for medical tourism is expected to reach around 208 billion USD by 2027, as predicted by Wire (2020).

Therefore, further development in Thailand's medical tourism industry not only enhances the country's competitive advantages but also has the potential to attract more customers and improve their long-term experiences. This could be achieved by offering innovative services, improving the quality of healthcare facilities, and addressing any issues related to medical staff's professionalism (Cohen 2008). By doing so, Thailand can maintain its reputation as a leading medical tourism destination and continue to contribute to the growth of the global medical tourism market.

Factors influencing customer satisfaction in medical tourism

Identifying the factors that influence customer choice is necessary for the growth and sustainability of medical tourism in a particular destination, as customer satisfaction directly and indirectly impacts the choice of destination (Bédiová & Ryglová 2015). Hospital and health service providers are essential components of medical tourism that affect customer satisfaction, unlike the traditional approach that relied solely on the doctor-customer relationship. Therefore, it is crucial to closely observe and identify customer behaviour and key factors that impact customer satisfaction (Veerasoontorn, Beise-Zee & Sivayathorn 2011).

According to Crouch and Louviere (2001), the medical tourism process involves emotional and mental factors in the decision-making process. Emotional aspects such as satisfaction play a crucial role in the process. Satisfaction is defined as the emotional reaction associated with the quality of the service or product received (Hansemark & Albinsson 2004). Previous studies have indicated that the quality of care, medical staff behaviour, and treatment costs are among the factors that influence medical customer satisfaction (Hwang, Lee & Kang 2018; Rodrigues 2017). Of these factors, reasonable medical-related costs and good service quality are the main drivers of medical tourism in Thailand (Wongkit & McKercher 2016).

It is crucial to analyse and explain the connection between these three components and customer satisfaction in the medical tourism field. Quality of care and good service quality have a significant impact on customer satisfaction, leading to positive word-of-mouth and a high likelihood of return visits (Hwang, Lee & Kang 2018). Reasonable medical costs also play a crucial role in customer satisfaction, as customers seek lower-cost medical treatments without compromising quality (Rodrigues 2017). Therefore, understanding the factors that drive customer satisfaction is essential for the growth and sustainability of the medical tourism industry in Thailand.

Service quality

Service quality refers to the difference between the expected and actual delivered service (Farooq et al. 2018). It can be defined as the procedure that enables service providers to meet customers' needs consistently during service delivery (Afthanorhan et al. 2018). To enhance a tourist destination's competitiveness, it is crucial to improve the necessary services and facilities. For example, providing more hospitable hospitals that offer extensive care plays a crucial role in destination competitiveness growth. It is essential to individually analyse the definition of quality and customer satisfaction as they vary from one individual to another. Different perceptions that customers might have towards various products or services available in the market can affect their decision-making process. Customers may have different expectations levels based on factors such as income level, job security, and past experiences (Farooq et al. 2018; Han & Hyun 2015; Han et al. 2017; Zeithaml 1988).

In terms of medical tourism, service quality is a crucial factor that affects customer satisfaction. As per Farooq et al. (2018), customers' perception of service quality can influence their overall satisfaction with the medical tourism experience. In addition, Han et al. (2017) identified that the quality of medical staff and facilities, as well as the cleanliness and hygiene of medical facilities, are the main components of service quality in medical tourism. Similarly, Han & Hyun (2015) found that service quality dimensions, including empathy, reliability, responsiveness, assurance, and tangibles, affect customer satisfaction in medical tourism. Therefore, it is essential for medical tourism providers to understand the various factors that influence service quality and customer satisfaction to enhance their competitiveness and attract more customers.

SERVQUAL model in medical tourism

To evaluate service quality, it is necessary to measure several aspects such as security, communication, and reliability accurately. SERVQUAL is considered the most comprehensive tool for assessing service quality in order to meet customer expectations (Ko & Chou 2020; Mohamed 2006). Various researchers have suggested using SERVQUAL as an instrument to examine customer dissatisfaction factors and related issues (Afthanorhan et al. 2018; Parasuraman, Zeithaml & Berry 1988; Zhao & Di Benedetto 2013). The gap between a customer's expectation and perception, along with their overall judgment of the services they receive, is described in five essential dimensions of SERVQUAL, as shown in Table 1 (Parasuraman, Zeithaml & Berry 1988). This model has been used in many sectors, including health and medical systems, to assess the quality of service in the service delivery process (Suki, Lian & Suki 2011). Healthcare providers, in particular, are required to have a clearer understanding of their patients' needs to increase the quality of service and minimize associated risks. According to previous research, a positive customer experience can lead to more accurate SERVQUAL measurements and contribute significantly to customers' decision-making when choosing their preferred healthcare organization and medical destination (Guiry & Vequist 2011; Shabbir et al. 2016). Therefore, providing high-quality service can rapidly increase customer satisfaction.

TABLE 1- SERVQUL DIMENSIONS (PARASURAMAN, ZEITHAML & BERRY 1988)

1-	Tangible	The appearance of a facility or services equipment
2-	Reliability	The ability of the company to perform the service
3-	Responsiveness	The passion to assist customers in a prompt manner
4-	Assurance	The knowledge and confidence in staff and ability to problem-solving
5-	Empathy	Caring and paying attention to customers

Staff behaviour

Over the past few decades, many Asian countries, such as India, Thailand, and Singapore, have emerged as popular medical tourism destinations, highlighting the need for a closer examination of the positive and negative aspects of this industry. Customer satisfaction is a critical factor in the success and sustainability of medical tourism, and staff professionalism and communication efficiency play a crucial role in achieving this satisfaction among patients (Rad, Som & Zainuddin 2010). Effective communication in the medical tourism industry involves consultation before and after travel, as well as face-to-face communication during the treatment process. Research suggests that providing patients with required information before treatment and reducing the language barrier can help increase communication efficiency and patient satisfaction (Sadeh & Garkaz 2019; Ho, Feng & Yen 2015).

To increase the competitiveness of popular medical tourism destinations like Thailand, they could adopt factors like selecting well-educated doctors and nurses, which have been implemented in developed destinations like Canada and Australia (McCallum & Jacoby 2007). In addition to providing quality medical care, the behaviour of the medical care team, including respectful, kind, and courteous behaviour, also plays a crucial role in increasing customer satisfaction (Veerasoontorn, Beise-Zee & Sivayathorn 2011). While service quality and price reasonableness are important, Nilashi et al. (2019) argue that a positive relationship between hospital staff and patients is an essential tool for enhancing customer satisfaction.

In conclusion, staff behaviour is a significant factor that influences customer satisfaction in medical tourism, and care providers should pay close attention to ongoing training and development in this area. By adopting best practices from successful medical tourism destinations and emphasizing effective communication and positive relationships between staff and patients, medical tourism destinations can increase their competitiveness and attract more customers.

Price

According to Farooq et al. (2018), service quality is defined as the difference between the expected and actual service delivery that helps providers meet their customers' needs. Therefore, to develop its competitiveness aspects, a tourist destination must improve its services and facilities, including providing more facilitative hospitals that offer extensive care.

Effective communication with customers is crucial in the tourism industry, especially in medical tourism, as it helps patients understand their treatment options and health conditions, giving them more peace of mind. Sadeh and Garkaz (2019) state that creating effective communication with customers is necessary to provide them with the required information before treatment. The study also suggests that reducing the language barrier and maintaining a positive attitude among the staff can increase communication efficiency, leading to positive customer decision-making. In this regard, McCallum and Jacoby (2007) argue that medical tourism destinations, such as Canada and Australia, select well-educated doctors and nurses to work in their hospitals to create a more positive patient experience.

According to Rad, Som, and Zainuddin (2010), staff professionalism and communication efficiency are crucial factors in developing customer satisfaction among medical tourism patients. Additionally, Veerasoontorn, Beise-Zee, and Sivayathorn (2011) argue that the medical care team's respectful, kind, and courteous behaviour plays a significant role in increasing customers' satisfaction. Nilashi et al. (2019) also claim that while service quality and price reasonableness are important factors in increasing customer satisfaction, a positive relationship between hospital staff and patients is also a powerful tool for enhancing customer satisfaction.

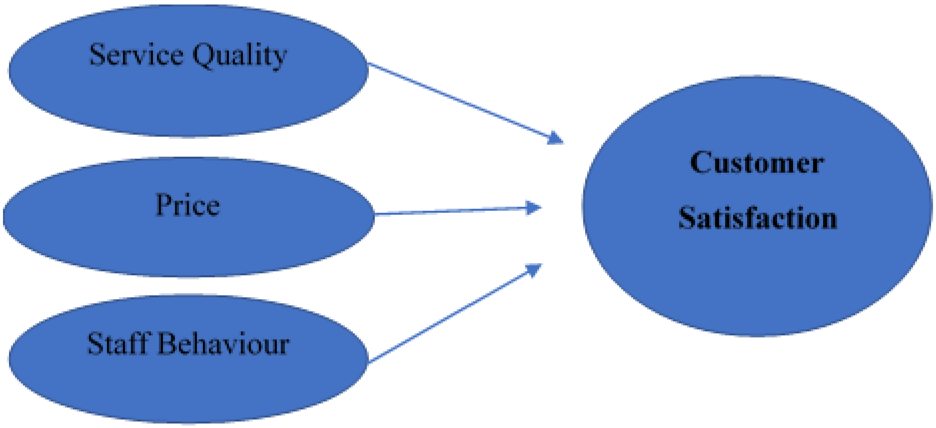
Regarding cost, Han and Hyun (2015) state that the cost of medical treatment is a critical factor that affects the customer's decision-making process. Comparing the cost of services in different destinations and companies helps customers make confident decisions. Moreover, Han (2019) argues that the cost factor is the main cue to evaluate the provider's performance. Haupt (2016) explains that customers from countries such as the United States, where medical treatments are not covered by insurance, are more willing to travel abroad to receive treatments with reasonable costs. Thus, Thailand, which offers various types of cost-effective treatments, is one of the popular medical tourism destinations.

Although studies have found that the price of a service or product is an important factor that affects a traveller’s decision-making process (Han & Kim, 2009; Watchravesringkan, Yan, & Yurchisin, 2008), Afthanorhan et al. (2018) argue that better service quality is more likely to increase customer satisfaction compared to the impact of a cost-effective product. However, Watchravesringkan et al. (2008) maintain that the price changing pattern is a crucial factor that affects customer's purchasing trends.

In summary, care providers must pay ongoing attention to factors such as staff behaviour and cost-effectiveness to attract and retain medical tourism patients. Therefore, it is necessary to balance the quality of services and the cost factor to provide a positive patient experience.

CONCEPPUAL FRAMEWORK

Figure 1:



In order to identify the factors that affect customer satisfaction in the context of medical tourism, a conceptual framework was proposed as shown in Figure 1. The model was created to simplify the concepts and make them more measurable (Kaur 2013). The model consists of independent variables including service quality, price, and staff behaviour, which ultimately impact the dependent variables, customer experience and satisfaction. The dependent variables were identified based on customer reviews from online resources such as Trip Advisor.

METHODOLOGY

This study has chosen to use a Netnography methodology to analyse the secondary data collected from Trip Advisor and Google Maps reviews. Netnography is a qualitative research methodology that allows researchers to study online communities and their interactions (Kozinets 2015). This method is particularly useful in the context of this study as it allows the researcher to analyse the opinions and experiences of medical tourists who have left reviews on these platforms. The netnography methodology involves collecting data from online sources such as social media platforms, blogs, and forums, and analysing this data to identify patterns and themes in the data (Kozinets 2015).

The use of secondary data from Trip Advisor and Google Maps reviews is a common approach in tourism research (Cai & Li 2013). Trip Advisor is a popular platform for travellers to share their experiences and opinions about their trips, and Google Maps is widely used for navigation by tourists (Sardone 2019). By using these platforms as the data source, the researcher is able to gain insight into the experiences of medical tourists who have visited various destinations for medical treatment.

For this study, the data sample has been extracted from the customer feedback of three hospitals in Thailand, namely Yanhee, Bumrungrad, and Samitivej. To obtain a representative sample, the reviews were filtered using the "most relevant" option on both Google Maps and Trip Advisor. This filtering process involved reading 73 reviews from the top of the list and selecting 50 reviews that mentioned at least one of the three key factors illustrated in Figure 1. These 50 reviews were then used as the input for the qualitative analysis conducted in this study.

FINDINGS AND DISCUSSION

Travellers' remarks are crucial in shaping our understanding of their actual expectations and the factors that contribute to their satisfaction. To analyse online reviews, we employed content and thematic methods, generating tables and charts based on the keywords and key variables identified in the reviews, some of which date back 23 years. Staff behaviour and service quality were among the most frequently mentioned positive factors contributing to customer satisfaction, while price had the lowest positive and negative impact on satisfaction. Staff behaviour was mentioned 28 times, and service quality was mentioned 25 times (Table 3). This may imply that most visitors are willing to pay higher prices for better treatment. In fact, those who chose lower-budget treatments generally preferred to pay slightly more to ensure they received a high standard of service.

Table 3: Positive& negative reviews content analysis based of three key variables

	POSITIVE REVIEWS	**NEGATIVE REVIEWS**
SERVICE QUALITY	World standard, The World-class hospital, A five-star facility, Institute of performing art and mind power, Very good system, Medical treatment is top notch, Exceptional service, The good service, First class hospital, The room and facilities are 5-star, Good Service, Rooms are very nice, Great service, The facilities are being upgraded, Nice services, Good service, Prompt and efficient service	A long checkout time, Waiting quite long, Extremely long waiting time, Extremely long waiting time

PRICE	Reasonable price, Worth every penny	Prices are higher, Overpriced, Expensive, Over-inflated prices, Overcharge, More expensive, Over charging, Very expressive, Pricey cost
STAFF BEHAVIOUR	Doctors and nurses all speak English, Staff are amazing, Wonderful doctors, Staffs are cooperative, Skill and love of the doctors and the nursing friendly staff, Great doctors, Doctors are professional, Polite staff, Good doctor and staff, Well-trained staff, Doctors and nurses are most attentive, Staff and doctors very professional, Good doctor, Skilled staff, Staff are very helpful and friendly, Caring and friendly, English, Excellent staff, Doctors are so nice, Good doctors and nurses, Kind staff and nurses,	Staff service not really good, Nursing staff was unbelievable, Dr. Pornrachanee is very irresponsible, Their English is horrible, Most staff and nurses don't know how to speak, People I spoke to were so rude, Staff was unbelievable, Unprofessional, Disappointing staff

Figure 3- Bar chart of the statistics analysed from the review dataset. With the help of qualitative analysis, each review scores one in one or multiple of the aspects, positive or negative.

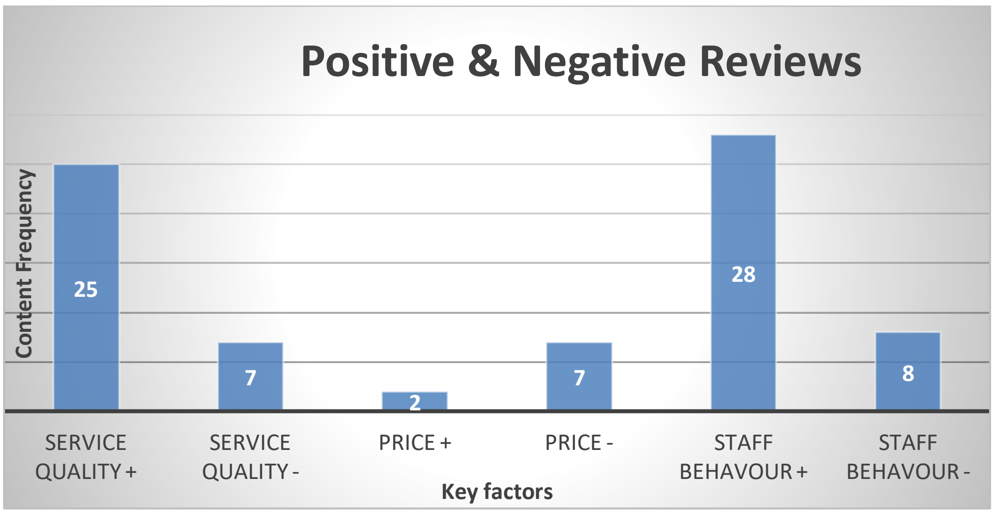


Figure 4: word cloud analysis executed on the compilation the reviews. The bolder and of larger the font the word is, the higher the frequency of its mention in the text of the reviews.

Word cloud is a useful visual tool for summarizing a text document (Barth, Kobourov & Pupyrev 2014). In this research, most repeated words in customers' comments (with most frequency representations) in the selected reviews are shown in Figure 4. As we can see in the word cloud, words such as doctors, staff, and nurses appeared in the boldest fonts demonstrating that these are the most frequently quoted matters by the customer reviews. These results are comparable to the data analysis from the chart (Figure 3) and emphasizes on the importance three key variables which was discussed in the literature section.

Table 2: Servqual dimensions explored through the data sets of online reviews

SERVQUL Dimensions	Positive Reviews	Negative Reviews
Tangible	The first Thai hospital accredited by the JCIA, best and world standard, The World-class hospital, this is a five star facility, The Hospital has a very good system, Hospital itself, it is big and an ultra-clean facility, First class hospital in this area, Short waiting, good treatment and clean environment, That place normally provides prompt and efficient service, The private rooms are very nice, Hospital was clean and really well maintained, Bumrungrad International Hospital is an excellent hospital	This hospital keeps me waiting quite long, over charging for a poor service, They are cheating the people with overcharge
Reliable	"Cheap", but "quality", One of the hospitals I trust, the service is very good here	Some negatives like a long checkout time, The medical treatment is a top notch
Assurance	Great service, Thank You all for a safe and caring stay with You, “Holistic check-ups” very thorough and worth every penny	
Responsiveness	Doctors and nurses all speak English, the doctors are professional, Staff are very friendly and most can speak some English,	Dr Pornrachanee are very irresponsible, it’s a good hospital but expensive, Staffs are cooperative, their English is horrible
Empathy	Helpful staff, the staff are amazing, Dr Pitch is a very considerate man, and has a lovely bedside manner, The surgeon I consulted was very knowledgeable, caring and friendly, The skill and love of the doctors and the nursing staff was unbelievable	The dentist isn’t that great especially for the skill, staffs are cooperative, friendly staff, People I spoke to were so rude and unprofessional, most staff and nurse don’t know how to speak English

Despite having numerous competitive advantages, Thailand still faces challenges in increasing its popularity among potential travelers. According to Wongkit and McKercher's (2016) peer-reviewed research on medical tourism, as well as an analysis of online sources, customer satisfaction plays a crucial role in attracting more customers. This study aimed to investigate the importance of SERVQUAL dimensions and their connection with quality of service, price-related factors, and medical staff attitudes in relation to customer satisfaction. Thematic data analysis techniques were used to expand the relationship between these variables and the SERVQUAL model (Table 2). The results showed that tangibility, assurance, and responsiveness aspects of service delivery have a greater impact on customer satisfaction levels. Overall, providing high-quality service or facilities and maintaining a professional approach leads to higher satisfaction levels.

To attract more customers, Thailand needs to improve its medical care and service quality, as reflected in online reviews on popular platforms (Rodrigues et al., 2017). The growth of medical tourism in Thailand depends on the number of customers who choose to receive medical treatment in the country. This study provides valuable insights into customers' perspectives and the crucial factors considered when selecting a medical tourism destination.

In summary, this study aimed to explain how customers perceive friendly behaviour and high-quality service as the main reasons for recommending or revisiting a medical centre. The research findings contribute to a better understanding of the importance of customer perceptions in developing Thailand's medical tourism industry.

RECOMMENDATION

This research findings suggest that there are several ways to potentially enhance customer satisfaction in Thailand's medical tourism. One suggestion is to improve staff communication skills, including language proficiency. Additionally, providing upgraded equipment and professional care from nurses and doctors could create a more positive experience for customers. Responding to customers' reviews on public online platforms and demonstrating concern for their satisfaction could also be an effective way for medical policy makers to increase awareness of customer expectations. Ultimately, improving the knowledge and skills of care providers will lead to more positive experiences for customers and greater satisfaction.

Given the weight of service quality and staff behaviour compared to price, it is recommended that further research be conducted to support the connection between these variables. This research could provide valuable insights into the factors that influence customer satisfaction. Overall, all stakeholders in Thailand's medical tourism should prioritise customer satisfaction improvement.

CONCLUSION

The primary objective of this study was to delve into the factors that hinder Thailand's medical tourism industry from achieving optimum customer satisfaction levels. Through a comprehensive analysis of scholarly literature and customer feedback, the researchers identified and evaluated various factors that impact customer satisfaction. Interestingly, the results of the study revealed that service quality and staff behaviour were the most significant drivers of customer satisfaction, surpassing the importance of price. In contrast to previous research, which primarily focused on the key drivers of medical tourism, this study sought to identify the obstacles that impede the growth of medical tourism. By concentrating on customer-related aspects and emphasizing the significance of service quality and staff behaviour, this research sought to uncover possible gaps in addressing the actual issues facing Thailand's medical tourism industry.

Ultimately, the findings of this study can be used to promote greater awareness and understanding of the challenges facing medical care providers in Thailand, thereby enhancing their knowledge and skills to deliver high-quality service to customers. By prioritising customer satisfaction and focusing on improving service quality and staff behaviour, stakeholders in the medical tourism industry can better address the challenges and barriers hindering the growth and development of the industry in Thailand.

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Determinants of fast fashion purchase intention through Affliate Marketing among Vietnamese Students, mediating role of consumer trust

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ABSTRACT

Purpose of the study: This study empirically assesses the determinants of fast fashion purchase intention in affiliate marketing. It also looks into the mediating role of consumer trust in the research model.

Methodology: The project employed a self-administered survey to empirically test the proposed hypotheses. Data were analyzed by SPSS and structural equation modelling (SEM) utilizing AMOS.

Findings: The online review on affiliate channels strengthens Vietnamese students' purchase intention towards fast fashion products. The fast fashion purchase intention is positively influenced by affiliate channels' fame. The students' perceived risk level is not related to their fast fashion purchase intention through affiliate channels. Students' trust towards affiliate channels is a mediator in the relationship between fast fashion purchase intention and channels' reputation.

Research limitations: We only conducted the survey on Vietnamese students.

Keywords: affiliate marketing, consumer trust, fast fashion.

INTRODUCTION

In recent years, the fast fashion industry has significantly developed, ensuring speed to market with the ability to provide fashion trends rapidly revealed by fashion shows and runways (Bhardwaj *et al*., 2010). Fast fashion can be known with lots of famous brands such as: SHEIN, H&M, Zara, C&A, Peacocks, Primark, ASOS, Forever 21. In the late 1990s and early 2000s, fast fashion became a booming industry in America (Linden, 2016) and then marked the commencement of its expansion to become a trend among Asian emerging markets such as China, India, and Vietnam after being revolutionized in Western Europe (Hu & Shiau, 2015). During the past few years, many global fashion brands: Old Navy, Zara, H&M, etc. have penetrated Asian emerging markets including Vietnam. Moreover, according to Vietnamese General Statistics Office, Vietnam has experienced an increasing income per capita and in 2020, approximately 49,1% of Internet users buy products online; the young population, especially students, have been particularly changing their behavior toward fast fashion goods and that has made Vietnam a potential market for global fashion retailers.

In addition, with the evolution of digital media, affiliate marketing emerged as a potential marketing strategy in the e-commerce marketplace (Duffy *et al*., 2005) by directing potential customers into a merchant's website. Affiliate programs were undoubtedly utilized by many innovative marketers as well as online merchants (Oberndorf, 1999; Fox, 2000; Dysart & Joe, 2002) and predicted to become a major source of customer acquisition by industry observers (Fox, 2000; Helmstetter and Metivier, 2000; Ray, 2001). In affiliate channels or websites, a variety of different kinds of advertisements such as banners, text ads or product links would be placed which motivate consumers (website visitors) to review or potentially buy a product or service from the advertisers (Duffy *et al*., 2005). In the online market with unfamiliar merchants where consumers are unable to experience the products, trust is recognized as a key factor in predicting consumer purchase intention (Hong and Cha, 2013). Although there is a multitude of fast fashion research and purchase intention, to our knowledge, no research considers the determinants of fast fashion purchase intention as well as the role of consumer trust in affiliate marketing in Vietnam. Therefore, we decided to carry out this research project.

LITERATURE REVIEW

Affiliate marketing

Affiliate marketing is a type of digital marketing in which merchants (or advertisers) share a percentage of sales income generated by customers who came to the website of merchants through a content source (Gallaugher *et al*., 2001). Affiliate marketing is defined by Hoffman and Novak (2000, p. 44) as "the online act of advertising someone else's goods and services to receive commissions from sales leads generated." It is one of the most used methods for promoting websites, products, and services, and affiliates are compensated for each visitor or customer brought in as a result of their marketing efforts (Ivkovic and Milanov, 2010). The key objectives of affiliate marketing include promoting, and selling items or services through new distribution channels, driving web traffic to merchants, and generating transactions from online customers in exchange for a commission (Del Franco & Miller, 2003; Goldschmidt *et al*., 2003; Haig, 2001; Mariussen *et al*., 2010; Tweney, 1999).

Fast fashion and purchase intention

Purchase intention is included in the consumer cognitive behavior on how an individual (customer) intends to buy a specific brand in a certain condition (Morinez *et al*., 2007) so that the higher purchase intention illustrates the higher purchase probability (Schiffman and Kanuk, 2000). Laroche, Kim, & Zhou (1996) show that consideration in buying a brand and expectation to buy a brand can be the variables which are used to measure consumer purchase intention.

Fast fashion which is usually known as “quick fashion” can be defined as quickly updating products with a short renewal cycle and speedy delivery of goods, where it gets its name from the concept of fast food (Byun & Sternquist, 2008). Tokatli (2007) and Byun & Sternquist (2008) claimed that four important features in fast fashion were quick responses to a short product life cycle, consumers’ demand, a rapid supply chain, and lower prices respectively.

Consumer trust

Trust is a multi-faceted term. Based on the conceptual aspect of behavior, Moorman *et al*. (1992) defined trust as “a willingness to rely on an exchange partner in whom one has confidence.” In the context of organization studies, Mayer *et al*. (1995) give the meaning of trust as ‘the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party’. Similarly, Sirdeshmukh *et al*. (2002) explained “consumer trust as the expectations held by the consumer that the service provider is dependable and can be relied on to deliver on its promises”.

Trust is analyzed in connection to other variables as a coherent concept. The antecedents and effects of online trust have been the subject of numerous research. In other words, trust is a key mediator for a variety of other concepts (Shankar *et al*., 2002). In this study, we examine the mediating role of trust between purchase intention and four factors related to affiliate marketing including perceived risk, website design, online review and reputation.

Online review

Online review is stated as evaluation and opinion of previous consumers about satisfaction for the next customer (Zhang et al., 2012). Many former studies showed that online reviews impacted strongly on purchase intention in online fashion shopping (Erkan and Evans, 2016). Online review includes review quantity, review valence and review timeliness. With review quantity, the larger the volume of reviews is, the more attractive customers are. Review valence decides strongly on consumer trust and also influences customers' purchase intention (Lopez and Sicilia, 2014). Finally, the new review timeliness attracts consumers' purchase intention. Based on the above discussion, the following hypothesis is proposed.
H1: Online review has a positive effect on purchase intention.

Reputation

There are numerous ways to define the term "reputation" (Barnett & Pollock, 2012), but within the management literature, most researchers have adopted a sociocognitive view of reputation, which regards merchant's reputation as "human interpretations or assessments rendered by observers in an organizational field" (Barnett *et al*., 2006; Rindova & Fombrun, 1999). Previous scholars have found the significant impact of reputation on purchase intention (Mohseni *et al*., 2018) as well as trust in online shopping (Agag & ElMasry, 2017; Rosa *et al*., 2018). Bente *et al*., (2012) demonstrated that a positive reputation led to significantly higher purchase rates. In other words, reputation positively affects purchase intention. As a result, we suggest the below hypothesis:
H2: Reputation has a positive effect on purchase intention.

Perceived risk

Perceived risk can also be defined as a consumer's belief about potential negative consequences (Kim, 2007). Cheng *et al*., (2021) demonstrated the significant and negative relationship between perceived risk and purchase intention in the case of online shopping. Customers tend to be reluctant when purchasing on the web due to uncertain belief when compared with the traditional (Kim *et al*., 2007). Kim, Ferrin and Rao (2008) also found the high level of perceived risk resulted in less purchase intention. Additionally, Chiu *et al*., (2012) also confirm that purchase intention is decreased if perceived risk is increased. Based on the above discussion, the following hypothesis is proposed.

H3: Perceived risk has a negative effect on purchase intention.

Consumer trust

Tangmanee and Rawsena (2016) has demonstrated that trust is a mediating variable that the effect of perceived risk could pass onto consumers' purchase intention. As a result, we suggested the following hypothesis:

H5-1: Consumer trust positively mediates the relationship between perceived risk and purchase intention.

From a marketing perspective, Gotsi and Wilson (2001) argued that reputation was used as an image. Resnick *et al*. (2000) had a broader view, highlighting that "Reputation systems can be considered as the central feedback and trust-building mechanism in e-commerce". Previous findings suggest that reputation and trust are closely related, greatly influencing online shopping decisions (Corritore *et al*., 2003; Jøsang *et al*., 2007; Mui *et al*., 2002). G. Bente *et al*., (2012) found that positive reputation led to significantly higher trust ratings and purchases than negative or missing information. Further to this idea, Qalati *et al*., (2021) examined the mediating role of trust in the influence of reputation on online purchase intention. Thus, we propose the following hypothesis:

H5-2: Consumer trust positively mediates the relationship between reputation and purchase intention.

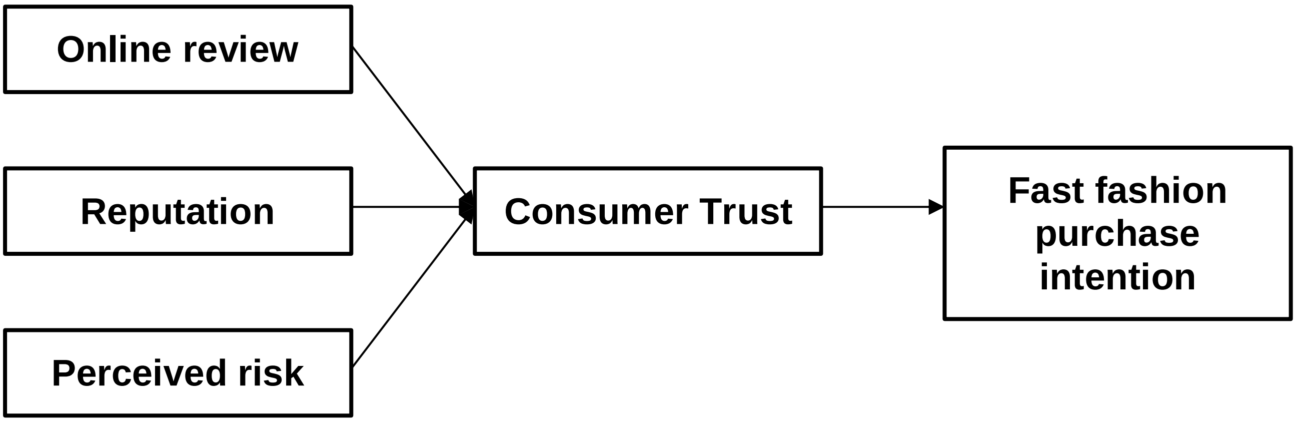
Chakraborty (2019), Chen and Chang (2018), and Huang *et al*. (2019) stated that consumers have increasingly relied on Internet reviews to make purchasing decisions. They have been tending to shift their attention from information provided by shopping websites to online reviews and feedback from 3rd parties. A study of M Tahir *et al*., (2020) indicated that online review was highly important in online context. The role of trust has also been highlighted in the relationship between online review and purchase intention. Accordingly, we develop the hypothesis as below:

H5-3: Consumer trust positively mediates the relationship between online reviews and purchase intention.

Proposed model

The dependent variable for this study is purchase intention, while the independent variables are online review, reputation and perceived risk. This study also aims to investigate the mediating role of consumer trust on the relationship between online review, reputation, perceived risk and purchase intention.

Figure 1: Proposed research model



RESEARCH METHODOLOGY

Data collection

The data were collected from students at multiple universities in Vietnam such as National Economics University, Hanoi Foreign Trade University, Hue University, Vinh University and Banking Academy of Vietnam in February, 2022. Since the revolution of the Western Europe's clothing industry in the early 1990s, the number of fast fashion items purchased by Vietnamese young people has been increasing dramatically (Hu & Shiau, 2015). In that context, students in three main regions, including the North, the South and the Central region can serve as suitable survey subjects for this project. In particular, potential students are invited for an interview to complete the questionnaire. In order to provide accurate and relevant information for the purposes of the study, each respondent was trained carefully about related definitions such as fast fashion and affiliate marketing as well as informed about the time limit. They were also assured that the given information would only be used for research purposes. Hence, 325 responses from students in total have been collected after five days at numerous higher educational institutions. All of the measures in this study are applied based on previous research. To elucidate, this research adopted the two-step approach advocated by Bollen (1989) in which the construct reliability must first be carefully examined to remove unreliable observed variables (Hair *et al*., 1998) before fitting the structural model. The statistical package SPSS (version 20.0) and structural equation modeling (AMOS 4.0) were also followed to analyze the data set retrieved from the questionnaires as well as test the hypothesized model. Additionally, a five-point Likert scale was introduced to facilitate the respondents to express their positive-to-negative strength of agreement or strength of feeling related to determinants of purchase intention. To ensure the face validity of the measures, the study followed standard translation and back-translation methods to get the finalized survey questionnaires. In particular, the former translator did the translation of all the original items into Vietnamese before the second-mentioned one did the translation back into English. The original and translated English versions were examined to rectify any dissimilarity detected. Furthermore, an initial survey was pilot-tested with 15 respondents to require feedback in order to analyze the comprehensibility, coherence, cohesion as well as the face validity of the scales (Hague *et al*., 2004). The survey questionnaires resolved were then officially delivered.

Sample characteristics

In this study, 246 participants is the final number for in-depth analysis after removing inappropriate responses (by filtering blank votes, data errors and unlikely consumers of affiliate marketing). The survey was widespread across Vietnam, involving the North (71.54%), the South (11.38%) and the Central region (17.07%). A majority of the respondents were undergraduates who are considered to have marked preference for fast fashion with females accounting for 80.49%. In terms of student classification, freshmen, sophomore, junior and senior respectively occupied a proportion of 15.45%, 18.70%, 40.24% and 25.61% of respondents. About 37,80% of the students draw an income from 2-5 million VND/month. According to the survey, 60.16% of the students sometimes make purchases on fast-fashion through affiliate programs, and 54.88% of our respondents spend 200.000 - 500.000 VND.

RESULTS

The measurement model. An exploratory factor analysis (EFA) and reliability assessment (using coefficient alpha) were conducted on all items to identify underlying factors and ensure acceptable reliabilities of the measures before performing CFA. All the scales indicated a satisfactory level of reliability with co-efficient alpha exceeding the value of 0.7. CFA was then applied for assessing measurement validity using AMOS24 (Hair *et al*., 1998). The results generally demonstrated a high level of fit for the measurement model. AVE of all constructs are higher than 0.5, providing adequate convergent validities (Hair *et al*., 2018). Table 1 shows that the AVEs are greater than the correlation squared between variables as estimated in the measurement model. Thus, the discriminant validity of the measures is good (Fornell and Larcker, 1981).

Table 1: Correlation matrix and roots of AVE

	CR	AVE	MSV	MaxR(H)	RE	RO	PI	PR	CT
RE	0.763	0.518	0.280	0.765	**0.720**				
OR	0.869	0.525	0.299	0.873	0.529	**0.725**			
PI	0.755	0.509	0.345	0.772	0.506	0.509	**0.714**		
PR	0.851	0.657	0.058	0.871	-0.036	0.011	0.110	**0.811**	
CT	0.800	0.571	0.345	0.805	0.481	0.547	0.587	0.240	**0.756**

The structural model. After the reliabilities and validities of the measures used were carried out, we conducted SEM to test the proposed research hypotheses. Table 2 below is a summary of the hypothesis testing results.

Table 2: The Standardized Regression Weights

		Estimate	S.E.	C.R.	P	Supported
H1	PI ← OR	0.170	0.081	2.113	<0.05	Yes
H2	PI ← RE	0.297	0.119	2.501	<0.05	Yes
H3	PI ← PR	0.017	0.043	0.394	>0.05	No
H4	PI ← CT	0.355	0.095	3.748	<0.05	Yes

Note: N=246, PI= Fast fashion purchase intention, OR=Online review, RE= Reputation, PR= Perceived Risk, CT= Consumer trust.

As can be seen from Table 2, 3 out of 4 hypotheses of this study are supported. Online review, reputation and consumer trust are positively and significantly related to fast fashion purchase intention (p-value < 0.001). Thus, H1, H2 and H4 were supported. Meanwhile, the paths from perceived risk indicated to have no effect on fast fashion purchase intention due to the Sig higher than 0.05. Thus, H3 was not supported. Among four examined factors, the affiliate channels' reputation demonstrated to affect fast fashion purchase intention most significantly.

Mediation analysis

This study also investigates consumer trust as a mediator in the research model. Multiplication variables were created by multiplying the mediator and the independent variables in order to test the mediating role. However, the independent variable was mean- centered before taking the multiplication (Cohen *et al*., 2014) to remove the unnecessary correlations created between the multiplication variables and the independent variables. The two-tailed significance was applied for analyzing the mediating role.

Table 3: Mediating role analysis

Hypothesis	**Effects**	**Direct**		**Indirect**	
		S.ES	Sig	S.ES	Sig
H5-1	PI←CT←PR	0.028	0.694	0.095	0.008
H5-2	PI←CT←RE	0.243	0.012	0.108	0.005
H5-3	PI←CT←OR	0.199	0.035	0.154	0.014

As can be seen in Table 3, consumer trust mediates the relationship between online review and students' purchase intention toward fast fashion products through affiliate channels and the type of mediation is full meditation with the Sig less than 0.05 for both indirect and direct effects. The H5-2 hypothesis was also supported with the Sig less than 0.05 for the relationship between reputation, purchase intention and consumer trust. In contrast, although the perceived risk demonstrated the indirect effect on purchase intention through consumer trust, no direct effect was recorded between them. Regarding the mediating role of consumer trust, the paths from consumer trust to the relationship between reputation and intention to fast fashion on affiliate channels were significant and positive. Therefore, H5-2 and H5-3 were supported, confirming the mediating role of consumer trust as proposed in the model.

Discussion

In general, the provided results have confirmed five of the proposed hypotheses in the theoretical framework. To be more specific, Vietnamese universities' students over 18 years old who are identified to be promoted by online review on affiliate channels are also measured to have a high level of purchase intention with the fast fashion products. Our study firstly indicates that online review on affiliate channels will strengthen Vietnamese students' purchase intention towards fast fashion products. It corroborates previous research related to how online reviews promote consumer purchase intention that positive feedback strongly impacts purchase intention (Park and Lee, 2009; Cheung and Thadani, 2012; Lopez and Sicilia, 2014). Moreover, consumers tend to concentrate on negative reviews while judging a product.

Secondly, fast fashion purchase intention is proved to be positively influenced by how famous the affiliate channels are. This finding is consistent with previous authors who indicated that the reputation of marketing channels is important in promoting consumer's purchase intention (Bente *et al*., 2012; Jung & Soeck, 2016). According to Jung & Seock (2016), it is essential for companies to interact with consumers and avoid negative reputation to effectively manage consumers' attitudes as well as purchase intention. With affiliate channels, purchase intention by clicking through affiliate websites will be positively affected by the existence of KOL which might promote consumer trust by allowing them to communicate with celebrities (Lediard, 2017). Furthermore, students are consumers who have a strong connection with new fashion trends along with the famous KOL. Reputation should be one of the foremost options for affiliate channels to consider in order to gain purchase intention from Vietnamese students.

Thirdly, students' perceived risk level is not related to their fast fashion purchase intention through affiliate channels. According to our study, perceived risk has an indirect effect on purchase intention through consumer trust. Previously, McKnight, Choudhury and Kacmar (2002) indicated that trust plays a central role which helps consumers to overcome risk perceptions as well as insecurity. Furthermore, with the Internet infrastructure, consumers, particularly Vietnamese students, have to deal with the challenge of buying products through affiliate channels where they are unable to experience the products, especially the fast fashion products.

Fourth, students' trust towards affiliate channels was recognized to be a mediator in the relationship between fast fashion purchase intention and the channels' reputation. Therefore, the reputation of affiliate channels may motivate consumer trust in those channels which then lead to their purchase intention. Finally, consumer trust showed a full mediating role between online review and purchase intention towards fast fashion products.

CONCLUSION, LIMITATIONS AND RECOMMENDATIONS FOR FURTHER RESEARCH

There are still limitations that we encountered: Firstly, the sample is not diversified. Respondents are mainly from universities in the North regions and the majority is women. Secondly, we have learned about some factors that determine the intention to buy fast fashion through affiliate marketing of Vietnamese students, however, the influencing factors are not only encapsulated in the factors mentioned, but there can also exist many other factors affected. Moreover, research on influencing factors through affiliate marketing still has many gaps, in which the augmented reality factor in relation to online purchase intention and in correlation with customer trust should be thoroughly considered and investigated in the future. Future research needs to clarify the groups of influencing factors such as demographic variables.

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Shifts to customer experience centricity in B2B firms

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EXTENDED ABSTRACT

Business-to-business (B2B) firms are undergoing unprecedented change from utilizing a transactional and product-centric approach to more a customer experience (CX) centric approach (Cespedes, 2023). For example, established firms like Microsoft have leapfrogged from a product-centric desktop software business to a cloud service provider by transforming transactional sales to CX led sales with their Azure digital platforms('Retooling how Microsoft sellers sell the company', 2019). While there are many CX conceptualization papers, CX management in B2B settings remains understudied (Lemon and Verhoef, 2016; Lilien, 2016; Homburg, Jozić and Kuehnl, 2017; Zolkiewski *et al.*, 2017; Witell *et al.*, 2020). Therefore, our study fills the gap and investigates such a CX-centric transformational shift in B2B firms. We contribute and extend CX(M) literature in three important ways. First, we offer a conceptual framework to understand this phenomenal shift towards CX-centricity. Second, we apply a grounded theory based approach to derive the dimensions for CX change in B2B. We interviewed 30 senior leaders in various B2B settings across different sectors (e.g., professional & financial services, manufacturing, logistics, consumer packaged goods (CPG) etc.). Finally, we offer step-by-step guidelines for B2B practitioners to help assess CX maturity and inform appropriate strategic actions.

Our findings suggest that B2B firms in both product/service contexts are shifting from relationship orientation towards a more CX-centric approach. We derived a conceptual framework (see Figure-1) that identifies five aggregated dimensions that form the evolving CX-centric transformation. First, cultivating a CX-centric culture forms the basis of such a shift that implies imbibing a customer oriented approach towards all stakeholders of the firm. For example, a life sciences firm unifying their global operations to increase ease of business for their customers begun with a change in culture to adopt a customer oriented approach towards both internal and external stakeholders. Second, B2B firms are gaining customer intimacy by evolving touchpoint and journeys to obtain proximity to the customer value chain (Kuehnl,

Jozic and Homburg, 2019; Homburg and Tischer, 2023). To illustrate, a packaged drinks provider applied a direct to consumer selling approach through social and digital channels to understand customer behaviours better compared to selling through sales agents' relationships in retail settings. Third, B2B firms are enabling customer intimacy and cultural mindsets by advancing of digitalization through fusing of digital technologies in both advise led sales and direct sales. For example, a scientific instruments manufacturer is complementing their ecommerce channel with experts ready to respond to queries related to complex equipment. Fourth, we extend the B2B solutions knowledge (Tuli, Kohli and Bharadwaj, 2007; Bond *et al.*, 2020) by deriving that product/service providers are converging towards customer solution providers as part of a CX-centric transformation. For example, a commercial bank is offering an accounting package in their offering to help small businesses with an aggregated range of services. Such a service from a commercial loan provider is a step change from dedicated account managers to support customers. Fifth, we derived that such a convergence to solutions and shift to CX-centricity means B2B firms are opening towards knowledge transparency from the traditional low transparency mindsets to monetize the value of inherent technical knowledge (Lilien and Grewal, 2012; Lilien, 2016) that resides within B2B firms. For example, an iGaming provider is allowing their technical teams to be in direct connect with their customers that has ensured repeat business and higher satisfaction from their diverse range of customers across casinos and digital gaming firms.

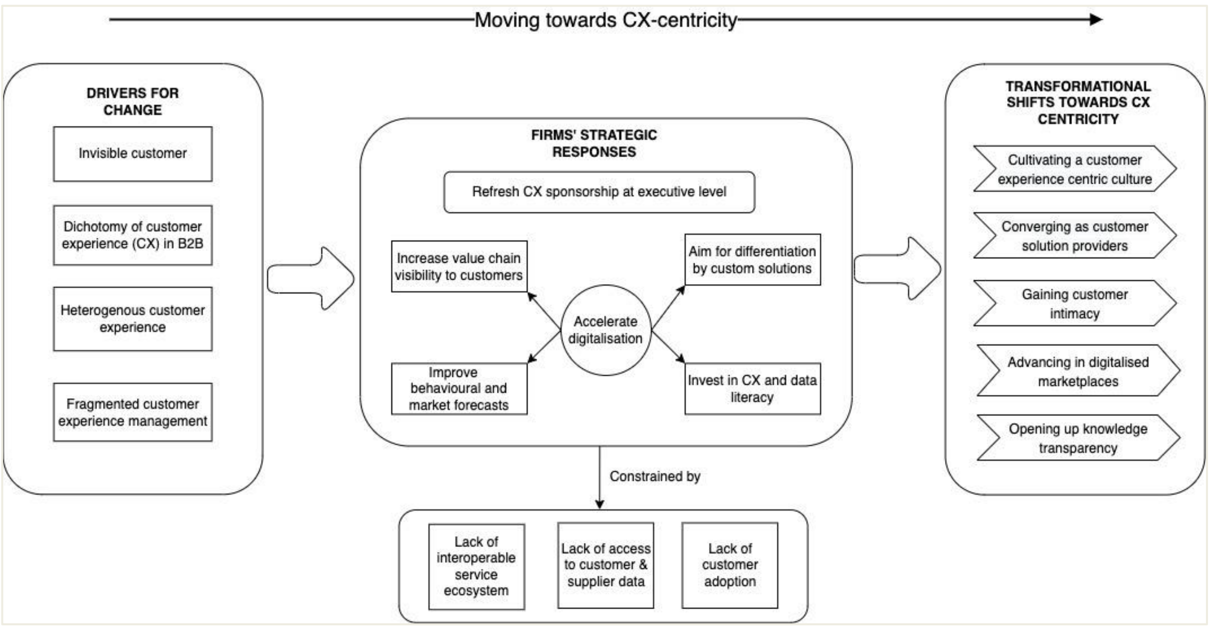

Figure 1 – Conceptual framework on CX-centricity in B2B

In practical terms, we recognized patterns (e.g., acknowledging, responding and maturing) in the CX-centric transformation journey of B2B firms from our data. The patterns derived from our data along with the conceptual framework provide maturity assessment approaches for executive, marketeer and digital strategy managers in B2B settings. For example, executives of firms in the acknowledging pattern respond by providing clear sponsorship to CX-centric initiatives that promote digitalization efforts on B2B firms. In contrast, marketing managers in B2B firms in the responding pattern focus on becoming change catalysts within the firms to realise investments in CX and data literacy withing the firms. Maturing firms are continually improving to derive and deliver value in the service ecosystem by monetizing both technical knowledge and customer behaviour knowledge.

Our study was limited to understanding the CX-transformation in B2B using a firm-customer dyadic view. But, given that B2B firms reside within an ecosystem, a systemic approach involving customers, partners and suppliers on the CX-centric transformation could derive further insights. In-depth case studies and longitudinal studies will be applicable to such future studies that can extend our findings. To conclude, we determine that complexity and heterogeneity in B2B firms has intensified. Segregating B2C and B2B markets may no longer be simplified by marketing to end of chain versus customer value chain, as noted by (Lilien, 2016), due to market factors and novel business models based on technological progress. However, CX(M) research in B2B remains scant and fragmented. In this study, we provide an empirically grounded exploration of this evolution in practice. We highlight the concept of CX(M) in B2B as an evolution from relationship orientation towards CX centricity from our field-based data by combining, extending and drawing on theoretical research from CX(M), industrial marketing and service contexts. We offer practical guidelines for the CX-centric transformation processes to assist industry stakeholders in their respective contexts.

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Factors Influencing Green Hotel Consumption Behavior in Vietnam: The Roles of Environmental Concern and Knowledge, Green Perceived Value, and Green Trust

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ABSTRACT

Applying the Theory of Planned Behavior, this study investigates the influences of different elements on green purchase behavior in the Eco-friendly hotel industry, using a sample of 198 consumers in Hanoi. A new theoretical framework is developed to explore the association among six concepts: Environmental Concern and Knowledge, Green Perceived Value, Green Trust, Green Purchase Intention, Green Purchase Behavior, and Price Sensitivity. Research results have shown that all driving factors directly impact Green purchase Intention and Behavior. Furthermore, the mediating role of Green Purchase Intention and the moderating role of Price Sensitivity is also supported. This research contributes to the field of green hotel consumption in Vietnam with some new factors and relationships. The study also provides some recommendations for hotels to improve their marketing and management strategies.

Corporate Sociopolitical Activism Strategies and their Effects on Consumer Attitudes

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ABSTRACT

Purpose of the Study

Consumers increasingly expect companies to publicly express their stance on controversial societally relevant issues like climate change or LGBTQ rights (e.g., Hydock, Paharia, and Blair 2020). The problem companies face when engaging in such corporate sociopolitical activism (CSA) is the potential of losing customers that do not agree with the companies' stance (e.g., Hydock, Paharia, and Weber 2019). But doing nothing can also have negative consequences for companies since consumers and other stakeholders are increasingly concerned about firms' contributions to society and place mounting pressure on firms to take a stand (Bhagwat et al. 2020). Academic literature only provides partial support in solving this problem as it focuses on two strategic options: taking a side (i.e., activist strategy) or staying out of the respective debate (i.e., sideliner strategy). Therefore, the question arises if there is another option for companies to fulfill the expectations of consumers to get involved in sociopolitical issues without risking losing customers.

Methodology

To answer this question, we introduce the mediator strategy as a third CSA strategy, where the company does not take a side and mediates between the two sides of the debate. For example, companies like Blackrock or Tetra Pak use such strategy in the debate on sustainability by organizing panel discussions that mediate between stakeholders (EY 2021). In three experiments in the contexts of cannabis legalization (Germany), gender equality (Great Britain), and racial equality (United States), we test the three strategies' effects on consumers' attitude towards the company. We examine these effects as a function of a consumer's attitude towards the sociopolitical issue, as this influences consumer responses to a company's CSA strategy.

Findings

We find that adopting the activist strategy leads to a divergence in consumers' attitudes toward the company, that is, consumers who disagree with the companies' stance have a significantly worse attitude than consumers who agree. This divergence does not occur when companies adopt the mediator strategy. We examine the spokesperson's credibility in the debate as boundary condition for this effect. Specifically, we show that adopting the mediator strategy can reduce the divergence of consumers' attitudes towards the company only when the spokesperson is credible.

Value/Originality

With our studies, we contribute to theory and practice by introducing and examining a new strategic option for companies to engage in CSA (i.e., the mediator strategy). This strategy has a positive effect in that it reduces the divergence in consumers' attitudes toward the company, which originally stems from their (dis)agreement with the companies' stance. We identify the spokesperson's credibility as boundary condition for this effect.

Implications

Theory can benefit from our findings in further examining all three CSA strategies, additional boundary conditions, and mechanisms in future studies. For practitioners, our results may be helpful in making the important decision for or against a specific CSA strategy.

Transformative Customer Experience Journey among Higher Education Exchange Students

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ABSTRACT

The current research conceptualizes the transformative customer experience journey (TCXJ) at the intersection of customer experience (CX) and customer journey (CJ) research and empirically supported using longitudinal qualitative research. Interpretative phenomenological analysis (IPA) was employed for 36 interviews and 36 reflection diaries from 12 exchange students to understand the transformative experiences shaped by the lived experiences throughout the pre-, during, and post-stages of TCXJ. Exchange students in higher education offer a novel context to examine TCXJ. Results indicate that mostly students live abroad for the exchange for the first time in their lives and living through a series of experiences in a novel cultural context transforms both the meanings and perceptions of the reality, experienced by students.

PURPOSE OF THE STUDY

A plethora of service scholarship has focused on customer experience at a static point; however, service scholarship needs to explore the dynamic view that emerges through the intersectionality of customer experience and the customer journey. Moreover, from the process view, exploring the transformative and sense-making aspects of the customer experience journey would provide a holistic view of TCXJ. Therefore, the purpose of the current study is to increase the understanding of TCXJ by capturing customer's lifeworld, transformative and sense-making of CXJ using IPA as a method for a relative longer period across the different stages (pre, during, and post) of CJ.

METHODOLOGY

Conceptually, the study integrates (MacInnis, 2011) insights from the research on CX and CJ in conceptualising the sensemaking of transformative experiences throughout the stages of customer experience journey (Lemon & Verhoef, 2016; Siebert *et al.*, 2020; Hollebeek *et al.*, 2022; Rehman *et al.*, 2022). Building on the sensemaking of customer experience within higher education abroad as a service context, this study adopts IPA (Smith & Osborn, 2008) as a qualitative research design to understand how customers make sense of their experiences. Moreover, this study undertakes longitudinal design (Brown, 2009) to explore transformative customer experience across customer journeys (Lemon & Verhoef, 2016) to understand end-to-end transformations. We collected data from twelve exchange students who travelled to Finland for their Erasmus exchange semester in Sep 2022 (pre-stage), Nov 2022 (during-stage), and Jan 2023 (post-stage). The data contains semi-structured interviews (12*3=36) and reflection diaries (12*3=36). Data collected from these interviews and reflection diaries is under the analysis phase, using the standard guidelines of IPA methodology. IPA is an ideography method that offer the understanding of lived experiences, the detailed insights into what it is like to have an experience, and the interpretations of perceptions and sensemaking of experience through the process view of transformations. Therefore, we aim to explore the transformative nature of CX across CJ stages using this approach.

FINDINGS

Based on conceptualization and empirical evidence, we define TCXJ as 'a set of interactions experienced by a customer across different stages of the customer journey which transform both the meanings and perceptions of the reality experienced by customer'. From the empirical evidence, we found that the sense of customer experience evolves, and the meaning changes over time; studying and living abroad for a shorter period (four months) has impacted customer perceptions and experiences. Moreover, customers feel a sense of 'transformation' through self-awareness, and confidence, unleashing their real potential, developing themselves within a culturally diverse environment, and emotional experiences. For example, one of the participants articulated an experiential journey with reference to quotes which reflect transformative nature of customer experience; pre-stage "people learn to love their chains", during-stage "Life begins outside the comfort zone!", and post-stage of international exchange semester "once you trust yourself, once you know how to live". This explains how experiences are transformative in nature, from loving the chains to out-of-comfort-zone to knowing and living with 'self'.

Findings also emphasized the 'what' of transformative experiences and their meanings. In this novel cultural context, a range of transformative experiences emerge across CJ stages, including the realization and new meanings of customer's lifeworld; exposure to 'self' (being in calm and nature-rich place), 'people' (local Finnish and other international students), 'cultures' (Finnish culture and other international flavour within the cohort of exchange students) and 'places' (the nature across Finland and Nordic countries). An excerpt from an interview; "Staying in Finland for an exchange semester left a very strong imprint on me…. learning about the Finnish culture; the famous sauna, the calmness of the Finns, walking on frozen lakes, and the fruits of the forest" (I7, F, 22).

RESEARCH LIMITATIONS/IMPLICATIONS

Conceptually, the study offered a definition for TCXJ by focusing on transformative experiences in the pre-, during- and post-stages of the journey. Choosing a different viewpoint or the study context might have concluded with a different definition. Methodologically, the study followed IPA to focus on the sensemaking aspects of lived experiences of higher education exchange students; these findings are not statistically generalizable, but they might be transferred to other similar service contexts (e.g., sojourn travel experiences). This study focused on higher education exchange students; it would be interesting to see transformative experiences of international full degree students as part of future research on TCXJ within international higher education contexts. This conceptualization of TCXJ can be extended to other service contexts with a specific focus on the sensemaking of TCXJ. The study's findings will also provide deeper insights into customer experience management at higher education services and guide policymakers to develop strategic decisions for global higher education.

ORIGINALITY/VALUE

The study conceptualizes TCXJ through a sensemaking approach and applies IPA to deeply understand transformative experiences across customer journey stages of higher education exchange students. The nature of CJ stages perfectly aligns with the longitudinal design. Qualitative inquiry provides a deeper understanding of the transformative experiences within services marketing literature and offers future research for the intersectionality of customer experience and customer journey. This research also attempts to enrich transformative consumer and service research, specifically on the transformative customer experience journey.

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Customer mindfulness and energy for co-creating well-being through transformative services: A moderated mediation analysis

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ABSTRACT

Performing difficult co-creation activities in prolonged services might be a challenge for customers. Using survey data collected from customers of yoga training centers, this research provides insights into the interplay of various types of customer resources (mindfulness, service co-creation energy, and experience in service co-creation) and their transformative outcome. Specifically, mindfulness has a positive impact on customers' co-creation energy, which subsequently contributes to their quality of life. The direct impact of mindfulness on quality of life is also evident, indicating a partial mediation effect of co-creation energy. Moreover, this mediation effect is moderated by a customer's co-creation experience.

INTRODUCTION

Recent advances in service research, particularly the transformative service research stream, stress the importance of customers' prosumption of resources through service consumption to enhance aspects of their well-being (Ostrom et al., 2021). Accordingly, customers are increasingly assuming more active roles in service co-creation by undertaking a range of resource-integrating activities spanning from relatively easy to more difficult ones (Danaher et al., 2023; Sweeney et al., 2015). Of these activities, some are considered mandatory as they must be carried out by customers for the service to be successfully performed (Dong and Sivakumar, 2017). Undertaking such activities requires a range of customer resources (Hau, 2019) which could be insufficient in some cases, leading to worse-than-expected service outcomes (Laud et al., 2019). This problem is signified in services that require customers to devote time, energy and effort over an extended period (Spanjol et al., 2015). In such service contexts, insights into the interplay of the key resources that facilitate customer co-creation processes have important managerial and transformative implications.

Against this backdrop, the current study examines the roles of customer mindfulness, service co-creation energy, and experience in service co-creation in helping customers realize the transformative impacts of services. Mindfulness, despite being recognized as a positive psychological resource (Roche et al., 2014), has received insufficient attention in transformative service research so far. Further, while the relationships between mindfulness and well-being metrics have been well established (e.g. Bajaj and Pande, 2016; Kong et al., 2014), the possible mechanisms that might explain such relationships, particularly through service consumption, are still unclear. In response to this, the current study proposes customer service co-creation energy as a critical concept that links customer mindfulness, a positive psychological cognitive capability, and their quality of life, a desired end-state. Service research to date has primarily examined the transformative impacts of customer co-creation effort (e.g. Pham et al., 2021; Sweeney et al., 2015). Effort and energy, despite being related, influence customer behaviors through different mechanisms (My-Quyen and Hau, 2021). While effort results from an individual's cognitive appraisal process, energy results from positive affective arousal. Moreover, energy has motivational impacts and influences the direction of behaviors and effort (Quinn and Dutton, 2005). The current study postulates that service co-creation energy, as a positive affective state that is aroused during co-creation processes, is the "fuel" that helps sustain customer co-creation in prolonged services where it might be difficult for customers to anticipate or realize the value. On a related note, the study also takes into account the moderating role of customer experience with service co-creation processes.

The study makes a significant theoretical contribution. Through a quantitative study, we add insights into the roles various types of positive psychological resources play in customers' service co-creation processes and their transformative impacts in a prolonged service context. Insights into customer resources are important, as resources while being limited are critical for customers' value co-creation and well-being (Pham et al., 2021; Rahman, 2021). Depleting sources of energy could be a significant problem in services that require customers to perform challenging resource-integrating activities. Such a problem could be intensified in services that require prolonged effort and are associated with the unpredictability of goal attainment (My-Quyen et al., 2020; Spanjol et al., 2015). This poses a challenge for providers of prolonged and customer-intensive services such as health prevention and education. Thus, a key managerial insight drawn from our study comprises the need to develop strategies to cultivate customers' mindfulness which contributes to their service co-creation energy and subsequently enhances their well-being. Such interventions are particularly imperative for customers with less experience in service co-creation.

The next section presents the conceptual background, based on which a research model and hypotheses are proposed. The research method and empirical findings are then detailed. The paper concludes with a discussion of theoretical and managerial contributions.

CONCEPTUAL BACKGROUND

Mindfulness

Definitions of mindfulness span a wide range (Quaglia et al., 2015). This study views mindfulness as a person's "state of being aware of what is taking place in the present" (Brown and Ryan 2003, p. 822). As it stresses the importance of "presence", the focus is on moment-to-moment awareness in a nonjudgmental and nonreactive way (Kabat-Zinn, 2013). Mindfulness has been studied from a variety of perspectives: as a trait, i.e. dispositional mindfulness (Brown and Ryan, 2003), or a state (Tanay and Bernstein, 2013). The current study views mindfulness as a psychological state rather than a trait. This view implies that mindfulness can be cultivated and trained; thus, it has potential managerial implications (Wang et al., 2021).

Despite being widely investigated in the psychology and sociology literature, mindfulness has only been addressed in management and marketing research recently (Ndubisi, 2014). Further, studies on mindfulness at the individual level to date largely address the role of this positive psychological resource in enhancing employees' work-related outcomes (Eby et al., 2019) and fostering consumer mindful consumption (Kumar et al., 2023). Insights into its role in value co-creation processes and its transformative potential are still in their infancy.

Service co-creation energy

Customers are expected to be active prosumers of the resources obtained from other actors to realize benefits (Ostrom et al., 2021). This notion signifies the active role customers have to play in service production processes and highlights the concept of customer co-creation in services. Customer service co-creation encompasses a range of activities and interactions with other actors in their service eco-system, most importantly with service providers, to integrate resources (McColl-Kennedy et al., 2017). Such activities vary in terms of levels of difficulty, i.e. some are more effortful than others (Sweeney et al., 2015). Some of the activities are mandatory in the sense that without such activities the service cannot be carried out (Dong and Sivakumar, 2017). On the other hand, customers may choose to undertake voluntary activities to enhance the ultimate benefits (Pham et al., 2021). Regardless of their nature, these resource-integrating activities require various types of customer resources (Hau, 2019; Pham et al., 2021), which implies sufficient expenditure of energy and effort on the customers' side in order for value to be realized.

Some recent studies, while still not prevailing, are increasingly examining customers' effort and energy in value co-creation processes and the mechanism to facilitate such energy and effort (e.g. My-Quyen and Hau, 2021; Sweeney et al., 2015; Pham et al., 2021). It should be noted that there exists conceptual confusion between energy and effort. Some scholars equate effort with the amount of energy put into a behavior (e.g. Mohr and Bitner, 1995; Söderlund and Sagfossen, 2017). However, energy and effort are conceptually distinct. Effort is the result of an individual's cognitive appraisal process. Accordingly, people will be motivated to allocate effort to an activity if they believe that effort will result in better performance and subsequently lead to attractive rewards or benefits (Vroom, 1964). Thus, effort is volitional and goal-directed (Keller, 2008). Energy, or energetic arousal, on the other hand, is considered an individual's affective experience, encompassing the eagerness to act and the capability to act (Quinn and Dutton, 2005). It is a positive affective arousal that people can experience as emotion towards a specific event or as a mood that is relatively long-lasting (Quinn and Dutton, 2005). Energy is a resource (Quinn et al., 2012), particularly a type of customers' operant resource that could be utilized in value co-creation processes (Arnould et al., 2006).

Quality of life

Transformative service researchers recently emphasize customer well-being as the ultimate service outcome instead of the traditional focus on satisfaction and behavioral intention (Falter and Hadwich, 2020). This emphasis puts quality of life and other well-being-related measures resulting from service consumption at the core of the scholarly investigation in this field (Ostrom et al., 2015; Ostrom et al., 2021). Generally, quality of life represents "either how well human needs are met or the extent to which individuals or groups perceive satisfaction or dissatisfaction in various life domains" (Costanza et al., 2007, p. 268). Quality of life can be measured either objectively (e.g. social and economic indicators that are typically quantifiable) or subjectively (e.g. emotional and cognitive evaluations of people's lives) (Diener and Suh, 1997; Gill and Feinstein, 1994). The emotional component reflects affective reactions (i.e. moods and emotions), while cognitive evaluation primarily concerns the judgments people have about their satisfaction with various domains of life (Diener et al., 2003). As a broad concept, quality of life covers various aspects of people's lives, such as physical health, psychological health, social connections and relationships, relationships to salient environment features, and spirituality (Cohen et al., 2017; Medvedev and Landhuis, 2018). However, not all of these domains are relevant to the context of service consumption. Consistent with prior research (e.g. McColl-Kennedy et al., 2017; Pham et al., 2019), this study looked into three important domains of quality of life, including physical health, psychological health, and social relationships.

RESEARCH MODEL AND HYPOTHESES

The study first proposes the relationship between customer mindfulness and their service co-creation energy. Such a relationship can be explained by the Self-Determination Theory (Ryan and Deci, 2000). The theory suggests that the energy for action comes from basic psychological needs for autonomy, competence, and relatedness; in other words, activities that lead to needs satisfaction can enhance energy (Deci and Ryan, 2008).

A higher level of mindfulness is associated with better cognitive capacity (Good et al., 2016). Mindful customers are more likely to view service co-creation activities as volitional and self-endorsed, and allocating energy to such activities helps them satisfy the need for autonomy (Brown and Ryan, 2003). Mindfulness can also be considered a buffering mechanism that helps reduce emotional exhaustion (Hülsheger et al. 2013). Hence, mindful customers are more capable of regulating negative emotions resulting from the need to undertake challenging activities over time (Chamber et al., 2009) and thus are more persistent in performing the required activities. As such, they are also more self-efficacious (Ryan and Deci, 2000), and allocating energy to service co-creating activities helps them fulfill the need for competence (Bahl et al., 2016). Thus, it is hypothesized that:

H1: Customer mindfulness has a positive impact on customer service co-creation energy.

The broaden-and-build theory of positive emotions proposed by Fredrickson (2001) provides a theoretical foundation to justify the impact service co-creation energy has on customer quality of life. Accordingly, positive emotions broaden attention and cognition, and the "initial experiences of positive emotions produce upward spirals toward further experiences of positive emotions" (Fredrickson and Cohn, 2008, p. 783). Such upward spirals are partly due to a higher level of resilience and better-coping mechanisms toward challenging, stressful, and adverse events (Fredrickson, 2004). As co-creation energy represents the customer's positive affective arousal while co-creating the service, it is a form of positive emotions. As such, it helps build customers' psychological resilience and enhance their psychological well-being (Bajaj and Pande, 2016). The extant literature also posits that positive emotions predict people's quality of life (Diener et al., 1999). Thus,

H2: Customer service co-creation energy has a positive impact on customer quality of life.

A large body of research has provided empirical evidence for the relationship between mindfulness and well-being metrics. Mindfulness is associated with lower levels of psychological distress (Brown et al., 2009; Howell et al., 2008). It also helps build up people's pool of personal resources that have positive contributions to their psychological health and overall well-being (Fredrickson et al., 2008).

Quality of life reflects a perception of people's position in life with respect to their culture and value systems (Medvedev and Landhuis, 2018); thus, quality of life is inversely related to the perceived discrepancies, or gaps, between what one has and various standards. Research has shown that "mindfulness might help close this perceived aspiration gap by helping people to want what one has" (Brown et al., 2009, p. 734), mindful customers are likely to perceive a higher level of quality of life. Thus,

H3: Customer mindfulness has a positive impact on customer quality of life.

To provide more insights into the roles of customers' positive psychological resources, the current study examines the moderating role of customer experience (or customer's service familiarity) in service co-creation. Experienced customers are those involved in service co-creation for a longer period of time and thus are more familiar with the service. These customers may accumulate an understanding of the required co-creation tasks and procedures over time as a result of their learning process (Bell et al., 2017), which in turn enriches their pool of resources. In that case, the necessary contribution of mindfulness or energy, as positive psychological resources, to the outcomes may be lower. Thus, it is argued that the impacts of mindfulness on service co-creation energy and of co-creation energy on quality of life are weaker for customers with higher levels of co-creation experience.

H4a: Co-creation experience negatively moderates the impact of customer mindfulness on co-creation energy.
H4b: Co-creation experience negatively moderates the impact of customer co-creation energy on quality of life.

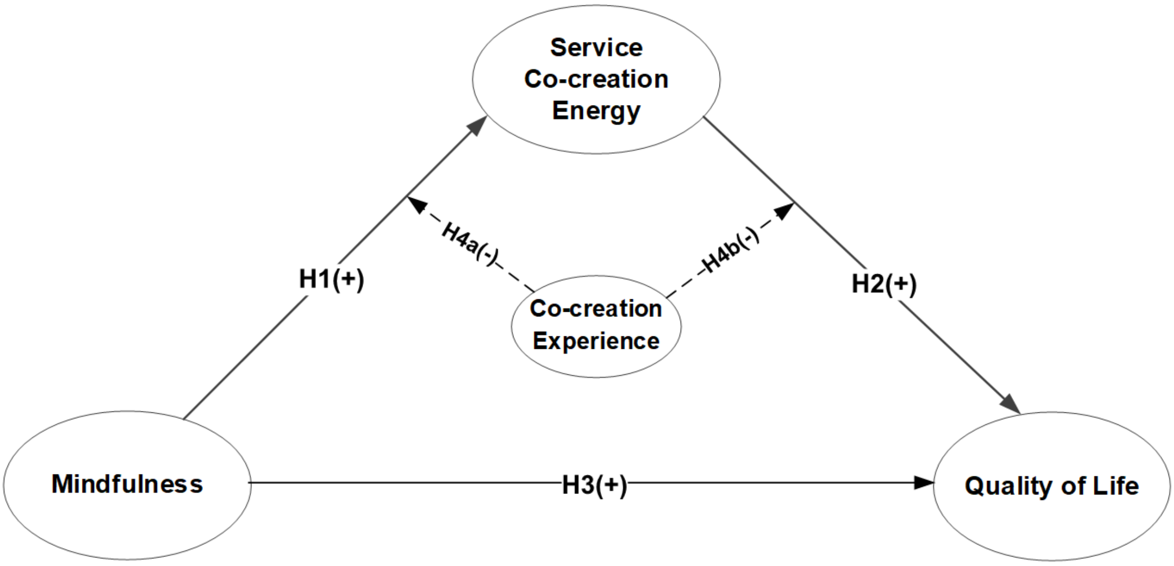

Figure 1: The research model

METHOD

Yoga training service, specifically asana yoga, was chosen as the empirical context. This service is for customer's health improvement and disease prevention. During the service, yoga trainees (i.e. customers) are required to perform various challenging body postures by themselves under the instruction of a yoga master (i.e. frontline employee). Further, such a service requires regular practices of customers over time to recognize benefits (Sharma and Haider, 2013). The current study collected data from customers who have been practicing at a yoga center for at least one month. The time span customers have been practicing at the center was used as a proxy for their service co-creation experience.

The measurement scales were adapted from previous studies. Specifically, the five items measuring mindfulness were adapted from Brown and Ryan (2003), service co-creation energy was measured by five items (My-Quyen and Hau, 2021), and quality of life comprised four items (My-Quyen et al., 2020). All items were measured on seven-point Likert-type scales. The questionnaire was developed in English and then translated into Vietnamese by two academics under the collaborative translation method (Douglas and Craig, 2007). Pilot interviews were conducted to ensure the clarity of questionnaire items. The final questionnaire was conveniently distributed to yoga trainees, and there were 266 usable responses.

FINDINGS

Sample characteristics

The sample comprised 218 female (82 percent) and 48 male (18 percent) respondents, consistent with findings about the prevalence of women practicing yoga (Park et al., 2015). The sample is relatively balanced in terms of age range. Most respondents practiced yoga at least twice per week (93.3 percent). In terms of service co-creation experience, roughly 48 percent of respondents had over one year of experience, and 40 percent of them had been practicing at the center for less than six months.

Scale assessment and refinement

Exploratory factor analysis (EFA) was first used to assess the scales' unidimensionality. The results indicated that all scales met the unidimensional criterion, and all 14 items were then subjected to confirmatory factor analysis (CFA). Three items were removed at this stage due to significant covariances of the error terms. The measurement model with the remaining 11 items resulted in satisfactory fit indices (Chi-square = 119.085; df = 41; p = 0.00; CFI = 0.97; TLI = 0.95; RMSEA = 0.08).

The standardized factor loadings ranged from 0.61 to 0.92 (> 0.5) and the average variance extracted (AVE) scores ranged from 0.64 to 0.70 (> 0.5), indicating the constructs' convergent validity. The composite reliability (CR) ranged from 0.87 to 0.90, well above the cut-off of 0.7, which satisfied the reliability requirement (Hair et al., 2010). The correlations of pairs of constructs were from 0.74 to 0.88, and no value came to unify at the 95% confidence level, suggesting that the discriminant validity criterion was met (Anderson and Gerbing, 1988).

Structural model estimation and hypothesis testing

The proposed model was tested using CB-SEM/Amos software. All model fit indices yielded acceptable values (Chi-square = 119.09; df = 41; p = 0.00; CFI = 0.97; TLI = 0.95; RMSEA = 0.05. As shown in Table 1, mindfulness positively impacts co-creation energy (H1: β = 0.88, p = 0.005) and quality of life (H3: β = 0.30, p = 0.040). Additionally, co-creation energy has a positive effect on quality of life (H2: β = 0.50, p = 0.007). The mediation analysis reveals that the total effect of mindfulness on quality of life is substantially high, with β = 0.74 (p = 0.005), including the direct (β = 0.30, p = 0.040) and indirect paths (β = 0.44; p = 0.004). These results indicate a partial mediation effect of customer service co-creation energy (Zhao et al., 2010).

Table 1: Structural model estimation and hypothesis testing results

	Path			Std. coef.	p-value	Test result
H1	Mindfulness	à	Co-creation energy	0.88	0.005	Supported
H2	Co-creation energy	à	Quality of life	0.50	0.007	Supported
H3	Mindfulness	à	Quality of life	0.30	0.040	Supported

In order to examine the moderating hypotheses, the study applied the multigroup analysis procedure suggested by Hair et al. (2010). Accordingly, the sample was split into two groups based on customer service co-creation experience, with 106 cases belonging to the below-6-months group (i.e. less experienced) and 128 cases in the above-one-year group (i.e. more experienced). The estimation of the measurement model for the two groups showed that the measurement invariance was not evident. Therefore, the comparison was conducted based on unconstrained structural models. Results (see Table 2) show a significant decrease in the unstandardized effect size of mindfulness on co-creation energy between the less experienced group and the more experienced group (1.24 vs. 0.70, p-value = 0.052), thus supporting H4a. However, H4b is not supported as the difference is not significant (0.66 vs. 0.52; p-value = 0.388), meaning that there is no significant decrease in the effect size from co-creation energy to quality of life between the two groups. Additionally, the total effect of mindfulness on quality of life for the below-6-months group is significantly higher than that of the above-one-year group (1.44 vs. 0.68, p = 0.029).

Table 2: The moderating effect of co-creation experience

	Path			Under 6 months		Over 1 year		
				Unstand. Coeff.	p-value	Unstand. Coeff.	p-value	p-value for difference
H4a	Mindfulness	à	Co-creation energy	1.24	0.002	0.70	0.002	0.052
H4b	Co-creation energy	à	Quality of life	0.66	0.056	0.52	0.038	0.388
Total effect	Mindfulness	à	Quality of life	1.44	0.003	0.68	0.002	0.029

DISCUSSION AND CONCLUSION

This study attempts to examine the interplay of various types of customer resources in service co-creation and their transformative impacts through empirically testing a moderated-mediated model. Particularly, customer service co-creation energy partially mediates the effect of mindfulness on quality of life, and the impact mindfulness has on service co-creation energy is stronger for groups of customers with less experience in service co-creation. That is, such a positive psychological resource is especially important when customers are less familiar with the service. This importance is further consolidated by the evidence that the total effect of mindfulness on quality of life of the less-than-6-months group is significantly higher than that of the over-1-year group.

The findings contribute to the transformative service research stream by showing how psychologically resourceful customers can realize transformative outcomes through services. The roles of such resources are particularly salient in prolonged services where it might be difficult for customers to immediately evaluate the value potential (My-Quyen and Hau, 2021; Pham et al., 2021) and depleting source of energy to perform the mandatory activities might be a problem (Spajol et al., 2015).

In addition to its theoretical contributions, the study also provides several managerial implications. As value co-creation has transformational potential (Gardiazabal and Bianchi, 2021; Pham et al., 2021), interventions to facilitate customer value co-creation are of strategic importance. The study shows that service co-creation energy can be strengthened, recharged or created through interventions to cultivate mindfulness. Thus, service providers should acknowledge the importance of offering mindfulness training programs and therapies to customers, particularly those with less experience in service co-creation.

Although our study offers new insights into how to sustain customers' co-creation energy and enhance their quality of life through service consumption, we acknowledge limitations. The current study focuses on mandatory co-creation activities. Further insights into the contributions of positive psychological resources to performing other types of activities (e.g. replaceable and voluntary activities) would be useful. In addition, further research to extend our study to other service settings which require significant value co-creation effort to maximize customer benefits, such as health care, education and counseling services, to enhance the generalizability of the results.

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Managing customer experience measurement - dimensions and effects

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ABSTRACT

Positive to outstanding customer experiences are critical to attracting new customers and retaining existing ones, and thus crucial to a company's success. Therefore, this study explores the topic of customer experience management and particularly the subfunction of customer experience measurement including its dimensions and effects. The topic is researched from a firm's perspective using qualitative and quantitative studies. The management process of measuring customer experiences positively influences implementation success of customer experience management, customer relationship performance, and financial performance. In addition, customer experience data generation, data analysis, and data dissemination were identified as dimensions of a structured management approach to customer experience measurement.

INTRODUCTION AND PURPOSE

To attract and maintain both prospective and current customers, delivering positive and especially superior customer experiences are central to a company's competitiveness (Becker and Jaakkola, 2020; Holmlund et al., 2020). Managing and measuring customer experiences increasingly gains importance in practice and academia. Thus, the corporate function of customer experience management has been established in many companies today. However, academic research on customer experience from a company's point of view is still sparse (Homburg et al., 2017; Lemon and Verhoef, 2016; Becker and Jaakkola, 2020). Additionally, Lemon and Verhoef (2016) highlight that a main element of managing customer experience is the ability to measure and monitor customer experience, in particular, to learn more about customers' perceptions and attitudes. Only if a company really knows what the customer expects, what the perceptions and experiences are, it is possible to optimize the customer experience. Thus, customer experience measurement enables the firm to receive actionable insights.

To the authors' knowledge, there is no academic contribution concerning the internal firm perspective, especially a firm's collection, analysis, and dissemination of customer experience data as an essential part of customer experience management. In addition, little is known about the effects of customer experience measurement. In line with that, Lemon and Verhoef (2016) call for further research.

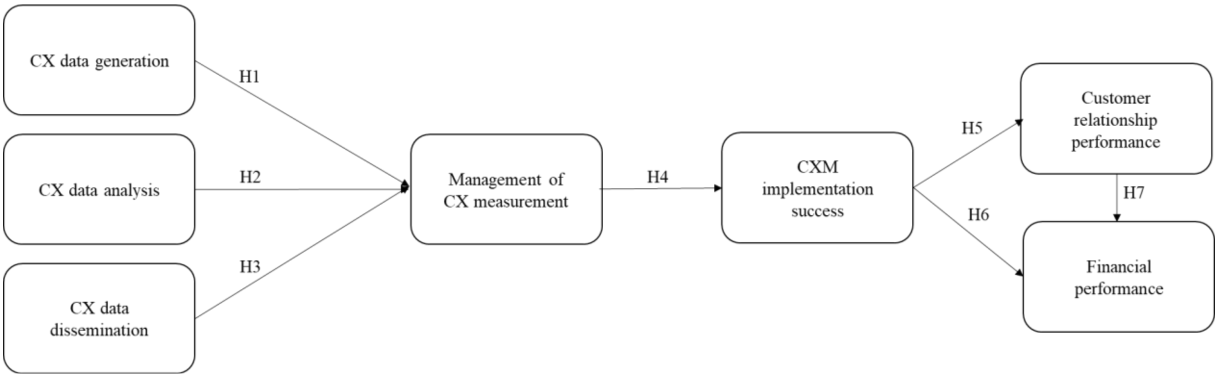
Consequently, the aim of this research is to identify the dimensions of a new construct "managing customer experience measurement". Another purpose is to explore the effects and hence the relationship between customer experience measurement as a managerial task, successful implementation of customer experience management, customer relationship performance, and financial performance.

METHODOLOGY

To address these research gaps, two international studies were conducted. First, a qualitative study was performed, followed by a quantitative study. In order to receive insights on state of the art and to gain best practices in customer experience measurement, 20 expert interviews across various industries and countries were conducted. Leading companies that intensively deal with improving customer experience and customer experience management were selected and the respective customer experience manager was interviewed. The interviews were performed using a semi-structured questionnaire and lasted about one hour. The data was recorded, transcribed, and ultimately coded and analyzed using the software MAXQDA.

Based on these qualitative insights and a comprehensive literature review, seven hypotheses for the subsequent quantitative study were derived and an online questionnaire was developed. Hypotheses H1, H2, and H3 refer to the dimensions of managing customer experience measurement: customer experience data generation, customer experience data analysis, and customer experience data dissemination. Hypotheses H4, H5, H6 and H7 investigate the effects of managing customer experience measurement on implementation success of customer experience management, customer relationship performance, financial performance, and the relationship between the two objectives. Figure 1 illustrates the conceptual model.

Figure 1: Conceptual model



To operationalize the latent variables, established scales from the literature were utilized. If required, the scales were slightly modified to the specific context of customer experience management based on the insights from the qualitative study. The online study was directed to international customer experience managers focusing on respondents from the United States, the United Kingdom, and Germany. In total, the sample comprises 264 complete questionnaires. The initial statistical analysis was performed using the SPSS software. To analyze the data further and test our hypotheses, we applied partial least squares structural equation modeling using the SmartPLS software.

FINDINGS

The results of both studies emphasize the importance of measuring customer experience as part of customer experience management. The quantitative study shows that the new construct “managing customer experience measurement” comprises three dimensions: customer experience data generation, customer experience data analysis, and customer experience data dissemination. All three have a significant positive influence on managing customer experience measurement. Thereof, customer experience data dissemination has the greatest impact.

Regarding the effects, the construct managing customer experience measurement positively and significantly influences successful implementation of customer experience management, customer relationship performance, and financial performance. In total, hypothesis testing showed support for all seven hypotheses. Thus, the findings demonstrate the value of customer experience management in general and especially the subfunction of measuring customer experience.

IMPLICATIONS AND LIMITATIONS

Concerning theoretical implications, this paper expands the research field of customer experience management by focusing on the management of customer experience measurement. It also sheds new light on the dimensions and effects of managing customer experience measurement based on both qualitative and quantitative research. Furthermore, managerial implications are derived. The management process of customer experience measurement consists of three essential parts which need to be considered by companies: customer experience data generation, customer experience data analysis, and customer experience data dissemination. The data generation builds the basic. The collected customer experience data then needs to be analyzed to receive actionable insights. As data dissemination has the greatest impact, it is highly relevant that the customer experience insights are spread pro-actively to targeted departments within the company. This enables the specialized departments to further elaborate on the processes, products, and services. However, this is still a highly neglected field in practice. Only based on these vital insights, including the customer's perception and past customer experiences, a company can improve and better design future customer experiences.

This study makes a major contribution to research on customer experience management by demonstrating the value of customer experience management with a particular focus on measurement and identifying its dimensions and investigating its effects. Concerning the study's limitations, a longitudinal analysis and a combination of the customer's and manager's views of the same company would be of additional value.

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Exploring Customer Dignity in Service Encounters

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ABSTRACT

Maintaining the dignity of the customer during service interactions has the potential to affect customer wellbeing and improve service quality. However, research exploring dignity in the commercial context is limited. We rectify this shortcoming in the literature by bringing together diverse perspectives on dignity to propose a concrete conceptualization of customer dignity. We rely on data collected from interviews with customers of Australian financial organizations to propose a definition of customer dignity and identify the various dimensions of customer dignity. Our research reveals seven dimensions of customer dignity. Theoretical and managerial implications are also highlighted.

INTRODUCTION

Transformative services research is based on the moral foundation of positively affecting customer wellbeing through services by promoting human dignity (Anderson et al., 2013). Scandals in various service sectors, such as in aged care and financial services, as reported in the findings of the Royal Commission into Misconduct in the Superannuation, Banking, and Financial Services Industry (Hayne, 2019) and the Royal Commission into Aged Care Quality and Safety in Australia (Pagone and Briggs, 2021), have highlighted threats to customer dignity that diminish customer wellbeing, and have a negative effect on the customer-service provider relationship.

Dignity is a complex construct having multiple definitions and dimensions that are discussed in the literature. However, our understanding of dignity in the commercial context remains limited. Notably, we position customer dignity in the social dignity stream of dignity research (Jacobson, 2007). Prominent management scholars have noted that considering the erosion of social trust in businesses, which has undermined their legitimacy, the promotion of dignity should be the ultimate purpose of a business (Donaldson and Walsh, 2015). Existing literature implies that dignity enables an efficient exchange of information and personalized and holistic attention from the service provider (Gruber and Frugone, 2011). We advocate that promoting customer dignity can lead to desirable outcomes, such as increased trust, improved service quality perceptions, and greater customer retention.

Considering the moral and practical importance of customer dignity, we investigate this concept in business-to-customer (B2C) service encounters to provide an empirical assessment of how service organizations can promote dignity that enhances customer wellbeing. Dignity has been examined in fields related to transformative services, such as business ethics (Mea and Sims, 2019) and humanistic management (Pirson, 2019). However, scant research has been undertaken to understand customer dignity. Hence, the objective of this study is to provide a definition of customer dignity and identify its dimensions in the services context.

RESEARCH METHODOLOGY

We explore dignity in the employee-customer interactions in the financial services sector. We employed an exploratory, qualitative, and constructionist research design. Exploratory studies of interactive, relational, and locally embedded phenomenon such as dignity (Lucas et al., 2013; Mccrudden, 2008) require a much more contextual analysis than can be offered by the positivist survey-based method, and data should ideally be collected in natural settings using qualitative techniques (Pettigrew, 1987). Similarly, a constructionist ontology provides a useful lens with which to approach the complex, mutually adaptive relationships which constitute business interactions (Cannon and Perreault, 1999).

We conducted 28 semi-structured interviews with participants who reported a relationship with a financial institution ranging from 1 to 40+ years. The interviews were conducted with a mix of purposively and snowball-sampled participants and lasted between 15 and 51 minutes. Some interviews were conducted via Zoom or MS Teams; others were face-to-face. All participants were given a gift voucher to compensate for their time and inconvenience. The interviews were audio recorded and transcripts of the interviews ranged from 4-12 single-spaced pages. The data set comprised 237 pages.

The data were analyzed inductively with the aid of coding hierarchies in NVivo. An inductive analytical approach allowed interpretation and explanation (Strauss and Corbin, 1990) in an attempt to understand the meaning of data. NVivo was used to spot and code themes, relationships, and patterns in the data, with the goal of clarifying the dimensions of dignity in B2C interactions and eliciting rich and thick descriptions of those dimensions. Our analysis consisted of three steps: firstly, open coding was used to bring participant-centric first-order categories to the surface (Gioia et al., 2012). Two researchers were involved in the independent coding process at this stage. Subsequently, second-order themes were generated by spotting connections among the first-order codes and integrating them accordingly. Finally, seven aggregate dimensions were determined.

FINDINGS

Having reviewed several definitions of dignity from the existent literature, gathered further insights from a dignity literature in different fields, and having analyzed the qualitative data collected for the purpose of this study, we propose the following definition of customer dignity. Customer dignity is a customer's perception of feeling valued, being cared for and respected, having a sense of autonomy, and being psychologically comfortable in their relationships with service providers.

Besides proposing a definition of customer dignity, our data analysis revealed seven key dimensions of customer dignity: communication, fairness, autonomy, respect, relational orientation, empowerment, and empathy. Except from relational orientation, all other dimensions have support in the relevant literature (e.g., Franco et al., 2021; Ferri et al., 2015; Bagheri et al., 2012; Matiti and Trorey, 2008). Table 1 sheds further light on the uncovered dimensions and the codes that make up these dimensions. The findings also highlight the importance of dignity in the customer-service provider relationship and how dignity can be threatened or bolstered during a customer's interaction with service providers. Moreover, we conclude that dignity is related to important customer outcomes that are beneficial to both the service provider (e.g., loyalty) and the customer (e.g., wellbeing).

Table 1: A summary of the findings

Dimensions of customer dignity	Constituent codes
Communication	Transparency
	Clarity

	Active listening
Fairness	Equality
	High standards of service
	Ethical behavior
Autonomy	Choice
	Financial stress
	Power imbalance
	Aggressive sales technique
Respect	Humiliation
	Respect
Relational orientation	Customer-centricity
	Trust
	Interaction
Empowerment	Co-creation
	Power sharing
Empathy	Emotions
	Consideration

RESEARCH IMPLICATIONS AND LIMITATIONS

This research contributes to the literature in the field of transformative services research by defining the foundational concept of customer dignity in B2C service encounters and clarifying how dignity influences service outcomes and customer wellbeing. Additionally, the research identifies the dimensions of customer dignity.

Customer dignity has been neglected in the services literature despite its relevance to social sciences. By focusing on customer dignity in B2C service encounters, we fill this gap in the current body of knowledge. While substantial work has established the dimensions of dignity in health, judicial, bioethics, and human rights contexts (Jacobson 2007), scant research has been undertaken to understand whether and how these dimensions differ in B2C service encounters. Our research conceptualizes customer dignity and argues that the inclusion of customer dignity in the theoretical conversation will align the marketing theory with customer interests and strengthen its connection to customer wellbeing and value creation.

Our focus on dignity in B2C interactions is the result of our strong desire as service researchers to contribute to the wellbeing of our society by offering valuable insights to service providers. Our framework of customer dignity can be used as a platform for suggesting guidelines to service managers wishing to ensure that customers are treated with dignity. Incorporating customer dignity into the planning and operations of businesses may allow them to focus their efforts on more beneficial products and services for their customers and create an environment where all employees, suppliers, and shareholders feel that they contribute to their business community (Bell and David, 2015).

The study has limitations. Considering the qualitative nature of our study, generalization and representativeness of the findings are a limitation of our research. Moreover, we rely on interviews with customers of one service sector, the financial services sector. Yet another limitation of our study stems from the use of the snowball sampling technique, which is prone to selection bias. Despite those limitations, our study offers an in-depth and detailed understanding of customer dignity in the financial services sector. We recommend further quantitative research with a more representative sample.

ORIGINALITY

Although customer dignity is at the heart of transformative services research, the concept has largely been neglected in the services literature. We offer a concrete conceptualization of customer dignity that will 1) provide a conceptual underpinning to the transformative services literature by demonstrating how dignity in B2C service encounters is similar to/different from conceptions of dignity in the business ethics and humanistic management literature, 2) align customer dignity to practical outcomes related to customer interests, and 3) associate customer dignity to moral outcomes related to wellbeing.

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Livestream vs Pre-Recorded - Exploring Customer Behavior towards Digital Social Viewing Strategies

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Digital social viewing strategies (DSVS) are acknowledged as a powerful strategic marketing tool. Still, it is unclear how customers evaluate their digital social viewing experience, how they form later social media engagement, and develop behavioral intentions. Results from a field experiment within the sports industry (N=123) show that livestream video content will only affect customers' purchase intention if a livestream is perceived as authentic. Pre-recorded videos, by contrast, drive purchase intention if customers have subscribed to the social media channel beforehand. To strengthen social media KPIs, pre-recorded videos are advisable, whereas authentic livestream videos are an appropriate tool to increase customers' subscribe intention through digital social experiences.

EXTENDED ABSTRACT

In today's marketing communication, videos have emerged as one of the most effective conversion tools on social media (Coker et al., 2017). Digital social viewing strategies (DSVS) embed customers in shared electronic viewership and content-guided interactions using livestream or pre-recorded videos (Ang et al., 2018). Livestream videos allow a real-time shared viewership (Sun et al., 2019) with interactions among customers (Chen and Lin, 2018) on web or mobile applications. Pre-recorded videos, where shared viewing and the interaction between customers occur through comments and posts (Robert and Dennis, 2005), are available on demand at any time (Ang et al., 2018). These contextual differences raise the question of whether and how DSVS influence social media engagement and customer behavior?

This paper makes three core contributions. First, it expands the nomological net of DSVS by studying the downstream effects of its two content types (i.e., livestream vs. pre-recorded) on customers' purchase intention. Second, by drawing on social impact theory (Latané, 1981) and the concept of social viewing (Djamasbi et al., 2016), it examines the mediating role of an authentic viewing experience. We assume that customers who participate in the same digital social environment strongly influence the perception of other customers and their perception of authenticity (Todd and Melancon, 2017). Third, because customers who engage in digital social networks often seek out and subscribe to business-related content (Pagani and Malacarne, 2017), the paper investigates whether DSVS drive subscribe intention and lead to positive response behavior.

To empirically test the proposed relationships, a scenario-based field experiment (N = 123, M_{age} = 32 years, 52.8 per cent female) was conducted as one-factorial (DSVS: livestream vs. pre-recorded) between-subjects design in the sports industry. An online training program with a sports product (fascia roller) was chosen as study context. Study participants were randomly assigned to either a livestream or a pre-recorded DSVS condition (N_{live} = 60, $N_{pre\text{-}recorded}$ = 63). The results show that the scenario-based manipulations were successful as participants differed significantly in their perception of DSVS ($M_{livestream}$ = 1.38, $SD_{livestream}$ = 1.202 vs. $M_{pre\text{-}recorded}$ = 6.28, $SD_{pre\text{-}recorded}$ = 1.434; F [1, 121] = 3.704, $p < .001$). Hypothesis 1 (i.e., direct effect; path c') stated that livestream DSVS more positively influence customers' purchase intention than pre-recorded DSVS. An ANOVA (R2 = .011; F = 1.31) showed that DSVS (β = -.344, $p > .05$) do not reveal significant direct effects on customers' purchase intention, thus leading to a rejection of H1. For testing the subsequent hypotheses, mediation analysis with Process (Hayes 2013) was used for DSVS (livestream vs. pre-recorded) as independent variable (X), authentic viewing experience as first mediator (M1), subscribe intention as second mediator (M2) and purchase intention as dependent variable (Y). To test for this mediation, we conducted a bootstrap analysis (Hayes, 2013) with bias corrected 95 per cent confidence intervals (CI; 5,000 Bootstrap samples). Here, the indirect effect from DSVS (livestream vs. pre-recorded) on purchase intention via authentic viewing experience was significant and positive (B = .319; SE = .173; [95% CI per cent]: .018; .705). The direct effect of DSVS on purchase intention was insignificant (B = -.534, SE = .316, t = -1.687, CI [95 per cent] = -1.160; .093), resulting in an indirect-only mediation (Zhao et al., 2010). H2 can thus be supported. In Hypothesis 3 (i.e., INT 2; path a2 and b2), we proposed a mediation of subscribe intention on the effect of DSVS (livestream vs. pre-recorded) on purchase intention. Results reveal that the indirect effect (i.e., INT2; path a1 and b1) is negative and significant (B = -.326, SE = .123, CI [95 per cent] = -.597; -.114). The direct effect of DSVS on purchase intention is again insignificant, resulting in an indirect-only mediation and a confirmation of H3. For Hypothesis 4, a serial mediation of authentic viewing experience and subscribe intention on the effect of DSVS (livestream vs. pre-recorded) and purchase intention was proposed. The findings confirm an indirect-only serial mediation (INT 3; path a1, d, b2; B=.196, SE = .077, CI [95 per cent] = .070; .375; direct effect; B= -.534, p > .05, CI [95 per cent] = -1.160, .093; Zhao et al., 2010). H4 can thus be supported.

The present study shows that DSVS are an important concept for marketing managers when planning their social media campaigns. Contrary to the results by Ang, Wei, and Anaza (2018), this study does not find significant direct effects of DSVS (livestream vs. pre-recorded) on customers’ purchase intention. The results, however, demonstrate that pre-recorded DSVS can positively affect customers’ subscribe intention to a brand-owned social media channel, and in return, their purchase intention for the respective product. Livestream DSVS will only exert a significant effect on purchase intention if perceived as authentic. Authenticity also enables livestream DSVS to affect subscribe intention to a brand-owned social media channel, and subsequently purchase intention. These results clearly emphasize the importance of an authentic viewing experience for video marketing (Fritz et al., 2017; Gannon and Prothero, 2016; Robert and Dennis, 2005), as otherwise the customer will not continue to watch the video (Chen and Lin, 2018), subscribe to a social media channel (Pagani and Malacarne, 2017), or purchase the promoted product.

For management, several important implications can be derived from this study. First, pre-recorded videos will be a suitable DSVS if the focus is on establishing a social media channel or increasing engagement rates (e.g., number of followers). This is because pre-recorded videos can be tailored to specific target groups and therefore constitute an efficient content type for generating followers and intensifying purchase intention. Second, for livestream videos, authenticity is decisive. This concurs with a recent study by Lessard (2020), suggesting that 79% of marketers believe livestream video content leads to a more authentic viewing experience than pre-recorded videos. The fact that social media giants such as Facebook, Instagram, YouTube, Twitter, and LinkedIn have recently included livestream video features in their offerings further underlines this argument (Todd and Melancon, 2017). Marketing managers should use livestream DSVS only if the focus is on increasing customers' retention through an authentic social viewing experience, but not on growing engagement rates. Third, as participating in a livestream means committing to a precise date and time, customers’ perceived costs are higher than watching pre-recorded videos available on-demand (Robert and Dennis, 2005). Authenticity is thus critical for leveraging a customer's investment (Fritz et al., 2017). Companies using livestream DSVS are advised to maintain an established social media account with prospering engagement rates, otherwise it is unclear who will consume the content if sufficient subscribers are unavailable. Ultimately, the results of this study indicate that livestream videos are insufficient for "establishing" a social media channel but serve as a great tool to strengthen the relationship between customers and brands. If a company's strategic marketing approach is to increase engagement on the brand-owned social media channel, however, pre-recorded videos will be more effective.

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Determinants of Student Satisfaction in Teacher Competencies in the International Studies Bachelor Programme at the Faculty of International Studies, Hanoi University

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ABSTRACT

In this study, we examine the main determinants of student satisfaction in teaching competencies in the International Studies Bachelor Programme of the Faculty of International Studies at Hanoi University utilizing the Higher Education PERFormance-only (HEdPERF) model. We analysed the provided education quality from the general perspective of enrollers with a focus on teacher competency. We hope the methodologies provided here can used as a template to evaluate tertiary education services to better enhance the student satisfaction. We have found that while the student satisfaction score in teaching competencies was relatively positive, there still exist some issues with quality in specific aspects.

INTRODUCTION

This paper is a shortened version of an original research conducted by Hoang Anh Q. Nguyen, Dung T. Do, Hai Phuong D. Cao, Thao Anh Pham, Phuong Anh Doan, and Lan Huong Nguyen. Because the paper was written by Vietnamese authors, of which the traditional naming convention is *Surname - Middle name - First name*, the author names used in this paper have been adjusted to fit international naming standards, which are usually *First name – Middle name – Surname*. When citing this article, please use the authors' names in this order: (i) for Nguyen Quang Hoang Anh, Hoang Anh is the first name, Quang is the middle name, Nguyen is the surname; (ii) for Do Tuan Dung, Dung is the first name, Tuan is the middle name, Do is the surname; (iii) for Cao Doan Hai Phuong, Hai Phuong is the first name, Doan is the middle name, Cao is the surname; (iv) for Pham Thao Anh, Thao Anh is the first name, Pham is the surname; (v) for Doan Phuong Anh, Phuong Anh is the first name, Doan is the surname; (vi) and for Nguyen Lan Huong, Lan Huong is the first name, Nguyen is the surname. Correspondence concerning this paper should be addressed to nguyenquanghoanganh@yahoo.com.

Virtually all universities, as principal institutions for advanced learning, have it in their best interests to uphold and continually improve the teaching standards as well as the academic provisions. One of the important metrics to evaluate a university's scholastic professionalism is academic quality. Academic quality is a term that benchmarks how available the learning opportunities are to students and how well those opportunities help them in the process of higher education. It focuses on the guarantee that appropriate and effective teaching methods, staff, and assessment, along with learning opportunities, are provided to the university's students. A university that respects the academic quality standard and can maintain, in addition to refining its qualities, not only for the purpose of reporting to supervisory bodies but also to create an ever-enhancing environment for students to develop in their chosen disciplines and maintain its image as an education institution with self-reflection and good practice.

There are few studies on measurement and evaluation in education in Vietnam, with the majority of them focusing on topics connected to higher education quality. Most studies (Tran, 2008; Luong, 2012; Pham & Nim, 2017) select the strategy of gathering opinions from students to assess the subject, and instructors and administrators to review the curriculum, especially when it comes to analysing higher education activities. Other techniques, such as lecturers' self-assessment, peer-review, evaluation by school administrators, and assessment through teaching records, only have a small amount of research. This research will provide an assessment of the International Studies Bachelor Programme's academic quality from the perspective of its students. The information gathered and the conclusions drawn from this research will hopefully serve as a good reference for people who are looking at the International Studies Bachelor Programme as one of their next academic destinations.

CONCEPTUAL FRAMEWORK

The Higher Education PERFormance-only (HEdPERF) model was first developed by Abdullah (2006) as an alternative to other quality education measurement systems that focus on service quality. Using both exploratory and confirmatory component analysis, the 41-item instrument was experimentally assessed for unidimensionality, reliability, and validity (CFA) (Abdullah, 2006). In view of rising competition as global education markets evolve, such a valid and reliable measurement scale would be a tool that tertiary institutions might utilize to improve service performance. In Abdullah's (2006, 41) comparison of HEdPERF and SERVPERF, HEdPERF dimensions score a much higher Cronbach's Alpha compared to SERVPERF dimensions (ranging from 0.81–0.92). Because of its higher validity and focus on service quality, we decided to use the HEdPERF model to score student satisfaction. While the HEdPERF model was developed to score service quality dimensions such as non-academic, academic, reputation, access, and programme issues; this research will only focus on the academic aspect of the model. Three dimensions taken from the model were tested for teaching competency: *Academic knowledge, Pedagogical skills, and Lecturer's attitude*. In addition, we wanted to test an additional dimension called *Student lecturer relationships*. This variable was chosen due to the relatively smaller teacher-to-student ratio of the Faculty of International Studies compared to other Faculties of Hanoi University in addition to the trend of old lecturers leaving the Faculty and replacement lecturers coming to fill their places. We believe this is also an important factor that must be considered as it reflects the quality of such institutions based on their ability to hire and hold on to quality lecturers.

Drawing from conclusions based on student experience, literature, and the HEdPERF model, we have synthesised three hypotheses about the outcomes of the results, which will be proven/disproven below: (i) Most students in the International Studies Bachelor Programme of the Faculty of International Studies are divided on teacher competence. (ii) With the constant changing of teachers, many students are worried this might have an impact on the programme's ability to deliver quality education. (iii) Students are not sure whether the new lecturers are qualified enough.

We designed a questionnaire that allowed us to scale student satisfaction on a scale from 1 to 5. The questionnaire is divided into four main parts: 1. Academic knowledge (2 questions), 2. Pedagogical skills (3 questions), 3. Lecturer's attitude (5 questions), 4. Student-lecturer relationships (5 questions). Within the "4. Student lecturer relationships" part, three questions were graded on a 1 to 5 scale, while the remaining two questions were graded on a non-numerical scale. The two remaining questions were collected via a multiple-choice scoring system, which allowed students to choose more than one answer.

FINDINGS

As of November 2021, the number of students registered at the Faculty of International Studies was 617. Our research will focus solely on the students pursuing the International Studies

Bachelor Programme due to its easy accessibility and reach towards those students compared to the newly established Development Studies Bachelor Programme and the English for Specific Purposes Department students (who are not directly administered by the Faculty of International Studies).

Table 1: Demographics of the Faculty of International Studies (2021)

	All Students		Males		Females	
	Number	(%)	Number	(%)	Number	(%)
International Studies Bachelor Programme	446	72.29	78	17.49	368	82.51
Development Studies Bachelor Programme	36	5.83	9	25.00	27	75.00
English for Specific Purposes Department	135	21.88	16	11.85	119	88.15
Total	**617**	**100.00**	**103**	**16.69**	**514**	**83.31**

Table 2: International Studies Bachelor Programme academic level demographics (2021)

Academic level	Number	Percentage (%)
Sophomores	135	30.27
Juniors	122	27.35
Seniors	135	30.27
Others[1]	54	12.11
Total	**446**	**100.00**

It must be noted that the numbers above are based on the coding of their administrative classes and cohorts (K17, K18, K19, and K20), and not the actual academic level they might be in. It must be noted that different students of different backgrounds may need different amounts of time to finish their studies and degree. Some may be of a Senior cohort but might be studying at the Junior or Sophomore level, for example. The numbers above are a relative estimate and should not be taken into account considerably.

Table 3: Research sample

Information	Number	Percentage (%)	Valid responses (%)

Gender identity	Female	28	70.00	70.00
	Male	9	22.50	22.50
	Prefer not to say	2	5.00	5.00
	Gay	1	2.50	2.50
Academic level	Sophomore	9	22.50	22.50
	Junior	13	32.50	32.50
	Senior	16	40.00	40.00
	Other	2	5.00	5.00

When compared to the official statistics of the demographics of the Faculty of International Studies provided above, there are minimal deviations between the genders of the International Studies Bachelor Programme (Table 1) and our research sample (Table 3). See Table 4 below:

Table 4: Gender demographic comparison

	Males	**Females**	**Other**
International Studies Bachelor Programme (Table 1)	17.49%	82.51%	0.00%
Research sample (Table 3)	22.50%	70.00%	7.50%
Standard deviation	**0.04**	**0.09**	**5.30**

When compared to the official statistics of the demographics of the Faculty of International Studies provided above, there are minimal deviations between the academic level demographics of the International Studies Bachelor Programme (Table 2) and our research sample (Table 3). See Table 5 below:

Table 5: Academic level demographic comparison

Academic level	**International Studies Bachelor Programme (Table 2)**	**Research sample (Table 3)**	**Standard deviation**
Sophomores	30.27%	22.50%	0.05
Juniors	27.35%	32.50%	0.04
Seniors	30.27%	40.00%	0.07
Other	12.11%	5.00%	0.05

With a minimal deviation of population characteristics (an average deviation of 0.8), we can conclude that our research sample is sufficiently representative of the demographic characteristics of the International Studies Bachelor Programme.

The analysis in Table 6 gives our research sample a Cronbach's Alpha (α) score of 0.78. As explained in the Research instruments section above, our Cronbach's Alpha (α) score is within the range of 0.70 < α < 0.80, which gives us a respectable and adequate sample (shaded green).

Table 6: Cronbach’s Alpha (α)

Questions	13
Sum of question variances	9.36
Variance of Total Scores	32.95
Cronbach’s Alpha	**0.78**

The Kaiser-Meyer-Olkin (KMO) score scales from 0 to 1:

- If the value is < 0.5; the data set has some problems;
- If the value is > 0.9; the data set is “too” (unnaturally) consistent and might be falsified;
- If otherwise, the dataset is acceptable.

The Bartlett test (the important value here is the Sig.) determines whether the variables in the matrix correlated significantly from 0. For variables that do not correlate with others' means, Factor Analysis is not needed.

Table 7: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.741
Bartlett's Test of Sphericity	*Approx. Chi-Square*	256.973
	Df	78
	Sig.	.000

With a KMO score of 0.741 lying within 0.5 < 0.741 < 0.9, the dataset is acceptable (shaded green). The Barlett test shows the Sig. being .000, therefore Factor analysis is not needed for this dataset (shaded green).

For the Tables and dataset explanations below, the questions from our questionnaire are coded as follows:

- **Q set 1:** *1. Academic knowledge*
- **q11:** *1.1. The lecturer is knowledgeable enough to answer students' questions related to the subject*
- **q12:** *1.2. Lecturers have high and professional qualifications*
- **Q set 2:** *2. Pedagogical skills*
- **q21:** *2.1. Lecturers have good pedagogical and teaching skills*
- **q22:** *2.2. Lecturers accurately assess student learning results*
- **q23:** *2.3. Lecturers objectively assess student learning results*
- **Q set 3:** *3. Lecturer's attitude*
- **q31:** *3.1. Lecturers are attentive, courteous and polite to students*
- **q32:** *3.2. Lecturers have a positive working attitude towards students*
- **q33:** *3.3. Instructors are always ready to answer students' questions*
- **q34:** *3.4. When students have difficulties in their studies, lecturers are always willing to assist them*
- **q35:** *3.5. Lecturers take appropriate time to advise students on issues related to their specializations*
- **Q set 4:** *4. Student lecturer relationships*
- **q41:** *4.1. Relationships with lecturers affect student learning*
- **q42:** *4.2. Students are adjusting to new lecturers*
- **q43:** *4.3. Constant changing of lecturers is affecting student performance*
- **q44:** *4.4. How does the change of lecturers affect you in a POSITIVE way?*
- **q45:** *4.5. How does the change of lecturers affect you in a NEGATIVE way?*

It should be clarified that:

Q set 1 = {**q11, q12**};

Q set 2 = {**q21, q22, q23**};

Q set 3 = {**q31, q32, q33, q34, q35**};

Q set 4 = {**q41, q42, q43, q44, q45**}.

All of Q set 1, Q set 2, & Q set 3 are graded on a scale of 1–5. Within Q set 4, the numerically graded questions are q41, q42, and q43. Only q44 and q45 are not graded on the numerical 1–5 scale and were graded using a non-numerical multiple-choice system.

Communalities value determines the credibility of each factor, which in this case is the question (Table 8):

- If a question is loaded up with an extraction of < 0.3 (painted in red, which we had none), there might be some issue with that question;
- If a question has a value of > 0.3 but < 0.6 (painted in yellow, which we had 3), it could be used for further analysis but caution is advised.

Table 8: Communalities

Communalities		
Questions	*Initial*	*Extraction*
q11	1	0.474
q12	1	0.563
q21	1	0.695
q22	1	0.784
q23	1	0.697
q31	1	0.712
q32	1	0.780
q33	1	0.814
q34	1	0.783
q35	1	0.686
q41	1	0.514
q42	1	0.682
q43	1	0.953

According to Table 9, we had 4 latent factors: those are the factors with an Eigenvalue of > 1; as seen with starting with the fifth factor, Eigenvalue dropped below 1 and the table stopped calculating. Now that we had the initial number of latent factors, we could re-run the Factor Analysis for the second time.

Table 9: Total variance explained

Total Variance Explained						
Component	***Initial Eigenvalues***			***Extraction Sums of Squared Loadings***		
	Total	*% of Variance*	*Cumulative %*	*Total*	*% of Variance*	*Cumulative %*

1	5.383	41.408	41.408	5.383	41.408	41.408
2	1.595	12.27	53.678	1.595	12.27	53.678
3	1.138	8.756	62.434	1.138	8.756	62.434
4	1.021	7.851	70.285	1.021	7.851	70.285
5	0.983	7.564	77.849			
6	0.67	5.156	83.005			
7	0.591	4.548	87.554			
8	0.502	3.863	91.417			
9	0.404	3.108	94.524			
10	0.309	2.373	96.897			
11	0.196	1.507	98.404			
12	0.118	0.909	99.314			
13	0.089	0.686	100			

This second test was done with settings for Orthogonal Rotation and small coefficients suppressed. By eliminating smaller coefficients, only questions that heavily relate to latent factors would show up in groups. See Table 10 below:

Table 10: Rotated Component Matrix

Rotated Component Matrix				
	Component			
	1	*2*	*3*	*4*
q33	0.874			
q32	0.857			
q34	0.828			
q31	0.689			
q35	0.682	0.446		
q12	0.534	0.467		
q22		0.846		
q21		0.798		

q23		0.675	0.408	
q11		0.574		
q41			-0.686	
q42	0.473		0.543	
q43				0.975

From this arrangement of these components, we had a glimpse of which questions were correlated to which latent factors. To make sure of this correlation, we did a reliability check for each of the three latent factors (the fourth latent factor only consisted of one question with a Cronbach's Alpha of 0.975 so there was no need to run a test for it). After running three reliability tests, this is the final result for the survey's latent factors (Table 11):

Table 11: Latent factors

Latent factors		
	Component	*Extra consideration*
Latent factor 1:	**Q set 3 + q12**	
Latent factor 2:	**Q set 2 + Q set 1 + q35**	
Latent factor 3:	*Unreliable (Cronbach's Alpha: 0.39)*	**q41 + q42 + q23**
Latent factor 4:	**q43**	

Latent factor 1 was formulated with the answers from Q set 3 and q12. Latent factor 2 correlated to Q set 2, Q set 1, and q35. Latent factor 3 credibility is questionable due to the low Cronbach's Alpha score; but for extra consideration, q41, q42, q23 made up the factor. Latent factor 4 is directly related to q43.

We have found out that there are 4 latent factors that influence the pattern of how students from the International Studies Bachelor Program assess teacher competency according to the given 13 questions; or in another word, the survey managed to measure 4 unique groups of traits that determined how the students respond. The results of the entire numerical graded survey showed an average score of 4.27/5.0, with a variance of 0.88, and a standard deviation of 0.94. While overwhelmingly positive, there are differences in how different aspects of a lecturer's competency are graded.

The results of Academic knowledge showed an average score of 4.58/5.0, with a variance of 0.39, a standard deviation of 0.63, Z-score of 0.32. For q11, the average score is 4.5/5.0, with a variance of 0.45, a standard deviation of 0.68, Z-score of 0.24. For q12, the average score is 4.65, with a variance of 0.33, a standard deviation of 0.58, Z-score of 0.40.

The results of Pedagogical skills showed an average score of 4.13/5.0, with a variance of 0.74, a standard deviation of 0.87, Z-score of -0.16. For q21, the average score is 4.15/5.0, with a variance of 0.78, a standard deviation of 0.89, Z-score of -0.13. For q22, the average score is 4.15, with a variance of 0.63, a standard deviation of 0.80, Z-score of -0.13. For q23, the average score is 4.08, with a variance of 0.82, a standard deviation of 0.92, Z-score of -0.21.

The results of Lecturer's attitude showed an average score of 4.60/5.0, with a variance of 0.47, a standard deviation of 0.69, Z-score of 0.35. For q31, the average score is 4.68/5.0, with a variance of 0.32, a standard deviation of 0.57, Z-score of 0.43. For q32, the average score is 4.70, with a variance of 0.36, a standard deviation of 0.61, Z-score of 0.46. For q33, the average score is 4.73, with a variance of 0.35, a standard deviation of 0.60, Z-score of 0.48. For q34, the average score is 4.55, with a variance of 0.55, a standard deviation of 0.75, Z-score of 0.30. For q35, the average score is 4.35, with a variance of 0.68, a standard deviation of 0.83, Z-score of 0.08.

The results of the Student teacher relationships graded section showed an average score of 3.67/5.0, with a variance of 1.39, a standard deviation of 1.18, Z-score of -0.64. For q41, the average score is 3.48/5.0, with a variance of 1.80, a standard deviation of 1.36, Z-score of -0.85. For q42, the average score is 3.70, with a variance of 1.41, a standard deviation of 1.20, Z-score of -0.61. For q43, the average score is 3.83, with a variance of 0.89, a standard deviation of 0.96, Z-score of -0.48.

For the multiple-choice q44, there were a total of 63 responses from the 40 respondents. The positive aspect that was chosen the most was "*Approaching the subjects from a variety of perspectives*" (55.56 per cent), while the aspect that was least chosen was "Learning with more lecturers" (12.70 per cent) and "Excitement in the subject due to new teaching style" (1.59 per cent). These results imply that a minority of respondents are not excited about learning with new lecturers and adapting to new learning styles. Around 11.11 per cent of responses claimed to be unaffected by the changes.

For the multiple-choice q45, there were a total of 63 responses from the 40 respondents.

Unlike q44, q45 does not have a response with a majority, the answers with the most responses are as follows (in declining order) *"Affecting student performance (lower score, more exercises, the test is harder, etc.)"* (26.98 per cent), *"Getting used to the old lecturer's way of teaching"* (25.40 per cent), *"New lecturers do not have enough teaching experience"* (20.63 per cent), and *"Students have difficulty in communicating with new lecturers"* (17.46 per cent). Around 6.35 per cent of responses claimed to be unaffected by the changes.

CONCLUSION

The student satisfaction score of the International Studies Bachelor Program is 4.58/5.0, while a relatively positive result, there still exists some variances in how quality is perceived depending on the issue. The results show that the faculty's lecturers have sufficient academic knowledge, teaching attitudes, and pedagogical skills. The results of this study suggest the key determinants of student satisfaction include: (i) Positive perception of a lecturer's academic knowledge and (ii) Lecturer attitude towards students. Specifically, it seems that attentiveness and positive attitudes are key sources of student satisfaction in the International Studies Bachelor program (Table 12.3).

The results of Q set 1 (Table 12.1) and Q set 3 (Table 12.3), showed higher positive results compared to Q set 2 (Table 12.2) and graded Q set 4 (Table 12.4). The Z-scores of Q set 2 and Q set 4 were both below the average mean of the entire dataset, implying that these factors might be underperforming compared to other aspects. For Q set 2, while mostly positive, this would imply some minor issues with the pedagogical skills of lecturers. The graded Q set 4, however, is the most underperforming, and while still relatively positive, its Z-score is significantly lower compared to Q set 2, implying a need to improve significantly in the transition and inclusion of new lecturers.

In q44, we can see that "Approaching the subjects from a variety of perspectives" (55.56 per cent) is the most positive aspect in bringing new lecturers into the International Studies Bachelor program. Conversely, while q45 does not have a majority response, the diversity of the responses can imply that there are many overlapping and complex reasons why students can be negatively affected by new lecturers coming in and replacing old lecturers. We deduce that due to the relatively small size of the Faculty of International Studies, students and teachers might have developed closer relationships and if connect that with the main student satisfaction determinants mentioned above, it is understandable why students might not fully trust new lecturers. This implies there could be a correlation between student-teacher relationships and student satisfaction which should be studied furthermore.

With regards to our three hypotheses, we can conclude that hypothesis (i) "Most students in the International Studies Bachelor Program of the Faculty of International Studies are divided on teacher competence" is false due to the relatively high student satisfaction score. Hypothesis (ii) "With the constant changing of teachers, many students are worried this might have an impact on the program's ability to deliver quality education" and (iii) "Students are not sure whether the new lecturers are qualified enough" are true due to the relatively less positive perception of new lecturers and the diverse responses on how they negatively affect students.

With the results above, it is suggested that the Faculty of International Studies should be more comprehensive in the transition between old and new lecturers. The Faculty can recruit new lecturers and still keep old lecturers and divide the current classes for the old lecturers while slowly transferring the new classes of Freshmen to new lecturers. However, at the core of the issue, the Faculty should understand that the rapid transitioning of new lecturers might have a negative impact on students and should therefore focus on reducing the changing of lecturers.

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Staff Experience in the Frontline

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INTRODUCTION

Employee experience has been long ago theorized in services marketing and management (not fully referenced it is to mention Fullerton and Punj, 1997; Harris and Reynolds, 2003; Subramony and Pugh, 2015; Plaskoff, 2017; Locock et al., 2020 etc.). This is however only a one-side viewpoint of the frontline. In order to break through the wall between the functional silos of the marketing and the human resource management the study of the situation in a reciprocal approach, i.e. co-creation by customer-frontstaff experience sharing, can be equally interesting. What is more, the overlapping control area of the marketing and the human resource management justifies the two-way problem interpretation. Purpose and motivation for the study, namely research goal was exploring the nature of interactions between customers and service frontline personnel in nonstandard situations.

METHODOLODY

In a preparatory phase a quasi-secondary data collection has been conducted from different sources:

- Frontline conflict narratives based on past observations

This storytelling specified the service category, the nonstandard demand of the consumers and the reaction of the staff in a detailed way.

Besides the following preparatory actions have been performed:

- VOSViewer - literature review & visualization with VOSviewer based on Web of Science Core Collection
- Knowledge transfer - online learning platforms' training offers - analyzing the supply-side of HR and front staff management related knowledge
- Mystery online research - netnographic research to studying online "jaycustomer" culture regarding front staff experience (content analysis of Google, Facebook and other platforms' customer reviews) recording the following data: service provider, platform of the consumer opinion, text of complaint and service provider's response.

In the field research phase conflicts between jaycustomers and frontline personnel were simulated based on a mystery shopping scenario. The latter has been finalized using the acquired information from the preparatory phase. For the tested services interaction-intensive ones have been selected, like HORECA, beauty service industry, tourism and passenger transport. The conflict situation based on a scenario where in the role of jaycustomers the so-called belligerent and the dictatorial types have been simulated. The scenario contained the construction of the purchasing process, essential elements and alternatives of the conflict situation, revealing the situation for ethical reasons and the evaluation criteria. Before the action mystery shoppers were instructed to observe the behavior (reactions, communication, gestures, problem solving intention etc.) of the frontline staff. The instructions transmitted to the mystery observers emphasized, that each sign of the staff frustration (for example negative body language, sound effects, secondary communication with other staff members etc.) has to be taken into account. Besides it was expected to record the conflict management phrases used in customer communication. To achieve the highest research efficiency a brief survey and personal interviews followed the on-site observations. The applied questionnaire survey involved the following information: service category, duration, dynamics of staff behavior and efficiency of problem solution etc. The research results were continuously discussed and interpretated together with human resource management experts. Besides the observations of a passive person accompanying the mystery shopper have been also used.
As a final research phase expert in-depth interviews with the HR staff of service providers has been conducted in order to validate the interpretations.

FINDINGS

Based on the analysis of the research material two sets of results have been gained. On the one hand a few behavioral patterns could be identified on the frontline personnel side, on the other hand jaycustomer oriented human resource management tasks - development of standards and trainings - could be derived. The following special tasks seem to be useful in the frontline management:

- Collaboration of marketing and HR in the staff selection
- Staff training in a test environment
- Conflict case study material in the frontstaff training
- Measurement-based monitoring system with special attention to conflict solution
- Implementation of conflict solution skills in the performance evaluation system
- Cooperation between marketing and HR in frontline process development

- Managing internal communication on jaycustomer experiences as a part of the internal marketing program

RESEARCH LIMITATIONS

Due to certain ethical concerns in the application of mystery shopping methodology severity of the simulated frontline conflicts must be limited. This can be resulted in a lack of information gained from the experiments. Since the research goal was to explore the dynamics of the frontline conflict situations in a qualitative approach, quantitative generalization of the results is not possible. As a quasi-quantitative result could, however, be gained from the mystery shopping phase if the mystery shoppers are requested to fill out a post-observation questionnaire where the questions focus on certain generalizable elements of the conflict situations. Naturally valid quantifiable conclusion can be drawn only from an adequate number of experiments.

ACADEMIC AND PRACTICAL IMPLICATIONS

The studied problem is a direct consequence of the inseparability as it is defined in the HIPI-principle. The research offers a possibility for services management and services marketing theory to find a consensual frontline process model. In this model interlocking multiside interactions of the frontline roleplayers can dynamize the classic servuction model.
As a learning for human resource management in internal marketing programs also this experience should be managed on the grounds, that the frontline staff behavior has to be equally professional and customer oriented. Even if customer orientation is a must, nonstandard customer behavior can go beyond a manageable limit, which is extremely risky. Staff behavior in the frontline is greatly determined by their training. The review of the staff training content comparing with the research results a fruitful development direction could be, for example, in the human resource management practice. This latter can be a new, customer oriented approach to an improved specification of the necessary skills in the service frontline.

ORIGINALITY

The need for coordination between the two management functions – marketing and human resource - is more significant, if the interaction environment is more intense, and difficulties are growing exponentially when jaycustomers create conflicts. The equivalent of the customer experience is what the frontline staff has to go through in the interactions can be called frontline staff experience.

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A conceptualization of unacceptable services as counter-hegemonic practices

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ABSTRACT

Socially unacceptable services, such as cannabis dispensaries, webcam platforms and underground parties have millions of participants and represent billions of dollars. It is estimated that the webcam industry in Colombia generates more than 150,000 jobs and 600 million dollars a year (Forbes, 2022), tax revenues from legal marijuana sales in the United States are 7.9 billion USD and the pornography industry generates more than 54 billion dollars a year (Rosenbaum and Russell-Bennett, 2020). However, many of these services continue to operate informally to avoid the existing stigmatization, tax burdens or regulatory bodies' lags in understanding the new industries, identities and consumption practices (Forbes, 2022).

Likewise, the disdain and exclusion of certain services causes researchers, for fear of being stigmatized, to overlook research into the nuances of socially unacceptable services, ignoring their existence and impact on consumers and society. For this reason, Rosenbaum and Russell-Bennett (2020) propose as a problem question for future research "What makes a service acceptable to some and unacceptable to others?" To address this gap, it is necessary to broaden the field of study and resort to a multidisciplinary view from sociology to understand in depth the paradigms that constitute a service as socially unacceptable or not.

Douglas (1973) studied different communities with the objective of identify what is socially unacceptable in a specific social group, recognizing the subjectivity of each social group, without pretending to find a universal answer of what acceptable or unacceptable. In his study was discovered that religion is not an arbitrary relationship of the individual with a supernatural power, it is a relationship that all members of a community have with the power that watches over their good, therefore, each community will have separation rituals that differentiate what socially acceptable and socially unacceptable (Douglas, 1973).

Figari (2009) explains that it is in the functioning of the emotional that cultural regulations are socially evidenced, through disgust as a primary form of reaction to what is socially unacceptable, since it represents the feeling of repulsion to the transgression of the limits of

social order. The transgression of social order has caused social systems to find ways to preserve order and prevent deviation, which is why from a punitive economy (Foucault, 1976), law and criminology have become tools of control and separation based on exclusion, stigmas and intolerance of “otherness” (Cajas, 2009).Creating an endless cycle of domination, resistance and emergence of new deviants.

Cajas (2009) inserts in the discussion of what is socially acceptable and unacceptable, the concept of will, which changes the unidirectional perspective of abjection and turns it into a bidirectional relationship, the subaltern is not always a consequence of exclusion mediated by hegemonic values, it is also a decision of one's will, given by the values and belief systems, which are the basis for the construction of identities.

Illouz (2007) argue that emotion is an "energy" that drives action, involving at the same time cognition, affect, evaluation, motivation and the body. Therefore, emotion becomes a frontier of the socially acceptable and unacceptable acquiring an essential role in contemporary times, given that individuals must comply with "healthy" emotional styles that allow them to be more productive at work and generate social capital (Illouz, 2007).

From a postmodern stance, using the transformative services literature, the sociology of deviance, and the sociology of emotions, the research aims to answer why sinful services are socially unacceptable? what makes a service acceptable to some and unacceptable to others? And how can sinful services be conceptualized through a two-year longitudinal study exploring five types of unacceptable services (street musicians, paraphernalia stores, street vendors, informal artists and micro-trafficking). Data collected over two years through semi-structured interviews, non-governmental reports, popular music and social media postings were analyzed with applied thematic analysis.

Preliminary results suggest that exclusion from services is a bidirectional, rather than unidirectional, phenomenon, as participants in unacceptable services may also exclude themselves from services and transformative service initiatives of their own volition. Since, they expect to be recognized rather than included, as inclusion means ignoring their differences and assimilating them under the hegemonic value system, while recognition, on the contrary, means acknowledging the differences of subaltern groups and the coexistence of different ways of being in society.

The results help to (1) conceptualize unacceptable services, (2) suggest elements to help improve the well-being of participants of socially unacceptable services, and (3) present a new approach to understanding service exclusion. Contributing to closing the gaps in transformative services by supporting public policy makers to understand the nature of unacceptable services and their participants to design services that consider harm reduction policies, from the bottom of the pyramid, instead of a punishment economy that generates greater negative impact to service users and society. Considering that unacceptable services represent millions of dollars, millions of users, they have existed, exist and will exist regardless of whether they are categorized as legal or illegal.

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Can robotic agents serve customers like a human? A meta-analysis on customer responses to robotic vs. human agents

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Keywords: Robotic agents, frontline service employees, AI, algorithms, meta-analysis

Purpose of the study

Advancements in technology have pathed the way for the rise of robotic agents, be they physical (e.g., embodied service robots) or digital entities (e.g., chatbots, voice assistants). These agents provide autonomous service to customers, are cost efficient and thus, can reduce prices and increase the living standard (Wirtz et al. 2018). Yet, can robotic agents serve customers as if they were human employees? A recent literature review supports the salience of this question, with human–robot comparisons accounting for the largest proportion of studies (De Keyser and Kunz 2022). Although most prior studies show negative effects of robotic (vs. human) service agents on customers, the effect sizes fluctuate largely and in some cases even are nonsignificant or positive. Thus, the purpose of this paper is to conduct a meta-analysis to examine the effects sizes across different customer responses, explain their fluctuations through contingency variables, and unveil the hierarchy of effects in the different customer responses.

Methodology

Following a thorough literature search for robotic–human comparisons in customer interactions, we conducted a meta-analysis with 181 study samples from 85 articles. We calculated the pooled effects size for six customer responses, conducted meta-regressions to explain the fluctuating effects sizes, and ran a path model to unveil the hierarchy of effects in the customer responses.

Findings

The mean effect size of robotic (vs. human) agents on different customer responses is negative, but small or at best moderate in scope. Further, contingency variables such as text communication, a service failure situation, a utilitarian context, and a large proportion of female respondents buffer the negative effect; while appearing humanlike, taking the role of a human expert, and fulfilling complex tasks increase it. The backfiring effect of a humanlike appearance specifically occurs when robotic agents communicate through text or voice or fulfill a lowcomplex task. Finally, the negative effect of a robotic (vs. human) agent on the downstream variable behavioral intention is mediated by the social perception of the agent (i.e., its perceived warmth and competence) and customer attitude (i.e., affective reaction and quality evaluation), with competence perceptions, rather than warmth perceptions, playing the key mediating role.

Research limitations / implications

As any meta-analysis, our research is constrained by the availability of primary data and the necessity to consolidate the various customer responses. Our research has important theoretical implications, by unveiling unexpectedly small negative effects on most customer responses, identifying contingencies that put robotic agents more on par with their human counterparts or reinforce their deficiencies, and explaining the hierarchy of effects in the various customer responses. Managers receive guidance on the design of service robots and their applicability in certain contexts.

Originality / value

This is the first paper conducting a meta-analysis on robot–human comparisons in customer interactions. It provides an overview of this emerging field and clarifies a pressing question at times of labor shortage in developed economies, namely if, why, and in which condition service robots can possibly replace human frontline employees.

Service Innovation Research: A bibliometric analysis using VOSviewer

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Purpose of the study :

Service innovation is essential for economic development, and many studies on service innovation relate to the manufacturing industry. The purpose of this paper is to review the existing literature on service innovation. The paper critically reviews 157 research articles published in the past 20 years from 2002-2022. The paper assesses the important trends of 'Service innovation research' through bibliometric analysis using VOSviewer. The paper aims to enhance the academic debate, identify future research gaps, and propose a research agenda.

Methodology:

The paper examines the studies published from 2002 to 2022 by adopting the bibliometric technique using VOSviewer software, using keywords namely, Service innovation; Value creation; Bibliometric; Innovation. The paper reviews and analyzes the different levels and boundaries of service innovation using bibliometric analysis of 'service innovation research' using VOSviewer software. The methodology analyzes the number of citations, keywords, authors, journals, and countries. A database of 157 articles published between 2002 to 2022 is generated from Web science core collection and the Scopus database published between 2002 and November 2022. A sample size of 157 research papers relevant to the study was evaluated using VOSviewer software.

Findings :

Service innovation has remained an under-researched area, but the research of the past twenty years indicates a substantial growth in the number of good research publications on service innovation. USA & Sweden dominates this research area with the most articles published to date under the subject area of "Business management." The study identifies some of the most cited publications on service innovation. The review highlighted that most of the studies on service innovation focussed on products, companies, and processes in the services industry. The findings demonstrate a need for conceptual consolidation of service innovation. The most significant factors in service innovation are training of human labor and being up to date by adopting new technologies. The most critical factors behind service innovation failure are improper management and lack of knowledge. The citation analysis revealed various research implications and directions for the future.

Research Limitations/ Implications : This study focuses only on service innovation and excludes research on performance management and control. Thus, future studies may explore this area of research in future studies. Only research articles were analyzed; conference papers, reports, manuals, and white papers from practice were excluded. Research implications indicate that future studies on service innovation would be essential for organizational excellence, not process excellence.

Originality/ Value: The paper provides a comprehensive overview of the current status of research on service innovation. Given the increasing trend of service innovation, the paper contributes to service innovation. This is the bibliometric study using VOSviewer on “service innovation research," which provides a bird’s-eye view of the essential trends on the subject. This is the study to review the literature on service innovation by using citation and co-citation analysis. The study includes 157 articles over 20 years (2002-2022). This paper has explored the recent service innovation trends and provided insights into the development of service innovation in the service dominant sector. This study adds to existing knowledge in the field and provides agenda for future research. This paper provides the patterns of service innovation in India over almost two decades and demonstrates vital indicators that can be used in future research. Identifying research gaps in service innovation studies provides a clear research agenda for understanding the various elements of service innovation.

Keywords: Service Innovation; Bibliometric; Scopus; VOSviewer.

Toward a Framework for Smart Customer Experience Design Based on Experience – Evaluate – Engage Iterations Using Customer Experience Data

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INTRODUCTION

Product-Service Systems (PSS) are systems of products, services, supporting networks and infrastructure that is designed to satisfy customer needs and to generate values (Goedkoop et al. 1999; Tukker, 2004; Tan and McAloone, 2006; Tukker, 2015). Ecological values have been addressed in many PSS development efforts (Kjaer et al., 2018; Da Costa Fernandes et al., 2020). Efforts are being made to accommodate experiences issues as primary design goals in PSS design by reflecting characteristics of customer experiences in human-centered design approaches (Valencia et al., 2015; Costa et al., 2018). Customization and personalization issues are addressed recently (Song and Sakao, 2017; Kim and Hong, 2019). Digitalization supports servitization. Specific digital capabilities relevant to current and potential servitization functions have been identified including user and product identification, condition monitoring and usage monitoring (Ardolino et al., 2018). Smart PSS, characterized by context-awareness and specificity, strong human centration, reconfigurable product and service elements and co-creative value provision of stakeholders, receives attentions in the era of digital transformation (Valencia et al, 2015; Abramovici et al., 2015; Chowdhury et al., 2018; Wang et al., 2021).

Customer experiences are evolutionary and dynamic (Verhoef et al., 2009). Customer experience process is iterative and customer participation is critical in customer experience (Zomerdijk and Voss, 2010; Lemon and Verhoef, 2016). While many research efforts in marketing addressed purchase, customers use PSS for long periods of time. Thus postpurchase customer experiences address core value elucidations and should get primary attentions. Consumer behavior is changing in response to digital revolution (Verhoef et al., 2021). Communication with other consumers and with product/service providers have been made easy and increased. In the era of digital transformation, more and more customers are willing to make their own participations and involvements to get better benefits (Schwab, 2016).

As customer experiences evolve with previous experiences and reflections, experience evaluation and management in digital forms together with use data generated by product and service artefacts would make critical contributions. Customer experiences evolve as customers iteratively experience, evaluate their experiences and engage with others and themselves. Integrated customer experience design of customer-led Experience – Evaluate – Engage (3E) iterations should now be emphasized in designing smart PSS (Kim, 2023). Note that design thinking has been explained using the framework of visual thinking (McKim, 1972) composed of interactive iterations of seeing – imagining – drawing (Kim and Park, 2021). As interactive iterations of seeing – imagining – drawing are essential in design thinking, 3E iterations of experience – evaluate – engage are important in customer experiences and play important contribution in designing experiences.

There should be a framework to support 3E customer experience of PSS in terms of evaluation and engagement services so that physical and digital experiences can be evaluated in real time and in digital forms. Also customer-friendly and effective engagement services are to be provided in digital environments. As customer experiences and activities are influenced by contexts, rich context information should be associated with customer's subjective evaluations. As diverse data are utilized in digital transformation, such a framework should support defining of customer experience data and allow association of experience evaluation data together with context data.

METHOD

The method of the paper is to draw specific methods developed earlier and to demonstrate the validity and the reliability with multiple cases where those methods provide the desired abilities in a consistent manner. In this paper, a formal representation of human activities with rich structured representation of context called Context-based Activity Modeling (CBAM) is utilized as underlying representation framework for customer experience data. Note that CBAM was developed to design service activities (Kim and Lee, 2011; Kim et al., 2020). Also Context-specific Experience Sampling and Analysis (CESA) is used for acquisition of experience evaluation data together with context data (Kim et al., 2011; Kim and Hong, 2020; Kim et al., 2022).

This paper presents CBAM and CESA as the core of the framework for customer experience data. Two cases of smart PSS are presented as illustrative demonstration of the validity and reliability of the CBAM method and the CESA method as meaningful constituents of a framework for smart customer experience design. They are the case of Lighting Customization PSS and the case of Smart In-Shower Healing PSS. These cases have been explained in (Kim and Lee, 2021) and in (Kim and Hong, 2019) respectively.

Note that zero-party data, which a customer intentionally and proactively provides for better benefits, draw a lot of attention lately (Forrester, 2020; Polonioli, 2022). The framework composed of CBAM and CESA forms an underlying framework for zero-party customer data. For detailed description of the framework, readers are referred to (Kim, 2023).

DISCUSSION

Contributions include the proposal of 3E iterations of experience – evaluate – engage as high level strategy for customer experience design. Also this paper emphasizes that systematic representation of customer experience activities is important for digital transformation. CBAM developed as a central representation of activities and used in a computer-based service design environment is such a representation serves as such a representation of experience activities, serving as a critical constituent of the framework for smart experience design utilizing customer experience data. CESA, the other constituents of the framework, not only achieves the requirements in acquiring experience evaluations in real time together with context data obtained from diverse artefacts, it also satisfies data privacy issue as data acquisitions are made only with customer's initiation. Regarding data-driven design, most earlier efforts addressed data obtained from artefacts (Cantamessa et al., 2020). This paper, on the other hand, contributes that it addresses data obtained from the customers and associates them with artefact data. These associated data are provided not only to designers and analysts but also to customers to support their 3E iterations (Kim, 2023).

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A Method Engineering Approach for Designing Context-awareServices

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Keywords: *Context-aware services, method engineering, service design, context, exploratory approach*

Introduction

Context-aware services are currently on the rise thanks to modern technologies like the Internet of Things, artificial intelligence, big data, and mobile computing. Context-aware services, also considered as smart services, are adaptive and personalized services that consider user-related data, location, and timeframes referred to as contextual information (Le Dinh et al., 2021a). Context handling, including context capturing and context reasoning, is of vital importance for the design and implementation of smart service systems. The notion of context includes all the information that can be used to characterizeservice circumstances and its interactions with the environment (Kapitsaki et al., 2009; Le Dinh et al., 2021a). Hence, particular techniques, models, and/or frameworks that explicitly consider the context are needed for the creation of context-aware services. Since our study tackles context-aware services from the perspective of service science (Maglio and Spohrer, 2008), the three service levels, includingservice, service system, and network of service systems levels, are used to handle the context information (Le Dinh et al., 2021b).

Considering the great variability and complexity of service contexts, one service design technique or method cannot fit all situations. Methods need to be adapted, configured, assembled to support the requirements of a given situation. Therefore, the research question of our study is "*How to build a method engineering approach for designing context-aware services based on the perspective of servicescience?"*. In this short paper, we present our ongoing research work towards building such a method engineering approach.

Research Background and Methodology

Our study is grounded in the fields of service science and situational method engineering. While servicescience provides a basis for defining services and service systems, situational method engineering provides principles and techniques for creating new methods.

At the core of service science, the service dominant logic (Lusch and Vargo, 2014) emphasizes the creation of value. The service value forms the kernel of the service proposition. The engagement of service actors in interdependent and mutually beneficial resource integration is necessary to co-create service value.

As its name indicates, situational method engineering copes with the development of situation-specificmethods in a modular and adaptable manner (Henderson-Sellers et al., 2014). Indeed, the agility, adaptability and flexibility of a design method depend on its modularity. Various approaches have beenproposed in the literature. In our study, we apply the approach using the notion of method chunk as a method building block (Mirbel and Ralyté, 2006). This approach supports the construction of new methods by assembling method chunks based on the method requirements in the situation at hand. Amethod chunk is a reusable method component to be applied in a particular situation (defined by required input artefacts and context criteria) to reach an intention (a goal in the design process) defininga process (the activities to be executed) and its related product (the output artefacts). It can also include the knowledge about the roles and expertise required to execute the method chunk and the tools available.

A repository of method chunks is a prerequisite to enable situational method construction. Therefore, the construction of such repository is our first research goal. Context description is another important challenge in context-aware service engineering. Therefore, our second research goal is to define a framework for specifying contextual aspects and requirements to be taken into account when designingcontext-aware services. Finally, to facilitate the task of the method engineer when building a new method, we aim at proposing a configurable composition of method chunks as a generic method that could be easily tailored for a specific situation of context-aware service design.

Our study is conducted following the exploratory research approach with the intention of collecting themethod knowledge required to build such a repository. First, a review of related literature was performed to elicit generic method requirements and identify patterns of situations. Then, a multidisciplinary research team, including researchers from software engineering, information systems,information technology, and service science, was created as a focus group to collect and/or build methodchunks and explore their compositions. Finally, a case study is used as an in-depth and detailed examination of the proposed approach to develop a personalized method within a real-world context.

Findings

The key outcome of our investigation is a method engineering approach for designing context-aware services. More specifically, this approach can be used to develop a personalized method for a specific type of context-aware services. The proposed approach includes several method engineering artefacts,notably: (1) a meta-model, (2) a repository of method chunks, (3) a context specification framework,

(3) a process model and (5) a generic reference method.

The *meta-model*, adapted from Mirbel and Ralyté (2006), supports the construction of method chunks as well as their assembly into a complete method. It formally defines the structure of method chunks and allows validating the consistency and completeness of a method obtained by assembling individualmethod chunks.

The *repository of method chunks* is under construction. In fact, this artifact is never finished because itcan be completed each time new and relevant method knowledge is discovered. As explained above, each method chunk embodies a piece of reusable method knowledge (including concepts, activities, patterns, roles, rules, guidelines) supporting the design of context-aware services. According to Le Dinhand Pham Thi (2012), there are three levels of service design: service proposal, service creation and service operation, which also represent three main steps of the service design process. Therefore, we organize the method chunks based on these three levels. For example, at the service proposal level, themain goal is to (co)create service value. Different value modeling techniques such as value propositioncanvas (Osterwalder et al., 2014) or e3value (Gordijn and Wieringa 2021) can be used to support this task each representing a different method chunk. Another example is the service rule modeling approachproposed in (Vu et al., 2023) which provides three method chunks: one for defining business rules at the service proposal level, one for modeling context rules at the service creation level and one for modeling integrity rules at the service operation level.

The *context specification framework* is then introduced. It is defined as a set of context criteria to formally describe the contextual aspects of context-aware services as well as to characterize the situations in which these services can be implemented. The description of method chunks also uses thisframework to specify which contextual aspects are taken into consideration by which method chunk to automate partially the selection of method chunks. The context criteria are founded on six knowledge components (know-who, know-what, know-how, know-why, know-when, and know-where). Forexample, know-who allows defining the classification of actors based on their implication (customers vs. providers), nature (human, robot, sensor, etc.), legal entity (public institution, private company, individual), etc. Temporal (e.g., date, period, time) and localization (e.g., locality, distance) criteria are respectively related to know-when and know-where knowledge components.

Building a new method from scratch is not a simple task which usually requires an intensive method engineering knowledge. Having a large repository of method chunks certainly helps, but the repository alone doesn't tell us how to combine method chunks together to construct a complete and coherent method. To support this method engineering task, the study also proposes a *process model*, adapted from Mirbel and Ralyté (2006), which guides the selection and assembly of method chunks for a given situation.

Finally, to facilitate even more the method engineering task and to avoid each time building a new method from scratch, a *generic reference method* is presented as a configurable composition of method chunks covering the three main method steps, i.e., service proposal, creation and operation. The method can be easily configured (by selecting a path in the method) and tailored (by adding or removing method chunks) to build a situation-specific method.

Discussion

Based on the exploratory method, the study is only experimented and validated in some limited situations. The validation of the proposed approach on a larger scale with different types of services in different business environments is needed in the future. This approach provides researchers and practitioners with a comprehensive outlook on the research stream of method engineering for promoting smart services. In terms of practical contribution, this study helps practitioners identify method chunks and develop methods tailored to their specific needs.

Since there are various types of context-aware services, which are operated in different business environments and offered to diverse profiles of customers, the proposed approach could provide a personalized method with a high level of flexibility and agility to design context-aware services. According to our observation, this study is one of the first approaches that aims at providing a significant theoretical contribution by reconciling method engineering and service science to develop an integrated approach for context-aware service design.

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Seeking synergy in gastronomy innovation between industry and academia – an illustration within Culinary Arts Event Management

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ABSTRACT

This historical review offers a descriptive-informative overview of food as a component of tourism and travel, which has not been intensively researched from a tourist perspective until the 1980s. Travel destinations, tour operators and the broader food service industry have, since then, progressively assigned greater importance to F&B as ways to promote travel destinations. At the same time, researchers have increasingly studied the dynamics of gastro- or food tourism.

Specific intellectual culinary and cultural knowledge is required to present authentic food tourism experiences that reflect the food and beverage of a destination. Our research addresses the relevance of food offerings in a contemporary South African context and analyses the bridges – or lack thereof – between academia and the tourist industry.

The significant role of culinary innovation within the food service and the food manufacturing industries is becoming increasingly important. It is understood that culinary innovation in the food service environment, happens ‘organically’ or naturally, by chance. Various authors discuss the problems associated with new product innovation, such as high failure rates. Even though innovation is understood to be a critical aspect in terms of the long-term success of food service establishments, failure rates may occur as a result of poorly executed product lines, or because the new innovation was not correctly introduced to the consumer, or because consumers may harbour negative customer perceptions about new, innovative items on menus. Such failures are at the core of this research, illustrating a disassociation between new innovations and areas of research, the ‘double edge of cuisine’ in both research and practice. It is further possible that the ‘unstructured’ innovation happening in the restaurant environment occurs mostly without proper empirical evidence from research. Those who innovate in the food service industry, use absorptive and desorptive capacities to generate and market culinary innovations. Desorptive capacity is understood to be the safe transfer of knowledge from the sender, while absorptive capacity enables the acquisition and assimilation of external knowledge by the recipient. Given this understanding, even high-end food service

establishments would be influenced by what goes on around them, reflecting their absorptive capacities. It is in this regard that the authors of this research are postulating that such absorption should not only happen ‘organically’, but that such leaders or trend setters in the food service industries should be engaged in research, which should not happen in isolation.

Much like the New Nordic Cuisine, South Africa could also use food heritage and gastro-nationalism as a drawcard for gastro-tourists, enticing them to come and experience the innovative use of local produce and heritage recipes. South African examples include Mondia Whitei steamed idombolo in the shape of Huā juǎn (Mandarin twisted roll), Spekboom (Portulacaria afra) “Caesar” salad, Carob (Ceratonia siliqua) macaron with melktert filling served with marula (Sclerocarya birrea) ice cream, African horned cucumber (Cucumis metuliferus) sauce and wild sage (Salvia dolomitica) crumble. Others innovations include Madumbe (Colocasia esculenta) gnocchi, cassava (Manihot esculenta) mash, cowpea (Vigna unguiculate) vetkoek/Amagwinya, stamvrug/Transvaal milkplum (Englerophytum magalismontanum) jus, and others.

Machine-As-A-Service in Manufacturing Industries - Realism or Future Talk?

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ABSTRACT

Traditionally manufacturers sell their machines individually and the industrial service offerings supports every lifecycle phase of the machines. Consumer businesses and software industries have successfully implemented a service logic, where something is sold as a service, with the yearly or monthly fee. Transition towards Machine-As-A-Service (MaaS) can be seen also in near future of manufacturing industries, but so far limited number of success stories have been seen. The purpose of the paper is to present how MaaS concepts could been realized in the manufacturing industries and what are the future directions within this kind of approach.

INTRODUCTION

During the recent decade, classical industrial services have remained the same, from the installation to maintenance and modernization of the machines. However, the Industry 4.0 initiative has accelerated digitalization and increased data-based service opportunities within the machine manufacturing industries. For example, analytics-based services (ABS) are a novel type of service, which encompasses the application of analytical methods to data, aiming to increase customer value by supporting customers to make better decisions, solve more complex problems, and ultimately reach their goals more efficiently (Hunke et al. 2022). Recent studies have stated that digital industrial services efficiently solve the customer`s problems and to improve customer satisfaction by creating added value for customers (Hemilä et al. 2022). Despite many digitalization success stories, iconic industrial companies are struggling to find their path in digitalization, as General Electric case has indicated (Danuso et al. 2022). General Electric created a new business unit GE Digital for pushing forward their Predix software platform. Predix was expected to be the generative core of the digital transformation, meant to drive the industrial internet in all the verticals in which General Electric was active. Despite enormous investment and expectations, General Electric ended up as a massive public failure for the company (Danuso et al. 2022). Many companies face difficulties in developing products and services based on the IoT with a clear and valid value proposition (Molling and Zanela, 2022). Multiple studies have shown that digitalization in the industrial context is a synonym for disruption of existing business models, driving towards new management challenges, requiring internal and structural changes that affect the whole organization and its operations (Danuso et al. 2022). Classically, Christensen (1997) have stated the innovator's dilemma, when companies might be unwilling to give up existing businesses, when technologies enable entirely new way of doing business. The disruption might be very complex task to organize and manage, but also challenging to transform organization towards to radically new business. General Electric case indicated the challenge of radical shift.

Parallel to digitalization, the latest trend in manufacturing industry is sustainability. The combination of digitalization and sustainability is called "twin transition", which aims to the sustainable growth of industrial organizations (European Commission, 2020). Sustainability can be seen as a driving force towards digitalization but also as a force to create new service businesses. In consumer businesses, sustainability means change of ownership towards sharing economy and shared resources. It is not reasonable to own assets, that are used rarely or if the asset is easily achieved in other forms. Streaming services like Spotify and Netflix are examples or radical change in markets, when consumers do not need to own asset (CD or DVD) anymore but are getting same content freely or with subscription fee via digital platforms. In this example, content can be used when needed, without ownership. In a long run, change of ownership can be seen also in manufacturing industries, but so far machine-as-a-service (MaaS) concepts are rare. Most known example of MaaS offering is the Rolls-Royce aircraft engines. Rolls-Royce collected real-time information of the engine, which enabled thrust-by-hour type of value proposition, rather than selling the engine itself (Rolls-Royce, 2020). The Digital Twin (DT) concept means the virtual replication of the real asset, based on the actual design data, enriched with the operational data (Hemilä et al. 2022). DT is said to create basis for the new full-service packages and is one very potential solution towards MaaS operation models (Stoll et al. 2020; Roth et al. 2022). The purpose of the study is to discuss *how MaaS concepts could been realized in the manufacturing industries and what are the future directions* within this kind of approach. Paper analyses also how sustainability is taken care today in manufacturing industries and how the twin transition support the development of manufacturing industries.

METHODOLOGY

This paper findings are the combination of two research projects, where the first project is related to utilization of digital twins and the second one in the sustainability development within the manufacturing industries. The first project aims to demystify the hype of digital twins by exploring different business opportunities in an international research project setting. The empirical data is gathered by semi-structured interviews and workshops with company practitioners, according to the exploratory case study methodology (Yin, 2003). The workshops focused on the MaaS operations: potential business models and related monetization scenarios. The first project includes partners coming from Finland, Türkiye, The Netherlands, and South Korea. Following Table summarizes the first project partners in different countries.

Table 1: The first project partners

Country	Company role / Business
Türkiye	Company 1: Manufacturing company offering machines and digital twin enabled services for their customers, automotive industry, large-scale company. Company 2: Service development partner, Software (SW) provider, Small and medium sized (SME).
The Netherlands	Company 3: Manufacturing company offering machines and digital twin enabled services for their customers, farm industry, SME Company 4: Manufacturing company offering machines and digital twin enabled services for their customers, production machines industry, SME Company 5: Service development partner, SW provider, SME. Company 6: Service development partner, SW provider, SME. Research institute 1: Software Research and Development (SW R&D) partner University 1: SW R&D partner
Finland	Company 7: Manufacturing company offering machines and digital twin enable services for their customers, heavy machine industry, large-scale company Company 8: Manufacturing company offering machines and digital twin enable services for their customers, paper industry, SME Company 9: Service development partner, SW provider, SME Company 10: Service development partner, SW provider, Large

	University 2: SW R&D partner
South Korea	Company 11: SW provider, SME Research institute 2: Service development partner

The second research project is about the sustainability development in manufacturing industries, by utilizing digitalization. This second project creates understanding how sustainability is included in the operations, design, manufacturing and to service businesses. The role of data for supporting sustainable operations is the main focus of the studies. Following Table 2 summarizes the second project partners.

Table 2: The second project partners

Country	Company role / Business
Finland	Company 12: Manufacturing company offering sustainable machines an services, packaging industry large-scale company Company 13: Manufacturing company offering sustainable machines an services, production machines industry, large-scale company Company 14: Manufacturing company offering sustainable machines an services, production machines industry, large-scale company Company 15: Manufacturing company offering sustainable machines an services, heavy machines industry, large-scale company Company 16: Manufacturing company innovating and offering new digital twi enabled services for their customers, paper industry, SME

This paper is based on the findings from the several workshops dealing with the above-mentioned topics, basically from two research projects' use cases. Following Table 3 presents the details of the workshops: country, date of the workshop, workshop research theme and participants.

Table 3: Data collection interviews and workshops

Country	Date	Theme	Participants
Finland	4th October 2022 (Telco)	Machine-as-a-service in small machine manufacturer	1 engineer, Company 8
South Korea	11th October 2022 (in person)	DT services from SW point of view, machine-as-a-service support with SW	4 research scientists, Research institute 2; 3 SW engineers, Company 11
Netherlands	15th November 2022 (in person)	DT services from SW point of view, machine-as-a-service support with SW	1 SW developer, Research institute 1; 1 Research and Development (R&D) engineer, Company 6; 1 SW engineer, University
Netherlands	15th November 2022 (in person)	Machine-as-a-service in small machine manufacturer	2 R&D engineer, Company 4
Türkiye	21st November 2022 (Telco)	DT services from SW point of view	1 SW engineer, Company
Finland	22nd November 2022 (Telco)	DT services from SW point of view, machine-as-a-service support with SW	1 SW engineer, 1 manager Company 9
Finland	22nd November 2022 (Telco)	DT services from SW point of view, machine-as-a-service support with SW	2 SW engineer, 1 manager Company 10
Finland	23rd November 2022 (In person, Finland)	Machine-as-a-service in large machine manufacturer	4 Engineers, Company 7

Türkiye	5th December 2022 (Telco)	Machine-as-a-service in large machine manufacturer	1 R&D engineer, Company 1
Finland	25th January 2023 (Telco and in person	Services and sustainability, Machine-as-a-service in large machine manufacturer	1 manager, Company 12; 1 manager, 1 R&D enginee Company 13; 1 R&D engineer, Company 14; 2 R&D engineers, Compan 15; 1 R&D engineer, Company 16

A literature study and industrial benchmarking studies enriched the empirical findings from the workshops (Eisenhardt, 1989; Yin, 2003). By combining the findings from the workshops and literature, this paper indicates the state-of-the-art in sustainable manufacturing industries and the path towards the machine-as-a-service operation models.

FINDINGS

It has been estimated, that by 2030, companies will sell most of their equipment as part of combined solutions including software and services, reducing hardware's share of total profits (Roth et al. 2022). This kind of development means realization of Data-as-a-Service and Everything-as-a-Service models. The focus of this study is the Machine-as-a-Service model. On the development towards MaaS model, interviewees stated that firstly the degree of digitalization needs to be realized with the operative digital twins of the machine, and secondly operational sustainability needs to be ensured. With the digitalization, machine manufacturer can get real-time information from the machines, operate, and maintain them remotely. Sustainability concern drives towards change of ownership and better utilization rate of the assets, which was considered the main driver for MaaS model by the interviewees.

Digital Twin utilization towards MaaS

Within the case studies, the term Digital Twin was seen as abstract and to have multiple definitions. Our study indicated that term is indeed a buzzword now and typically customers do recognize and talk about it based on different definitions. Hybrid Digital Twin combines the individual digital twins into interconnected models and provides some basic capabilities like prediction on unusual behaviour (Zheng et al. 2021). Cognitive Digital Twin would mean that the DT includes cognition capabilities, meaning it can perform human-like intelligent activities to deal with unknown situations (Zheng et al. 2021). The different definitions of DT are causing confusion in the marketplace, and situation will continue to be like that for some time. This will in-turn influence the business maturity of DTs and services based on DTs. Positive impacts to progress the business adoption of DTs were stated to be promotion of successful cases of DT adoptions within the industry value networks (the positive word of mouth via value chain partners) and that the cases have measurable impact on the customers business. However, no customer is asking for a digital twin, or a service called digital twin, but rather some concrete business benefit which can be delivered via digital twin. This emphasises the need to focus on the value proposition of a digital twin: what are the pain points of customer that can be relieved with services using digital twin. The workshops indicated that companies identified efficiency related value propositions to be something that resonated with the customers, however there are other dimensions to the potential value creation. Typically, business case of a digital twin was leaning more on the idea that a digital twin is a machine specific thing. To create more value creation opportunities, the DTs need to be connected to one another in some way. Therefore, a factory owner (potential customer of a digital twin) is facing a situation where they need to manage multiple digital twins. The question also remains on what the role of a software platform related to a digital twin is, especially on connecting the different digital twins of machines, or fleets of machines. There are many different IoT-platforms available in the marketplace and many factories utilize multiple different platforms for data gathering and collection. In some cases, customers had been asking for direct access to data related to some specific machinery and indeed some companies were selling machine specific data to their customers. Their customers would then combine the machine-specific data in their systems to gather insights and create services from themselves.

For machine providers, the business opportunities presented by different digital twins are based on providing value adding digital services related to the physical machine they are selling. The new, digital services require a functioning digital twin of the machine, so that digital services can built based on it. In addition to digital services, some companies had already started to sell information based on data directly related to the physical devices of a customer. The potential of digital services for a machine is also dependent on the type of machine and its role in the manufacturing process: some machines form basic functions with very little potential for additional services, but others may be critical for the process and may provide critical data for the manufacturing process. An interesting note was that the ownership of data was in many cases attributed to be the property of the machine purchaser. However, capabilities required to build digital services are very different from traditional, machine building capabilities. Many of the interviewed companies pointed out that in order from them to expand into providing digital services, a completely new business line would have to be created. Capabilities that would be required include software engineering, user interface design and data engineering. Also, the business logic of digital services is very different, usually based on monthly or yearly occurring feed. In contrast, machine selling is a one-time deal and is more currently more prominent way of doing business in manufacturing industry. Therefore, in the future would be an opportunity to combine these approaches and form a completely new business model for providing MaaS. In MaaS the digital twin is used to monitor the machinery and optimize maintenance services so that the customer always has a working machine. Digital twin was recognized to be an essential asset for this kind of a business model, but the traditional business culture of manufacturing industry is slowing down the adoption of this kind of a business model. The resources required to provide machinery-as-a-service, or any other way supported digital services would mean the financing for the machines acquisition would need 3rd party support because of the change in revenue stream logic.

Sustainability relation to MaaS

Parallel to digitalization, manufacturing industry is already undergoing a significant transformation, as the sustainability initiatives are today everywhere. The pressure on natural resources is leading to a more circular approach to manufacturing. Industry needs to become greener and more digital while remaining competitive on the global stage (European Commission 2020). Regarding long-term development, the following areas are found topical: resource sharing, data utilization toward sustainability, ecosystem level coordination in services. Manufacturing companies must take into consideration not just the economic goals but also the need to meet environmental and social goals in carrying out business, while recognising that economic, environmental, and social impacts occur at all stages in the value network. Our study indicates that there is a need to integrate sustainability in the core functions of the company and as an integral part of operational excellence and the product and service offering. Sustainability was identified as a major driver for digital twins and the whole digitalization of the manufacturing industry now. However, there were very few sustainability-based services currently presented in the interviewed companies in the first research project and companies in the second project were developing it. Sustainable industrial service offerings mean the support for customer's production sustainability goals, utilizing the novel data-enabled service business models, minimizing operational carbon footprint. Maintenance programmes and the processes for delivering the services are optimized in terms of their impacts on overall sustainability goals, resulting in value-driven maintenance optimization. This includes services without visiting at the customer site and to offer remote maintenance. In a sustainable industry, customer services will play a more important role and new business models and logics will emerge beyond paradigms such as the sharing economy and the outcome economy. There is a shift from products to services and from exclusive to shared ownership of products and services. Therefore, from the sustainability point of view, the MaaS is obvious approach. In a MaaS model, machine or product lifecycle extension is natural goal for the manufacturer, as in the MaaS model the hardware utilization rate and life span has direct link to manufacturers' economic viability. Maintenance phase includes modernization, which extends an individual machines' lifecycle, thus update and modernization as a part of the maintenance phase is identified as one of the critical stages of the DT enabled service process and MaaS offering (Hemilä 2022). Upgradeability, reparability, and modularity are the in the lifecycle extension and MaaS profitability.

MaaS challenges and future directions

It was stated in this study that in some industrial domains the business culture is old-fashioned and that the idea of buying digital services related to a machine is new. The status quo being that machine is bought in a one-time deal, adding additional digital services related to the physical product are considered foreign and as an expense. The interviewed companies argued that this is a generational thing and will change when the younger generation, who is accustomed to digital services, like above mentioned examples Spotify and Netflix, assumes responsibilities on within the customer organizations. Different monetization possibilities will arise, for example MaaS with a monthly fee. Currently these kinds of options were not mainstream business at all. Our study indicates that in practice, manufacturing industry is still far from the MaaS type offerings. Why, might many ask? The customer base is not ready for changing from investments to service fees. It is about a transition from Capital expenditures (CapEx), that are a company's major, long-term expenses towards operating expenses (OpEx), which are a company's day-to-day expenses. Customers are still preferring investments rather than the running costs of an as-a-service model. However, in the future monetization of machine might be done in many ways in as-a-service model. Total care concept, where customer still invests to machine, but the machine is maintained fully by the manufacturer is becoming a more famous operation model. Industry 5.0, also known as the Fifth Industrial Revolution, is a new and emerging phase of industrialization that sees humans working alongside advanced technology and artificial intelligence powered robots to enhance workplace processes (European Commission 2020). More complex technologies to factory floor with high automation level can be offered by MaaS concept. By utilizing high speed and low latent communication technologies the real-timed operation support can be offered to customers. Modern human-machine-interface (HMI) solutions can support users for safer and more productive outcome.

CONCLUSIONS

The outcome economy with MaaS, pay-per-use earning models and other new forms will be introduced in the manufacturing industries soon. With the combination of digital twins, comprehensive digitalization, sustainability and MaaS offerings can be ensured the viable industrial economy in the future. Sustainability view to service concepts is quite new approach and customer base is already thinking of economic, environmental, and social aspect of their operations and therefore makes opportunity for machine manufacturers to offer MaaS.

Practical Implications

Study indicated how to utilize digital twins in MaaS, how sustainability should be taken in account of industrial operations and what are the challenges related to MaaS model. With the MaaS model, more sustainable, competitive and viable business can be achieved. This inturn can be a partial implementation of the organizations sustainability strategy.

Research limitations/implications

The MaaS model is very complex to organize in practise, as there are today only a few successful examples. Future MaaS ideas within this study were conceptual development only in the workshops, and the ideas were not tested in practice. However, service concepts are realistic and could be implemented. This study approached this phenomenon from a rather narrow empirical perspective with two research projects, and limited number of participants in workshops. However, results are promising, as the technologically MaaS model is already possible, but still there are many obstacles in practice. The future studies need to focus on the practical testing of MaaS model. Also, strategic business transition from Capex to OpEx need more attention.

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Esports: Examining the Antecedents and Consequences of Game Engagement

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ABSTRACT

The purpose of this study is to propose and test a conceptual model that identifies playful-consumption experiences (i.e., role-projection, fantasy, escapism, enjoyment, sensory experiences, emotional involvement, and arousal) as potential drivers of consumer esports game engagement, as well as continuation intentions, electronic word-of-mouth (eWOM), and online reviews as potential outcomes.

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INTRODUCTION

Because of the changes in our daily lives caused by the pandemic (Tsiotsou & Boukis, 2022), video gaming has experienced significant growth in recent years. It has become an even more pervasive leisure activity. Despite the expanding importance of the esports sector and the growing research interest, particularly among esports gamers, significant study gaps exist in the literature. Previous research on esports looked at consumers as gamers and their motivations, hedonic needs, preferences, effort expectancy, game accessibility, and cost (Abbasi et al.,2020), as well as their attitudes, consumption intentions, and behaviors (Abbasi et al, 2021).

Despite numerous studies on esports gaming recently, there has been a marginal focus on esports gamers' playful-consumption experiences, role-projection, escapism, fantasy, emotional involvement, enjoyment, arousal, and sensory experiences to predict gamers' esports engagement. Framing these factors against the Uses and Gratification theory (U&G), this study aims to understand their role in creating engaging consumer experiences and outcomes. U&G is a classical theory of mass media use explaining why people prefer one media channel over another and considering media consumption as a deliberate and motivated behavior (Katz et al., 1973). Thus, the purpose of this study is to propose and test a conceptual model that identifies playful-consumption experiences (i.e., role-projection, fantasy, escapism, enjoyment, sensory experiences, emotional involvement, and arousal) as potential drivers of consumer esports game engagement, as well as continuation intentions, electronic word-of-mouth (eWOM), and online reviews as potential outcomes. The study extends U & G to explain continuous esports game engagement and outcomes. In addition, with the increased proliferation of esports, it is paramount to understand how esports are taking over the benefits of conventional physical sports.

Therefore, we hypothesize that:

Hypothesis 1. Fantasy has a positive effect on consumers' esports game engagement.

Hypothesis 2. Escapism has a positive effect on consumers' esports game engagement.

Hypothesis 3. Role projection has a positive effect on consumers' esports game engagement.

Hypothesis 4. Emotional involvement has a positive effect on consumers' esports game engagement.

Hypothesis 5. Enjoyment has a positive effect on consumers' esports game engagement.

Hypothesis 6. Arousal has a positive effect on consumers' esports game engagement.

Hypothesis 7. Sensory experience has a positive effect on consumers' esports game engagement.

Hypothesis 8. Consumers' esports game engagement positively affects continuance intention to play esports games.

Hypothesis 9. Consumers' esports game engagement has a positive effect on eWOM

Hypothesis 10. Consumers' esports game engagement has a positive effect on online reviews.

METHOD

The study tested the structural model using PLS-SEM using SmartPLS 3.3.9 in the context of esports games and data from 230 gamers from Malaysia. We picked the 18 to 25-year-old demographic since it is the most technologically sophisticated segment of the population (Hedlund, 2021), and esports are popular among members of generation Z.

FINDINGS AND DISCUSSION OF RESULTS

The present research enhances our understanding of the motivation behind continued gameplay, which eventually leads to greater consumer engagement. Specifically, the findings revealed that the proposed playful-consumption experiences, such as enjoyment, sensory experiences, emotional involvement, and arousal, positively affect esports game engagement among consumers. Furthermore, the findings show that esports game engagement positively impacts future intentions to play esports, eWOM, and online reviews.

Thus, our research extends previous findings on the social practices of esports (Seo and Jung, 2016) and offline/online consumption communities (Tsiotsou, 2016) by proposing a conceptual model that empirically assessed the effects of playful-consumption experiences on consumer video game engagement and how engagement translates into positive behavioral outcomes. Moreover, framing playful consumption against the U&G theory allows researchers to evaluate the role of information technology in entertainment realms. Moreover, the findings inform the esports gaming industry on attributes that help them nurture user engagement.

LIMITATIONS-FUTURE RESEARCH

The study results are limited to esports gamers; therefore, future studies may apply this model to more generic video games. Furthermore, the sample employed in the present research was drawn from Malaysia; therefore, replicating this study in different contexts/countries and using a more diverse set of subjects will enhance the generalizability of our findings.

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Smart retail technologies, and their impact on retail firms' performance

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Retail has undergone a significant transformation due to the emergence of new technologies, with "smart" retail becoming the main trend in the current business environment Roy et al., 2017). Retailers are under the pressure to transform their traditional physical stores into smart stores to remain competitive (Singh et al.,2020), while governments are also promoting smart city and smart transformation initiatives (Pantano & Timmermans, 2014).
The adoption of smart retail has revolutionized business operations by enabling two ways of communication between customers and retailers providing real-time information control and personalization and enhancing the overall shopping experience (Pantano & Viassone, 2014). As physical and digital elements are combined and integrated into smart retailing, smart retail technologies are connected to one another to provide real-time data and enable better operational strategies and choices (Pantano & Priporas, 2016). Retailers may find new ways to have greater management and optimization because of real-time data and information acquired by smart retail technology. Riegger et al (2021) suggested that the use of smart technology-driven approaches can enable retailers to implement context-specific personalization. In order to achieve technology-enabled personalization in physical retail stores, smart retail solutions must integrate components of both physical and digital personalization. They emphasized the importance of integrating physical and digital personalization dimensions at the point of sale to provide context-specific information, based on a combination of historical and real-time data. This integration enables the use of digital devices in every transaction between the shop and the customer, facilitating engagement. Smart retail combines digital and physical aspects, expanding the experience of offline retail through intelligent technology. This offers flexibility that may be absent from traditional shopping (Roy et al., 2017).

According to Gretzel et al. (2015), and Roy et al. (2017) smart retail should provide customers with recommendations, improve their in-store experience, and offer in-store navigation. Previous research has focused on the adoption and breakdown of smart technologies such as augmented reality, virtual reality, gamification, and the Internet of Things (Pantano & Viassone, 2014; Dacko, 2017; Poncin et al., 2017; Watson et al., 2017; Pillai et al., 2020;

Grewal et al., 2020), as well as smart products, such as smart carts, smart mirrors, smart self-checkouts and robots (Bellis & Johar, 2020; Pillai et al., 2020; Dacko, 2017; Mukherjee et al., 2018), and consumer behavior and experience (Roy et al., 2017; Bourg et al., 2021; Grewal et al., 2020). However, there has been a limited amount of research conducted on the impact of smart retail technologies and organizations' performance. Additionally, previous studies have primarily focused on omnichannel (Cuomo et al., 2020) and e-and-m-retail (Verhoef et al., 2017), with less attention given to smart stores. Since organizations expect a return on investment in smart technology implementation, this research aims to examine the impact of smart retail technologies in the physical retail space, with attention to organizations' performance. According to Roy et al. (2017), even though there is increasing attention given to smart retail, there is currently no established definition for this concept.

Despite the growing importance of smart retail and its implications, there are a limited number of research in this area (Priporas et al., 2017; Roy et al., 2017). Previous studies on smart retail technologies have primarily focused on the customer experience and decision-making process, highlighting the hedonic and functional benefits (Bèzes, 2018). Rapp et al. (2015), Fuentes et al. (2017), and Xu et al. (2008) examined the use of mobile devices in the showroom shopping and mobile payments contexts to investigate the time and cost savings for the customers. It should be noted that research on smart retailing from the organization's perspective with a focus on performance, remains limited.

This research is focused on smart retail technologies in the physical retail space, from the organization's perspective. A systematic literature review was used to develop an exhaustive study from previous literature on smart retail and smart retail technologies. Additionally, since there was a lack of a universal definition of smart retailing, based on the systematic review, this study provided a working definition as well. The importance of a universal definition is crucial to understand the phenomenon and avoiding complications and failures in future smart initiatives and implementations.

Retailers have embraced Smart Retail Technology (SRT) to obtain a competitive advantage, (Pantano&Viassone,2015), therefore it is important to understand how these technologies would change the firm's performance, and if it is worth investing in smart retail technologies.

It has been demonstrated that academic research is essential to the innovation process (Mansfield, 1991). Hence, in order to contribute to societal improvements, a study from various domains is required (LERU, 2017).

This research advances knowledge of smart retailing, with an emphasis on smart retail technologies in the physical retail space.

Keywords: smart retail, smart store, smart technology, smart retail technology, smart shopping, in-store technology, retail transformation, phygital, connected stores, augmented stores, omnichannel, Internet of things, technology acceptance model, technology readiness

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Virtual Brand Experience and Metaphor of Brand Personalities on Metaverse across the Reality-Fantasy Continuum

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ABSTRACT

Customers create embodied brand knowledge while experiencing the brand and transform this knowledge into brand personalities to determine brand strength and distinguish it from other brands. With the rapid development of Metaverse, customers experience brands in the virtual environment ranging from reality to a fantasy continuum. This paper tries to conceptualize this virtual brand experience in the Metaverse. Furthermore, we extend this study to understand how customers metaphor the brand personalities according to brand-related stimuli. This study provides a theoretical contribution by advancing the understanding of customer-brand relationships theory.
KEYWORDS: brand personalities, customer-brand relationship, customer experience, impossible experience, Metaverse

INTRODUCTION

In the real world, customers experience a brand via brand-related stimuli. Customers feel ambient sensations from brand-related stimuli, building a brand perception, introspective (internal cognitive) as a state of customers to think and reflect or simulate the brand experience. Conscious and unconsciously, customers experience the brand via multiple human senses, feel the sensation, and develop embodied brand knowledge (Holbrook, 2006) (Barsalou, 2008). Brand experience is one of the emerging topics to understand holistically how a dynamic process of Customer-Brand Relationships (CBRs) on how customers perceive the brand with characteristics and personalities (Ghorbani et al., 2022; Veloutsou & Ruiz Mafe, 2020). As the outcome of brand experience, customers tend to stimulate the brand personalities (BP) to vary one brand from others (Sheena & Naresh, 2012). BP includes five dimensions: excitement, sincerity, competence, sophistication, and ruggedness (Aaker, 1997). Customers can tell others about the brand and what kind of brand it is according to its personality. Consequently, brands with positive personality traits will experience higher consumer identification and engagement.

The way that customers interact with brands in virtual environments has changed as a result of the development of immersive technologies like Virtual Reality (VR), Augmented Reality (AR), and Mixed Reality (MR) (Jung et al., 2021). This technology serves as a portal for people to access the Metaverse, a virtual world. The Metaverse has been described as "a massively scaled and interoperable network of real- time rendered three-dimensional (3D) virtual worlds that can be experienced synchronously and persistently by an effectively unlimited number of users with an individual sense of presence and with continuity of data, such as identity, history, entitlements, objects, communications, and payments" (Ball, 2022). By allowing people from the actual world to into the virtual environment, Metaverse will build a future corporate environment (Dwivedi et al., 2022).

Virtual environments are distinct environments in which people and virtual objects interact in real time. The evolution of the Metaverse facilitates the development of a novel idea, opening the door to the creation of an impossible experience (Velasco et al., 2021). Previously, companies faced difficulties in providing as authentic an experience of a customer riding a unicorn as possible. However, by developing Metaverse, we can incorporate fantasy into the customer experience, enhancing customer-brand relationships by exposing them to unexpected situations. As a result, many brands have attempted to create virtual customer-brand experiences.

On the other side, companies are also possible to develop a mirror world in the Metaverse. This mirror world is expected to be developed as naturally as possible, including creating sensations that individuals can feel. Sensations of individuals can be delivered through delivering information using human senses. Hence, these two kinds of experience (reality and fantasy) can be created to leverage customer brand experience in the Metaverse. In other words, customers are expected to experience brands ranging from reality to a fantasy continuum (Velasco et al., 2021). For example, IKEA created an AR application allowing users to test IKEA products in real-time. Meanwhile, in the fantasy Metaverse environment, for example, Nike launched a new sneaker exclusively in the fantasy-virtual environment or created *Nikeland* as a new fantasy-virtual space where users can acquire virtual Nike apparel and footwear.

Although a reality-fantasy virtual environment will be an environment for CBR, there is less research on how customer brand experiences differ in the reality-fantasy continuum. This research tries to discover the virtual customer-brand experience in the reality-fantasy continuum. Furthermore, we extend this study to understand how customers metaphor the brand personalities according to brand-related stimuli. This study aims to answer the following questions: ***(1) What user-specific and environment-specific characteristics might be fundamental for virtual brand experience? (2) How can this virtual brand experience translate into a brand personality in the virtual environment?*** This study provides a theoretical contribution by advancing the understanding of customer-brand relationships theory.

In the later section following the introduction, we would like to provide a literature review on customer brand experience and brand metaphors that influence brand personalities. Then, we would like to propose our framework for virtual brand experience in the Metaverse across fantasy – reality continuum. In addition, we enhance our paper by discussing how this virtual brand experience can be translated into brand personalities according to these two kinds of experience. Since this study is research in progress, we would like to provide the expected contribution according to our proposed framework.

LITERATURE REVIEW

Customer Brand Experience

Brand experience refers to the experience felt by consumers when using goods with a certain brand. Today's consumers are not only looking for the benefits of a product, but also have a desire to add to their lifestyle. This lifestyle improvement can be obtained when the brand used is a well-known brand. Consumer experience can be felt in different domains, depending on the condition of the consumer who is connected to the environment (including beauty), obtains entertainment, gains knowledge or expertise, and is fully involved in the experience (Prentice et al., 2019).

According to Brakus et al., (2009) brand experience can be defined as "subjective internal consumer responses", which can be experienced due to sensory, affective, intellectual, behavioral and social influences. This is obtained from the first experience of consumers when buying a product with a certain brand. Consumers will interact with the product and evaluate it based on human needs and desires. This interaction process can occur directly, when consumers touch or use the product, and indirectly, when the product is displayed virtually or displayed at an exhibition (Brakus et al., 2009; Iglesias et al., 2019).

Brand experience has a significant influence on customer love for a particular brand, and this is reinforced by providing satisfactory service to consumers. In line with research conducted by Prentice et al., (2019), that the quality of services provided by business people from certain brands will provide a separate experience for consumers. These conditions can provide a good opportunity for a brand to be better known by many people. Of course, with the ever-evolving technology, it is possible that brand names will be easily recognized. If consumers like a particular brand, it will increase their sense of satisfaction and consumer trust, so that consumers can be loyal to that brand (Huang, 2019).

Brand Metaphor and Embodied Brand Knowledge

Along with the level of business competition that is more stringent at this time, every brand owner is competing to gain the loyalty of his consumers in order to gain profits and be able to survive in the current era. This competition provides an advantage for a company to be able to prove to the wider community that its brand is able to compete and maintain quality. One way that is used to increase and knowledge about the brand is to use metaphors (Caprara et al., 2001).

Metaphor means an implicit comparison between two different objects so as to produce aspects that are transferred to each other. Like an advertisement with a tagline that can attract attention and make it easier for consumers to remember. As research conducted by Riaz & Ghafoor (2019) in a metaphor for food advertisements, researchers describe an advertisement for a bottle of Tabasco sauce that looks like a hand grenade. The ad invites consumers to try and challenge themselves to taste the spicy sauce.

There are several things that a brand owner must consider and pay attention to when building a metaphor. The brand must consider the metaphor that will be built so that it is easily understood by consumers. In addition, the message contained in the metaphor must be in accordance with the brand identity and ensure that it is consistent with the message to be conveyed to consumers. Cultural differences and backgrounds of each consumer are also a concern for the brand in building appropriate metaphors. Another consideration that must be considered is that metaphors can be applied in various marketing channels, such as advertising, social media, and promotions (Boujena et al., 2021; Caprara et al., 2001; Riaz & Ghafoor, 2019).

METHODOLOGY

We conducted a literature review to develop our proposed framework for virtual brand experience across the reality–fantasy continuum in the Metaverse. We searched prior studies within the last ten years and used keywords such as brand experience, brand metaphor, virtual reality, extended reality, Metaverse, customer – brand relationship, and customer experience. We searched through indexes, such as Scopus, Google Scholar, and Web of Science, to get reputable journal articles.
As a result, for the first round, we received 60 articles that had related topics related to our keywords. We reviewed the title and abstract to ensure the content and research purposes. Then, we exclude articles unrelated to our research objectives, resulting in 43 articles. In the next step, each author read the manuscript thoroughly and conducted authors triangulation to discuss those articles. We sort out five unrelated articles for our study.

Consequently, in the final round, we received 38 articles as our considerations for our dataset for further analysis. However, we do not include it in this conference paper due to page limitations. The complete literature is available upon request.

PROPOSED FRAMEWORK

Costumer-Brand Relationship on A Reality-Fantasy Continuum

A Customer-Brand relationship is defined as a consumer's interest in a brand. These connections enable customers to share, enjoy, and express themselves (Veloutsou & Ruiz Mafe, 2020). The relationship that a brand enables can be rooted in offerings and functional characteristics, but the brand persona is extremely important (Ghorbani et al., 2022). Brands have evolved into a bonding agent that enriches the affective and intellectual dimensions of the brand experience through brand interactions (Trudeau H & Shobeiri, 2016).

The development and speed of technological change, especially in social media, is a challenge and an opportunity for the relationship between individuals and brands. The virtual environment provides opportunities for consumers to grow and adapt to a changing environment (Veloutsou & Guzmán, 2017). For example, with social media, users often show or express themselves with a brand in their virtual space. This causes other people who do not understand the existence of a brand if form their perception of the persona of the brand (Pasternak et al., 2017).

Virtual brand experience examines the transfer of brand meaning in the technology-mediated environment, especially in the virtual environment. Furthermore, this study extends the understanding of virtual brand experience into the reality-fantasy continuum. Virtual environments as digital entities may communicate repeatedly and consistently with numerous users while requiring a minor human intervention since they have been programmed to be conscious of the company's and the customer's needs (Zha et al., 2020).

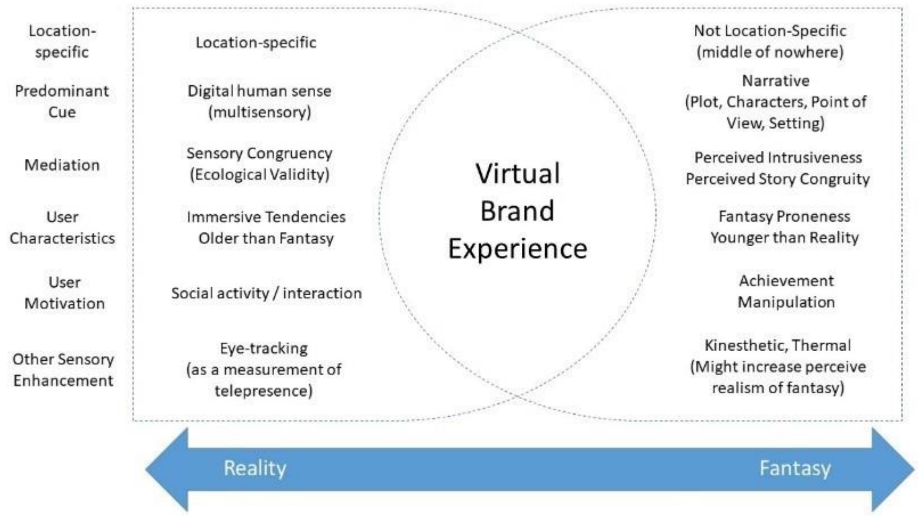

Figure 2. Virtual Brand Experience on Reality-Fantasy Continuum

As stated in figure 1, a virtual brand experience can be created from 2 conditions: reality and fantasy. Consumers gain experience with the brand from several factors, such as specific location, human body sensors, ecological conditions, user characteristics, motivation, and other sensory factors. A brand can give an impression that will make consumers loyal to the brand because it has values such as paying attention to consumers' consistency, needs, and desires (Martínez-López et al., 2017).

A brand can have a virtual experience by providing a persona and image to its consumers. The virtual experience is obtained from several factors, such as people not knowing where the brand is located, there being a story or narrative related to the brand, there is the suitability of the story that potential consumers feel, and the tendency of consumers to fantasize when buying or using that brand. For example, the consumer experience in a Virtual Reality fashion show will be closer to the brand and get a more interactive and personalized experience. The experience is influenced by the quality of VR technology, interactivity, product authenticity close to actual conditions, the emotional state of consumers, and the brand persona itself (Jung et al., 2021). Another example is Escobar et al. (2021) research using VR devices to explore premium coffee from various places. In his research, VR can provide an experience that is close to accurate, as if people can know the taste and aroma of the coffee (Barbosa Escobar et al., 2021).

Metaphor Process of Brand Personality on A Reality-Fantasy Continuum

We extend our study to understand the metaphor process on a reality-fantasy continuum according to the predominant cue, as illustrated in Figure 2. The predominant cue to enhance customers' embodied brand knowledge is multisensory in the reality-virtual environment. On an unconscious level, multimodality in specific brain regions collaborates to collect multisensory images of the brand. By providing multisensory stimuli in the virtual environment, customers mentally experience the brand, interpret it, and form any brand-embodied knowledge. In addition, synaesthesia might enhance or disrupt the interpretation process.

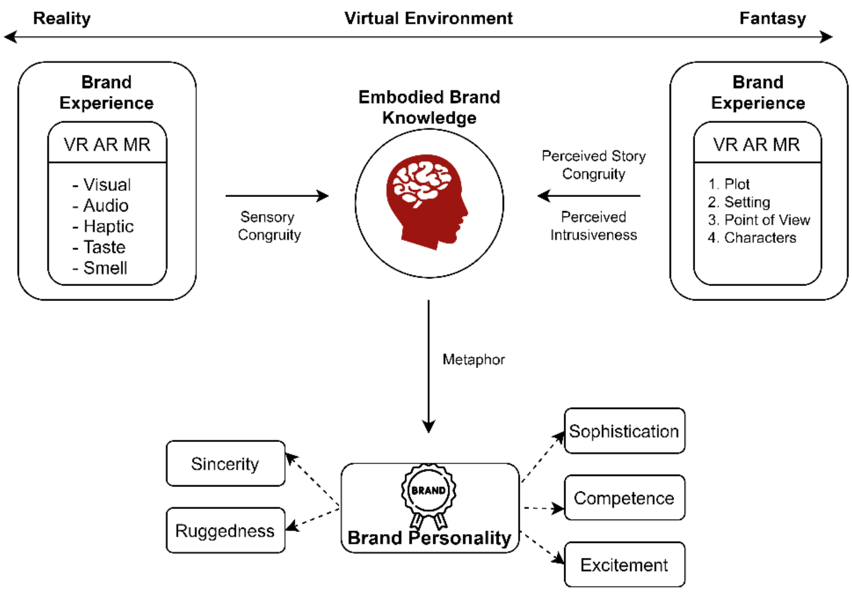

Figure 2. The Metaphor of Brand Personality on Reality-Fantasy Continuum

Brands can provide a metaphorical picture both reality and fantasy. Metaphor is an allegory or description of a brand that will shape perceptions in humans and make it a brand personality. Brand personality is a way for a brand to build a distinctive and authentic image and characteristics to attract potential customers and differentiate it from other brands (Caprara et al., 2001). The brand persona can be obtained from the consumer experience when feeling real or virtual. For example, when people wear clothes with a particular brand, they will feel a particular sensation. This sensation can be obtained by sensory possession by humans, from sight, hearing, other people's opinions, or when that person sees virtually. Stimuli received by the human senses will be responded to by the human nerve center and shape people's perceptions of the brand. The brand persona becomes more potent if added with an inserted story or narrative, as illustrated in figure 3 above.

Meanwhile, embodied-brand knowledge can be obtained through the narrative process in the fantasy-virtual environment. The narrative plays a crucial role in evoking customers' cognition and affection through the plot, characters, setting, and point of view. Specific characters or animations representing the brand will add appeal, strengthening the brand persona (Xu et al., 2020).

Immersive and fantasy experiences have different impacts on consumer decision-making. People will get a comprehensive picture of a brand if they get a narrative, feel, or see virtually the brand concept. This is a highlight for businesspeople regarding their concentration on enhancing immersive and fantasy experiences (Cowan & Ketron, 2019). Immersion is a condition of individual experience in the virtual world into a natural experience so that the individual does not seem disconnected from the virtual world. It is also a multidimensional concept consisting of several dimensions: presence, focus, engagement, freedom, and interaction. Immersion can occur in various media, including film, animation, television, games, and virtual reality (Agrawal et al., 2020).

CONCLUSION

This paper makes a concept for extended reality related to the reality-fantasy continuum related to brand personality. Based on the literature study, it can be concluded that brand personality can be formed from real conditions or fantasies a brand gives. Consumers' real experiences are obtained from sensory nerves received or when using virtual technology-based devices, while fantasies are obtained from narratives built to show if the consumer uses a product with a specific brand. Both can strengthen brand personality, and this is what concerns business owners to be able to consider the uniqueness of their brand from their competitors.

EXPECTED IMPLICATIONS

The reality-fantasy continuum reinforces CBRs in the virtual environment with different predominant cues. However, this area is less covered. Therefore, providing an empirical understanding of how customers can create a brand personality from the virtual brand experience might be necessary. Furthermore, it might be extended into two routes: transformational and informational virtual brand experience.

This research provides a conceptual theory regarding brand persona and its influence on consumer decisions. In addition, it may provide theoretical advantages for marketing and brand managers to understand the phenomenon of virtual brand experience.

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Comply or resist? The use of service robots in biosecurity

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With the advances in AI technology, robots have evolved to complement or replace frontline employees (e.g., Odekerken-Schröder et al., 2020; Wirtz et al., 2018). This trend was accelerated as a response to the Covid-19 pandemic, where service robots were also tasked to monitor and enforce Covid-19 protocols, tasks that were previously handled by human law enforcement agents (e.g., Boon-Kuo et al., 2021; Barrett, 2021). For example, robots have been used to patrol parks (Bengali, 2020), take body temperatures, screen consumers for negative rapid antigen tests before entry to a service facility (Meisenzahl, 2020), or report undesirable behaviors (Barrett, 2021). Robot dogs have also been used in China to bark out Covid-19 safety instructions and demand citizens to follow the rules (Dawson, 2022). While consumers are expected to follow the robots' orders, it is not clear what facilitates or undermines customer compliance.

Customer compliance in a service context is the degree to which customers follow the instructions and orders of service providers (Hausman, 2004). In some service settings (e.g., health care, education), the customer's involvement goes beyond the in-person interaction and necessitates compliance even away from the service provider's supervision (Dellande and Nyer, 2013). For instance, Covid-related protocols are only effective if citizens comply with the rules (e.g., social distancing, work-from-home) even when they are not watched by law enforcement agents (Trinkner and Tyler, 2016).

Prior literature shows that customer compliance is affected by the service providers' characteristics (e.g., social skills; Lin and Hsieh, 2011) and the effectiveness of interactions between the two parties (e.g., communication; Dellande et al., 2004; Hausman, 2004). The transitioning from human-to-human interactions to human-to-robot interactions has transformed how compliance tasks may be carried out and interpreted, as both service providers and consumers are confronted with a novel service experience where the role of the robot resembles more of the master rather than the servant (c.f.., Mende et al., 2019; Lin et al., 2022). For example, Čaić et al. (2020) found that elderly patients perceived robot coaches, compared to human coaches, as less warm and competent, which lowered their willingness to participate in exercise games. Thus, we predict that consumers also perceive service robots differently than human officers when undertaking compliance tasks. This begs the question of how consumers perceive service robots in these roles and what factors may contribute to or undermine their willingness to comply with a robot's orders? For instance, service robots which have been used for consumer compliance tasks have varied in design and can appear human-like (e.g., Meisenzahl, 2020), canine-like (e.g., Dawson, 2022), or simply mechanical (e.g., Barrett, 2021). These designs are likely to elicit different responses from consumers and therefore, willingness to comply with the robot's orders. We believe that the various characteristics of the service robot, how the order is communicated to the consumer, and how the service robot is deployed (e.g., with or without a human officer) is salient to the success of the service encounter.

The aim of this exploratory study is to identify the service robot design characteristics, ways of communicating orders, and deployment strategies used to gain compliance and improve the customer experience. In-depth interviews with Chinese citizens and security officers who have experienced interactions with service robots charged with COVID-related control activities are currently being conducted. The participants are recruited through snowball sampling and all communications on Zoom are end-to-end encrypted to ensure anonymity. China was chosen as the context of this study because it pursued a "zero COVID" strategy in cities such as Shanghai where citizens faced strict, extended lockdowns (Davidson, 2022). China is also the only country to have used service robots to enforce citizen compliance on a large scale (e.g., McMorrow, 2022).

Preliminary findings from 20 interviews suggest that service robot characteristics, customer comprehension of orders, motivation and capabilities are key determinants of compliance. Specifically, consumers find robots that look like a machine (versus human-like or animal-like), attract less attention and therefore are less likely to remind them about their negative feelings regarding the demands being made of them by "the authorities". Machine-like robots are also preferred as they are perceived as less intrusive to human identity and reflect less taxpayer money wasted on unnecessary expenditure (i.e., design). Further, service robots' orders that are communicated both verbally and using visual cues (e.g., the robots' screens) are easier to understand and thus, facilitate consumer compliance. While some customers preferred interacting with the robots, as they are less likely to transmit viruses and provide a more comfortable alternative for those who are uneasy engaging with other humans, they also highlighted the importance of having a human officer accompany the service robot. Human officers not only clarify orders but also offer motivation to comply through the potential for punishment. Finally, customer self-efficacy plays a significant role in the effectiveness of service robots in promoting compliance. Specifically, our findings indicate that for consumers with low self-efficacy, who lack confidence in their ability to interact with service robots, their willingness to comply is reduced.

Security officers have a positive disposition towards the robots as their jobs are made easier because consumers appear more willing to comply when they work besides the robots. The exception being when the robot is equipped with live facial recognition, a crucial feature that enables it to work autonomously without the need for an accompanied human officer. This is because consumers express greater vulnerability, fearing that the service robot will track them down and impose consequences if they are noncompliant. Additionally, security officers reported feeling more empowered and a sense of personal pride as their job roles evolved from performing basic tasks (e.g., manually checking IDs) to more complex responsibilities (e.g., setting up the robots daily, overseeing their operation, and providing assistance and maintenance when necessary).

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Value-based design of ai business models: considering ai ethics in the innovation process

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ABSTRACT

The use of artificial intelligence (AI) in business models offers opportunities to gain and maintain competitive advantages. Calls for the ethical alignment of AI have been increasingly put forward. The aim of the study was to clarify the understanding of and identify requirements for methods for value-based design of AI business models. The analysis of semi-structured expert interviews reveals three understandings of the term value-based (economic value, customer value, and ethical value), and eight method requirements. Business managers benefit from suggestions for possible tools. Future research may use the findings to develop or modify a comprehensive value-based design approach.

KEYWORDS

AI ethics, business model innovation, service design, artificial intelligence, value-based design, AI business model

INTRODUCTION

Technological advances, especially the technical advancement within the subject of artificial intelligence (AI) offers organizations opportunities to gain and maintain competitive advantages (Kaplan & Haenlein, 2018). The potential contribution of AI to the global economy is estimated to reach $15.7 trillion by 2030 (PwC, 2017). Simultaneously, concerns about negative consequences of increasing digitalization, e.g., the potential substitution of human beings in professional and private context, continue to reverberate (Spiekermann et al., 2022). The consideration of ethical aspects in the development and use of AI products and services is a topic of growing practical relevance. This has given rise to the relatively new field of AI ethics, about which little is yet known, both in academia and in practice (Mayer et al. 2021). Although, the number of publications that explicitly address ethical issues in the AI context increases, there is still disagreement about a conceptual framework for understanding. These papers are mostly guided by ethical guidelines from related disciplines, such as information systems in general, Big Data, and cybersecurity (Floridi et al., 2018). Customers react very sensitively to unethical behaviour – intended or unintended – by companies, which is why an ethical orientation in business model innovation is becoming strategically relevant for organizations (Sena & Nocker 2021). So far, companies often only become active on ethical design issues when changes in the law become effective or when values have already been violated so that penalties, bad publicity or customer complaints are imminent (Spiekermann, 2021). It is not sufficient to conduct ethical assessments of AI products and services after they have been designed – or even after they are operational (Astobiza et al., 2021). There is a diverse repertoire of methods from the fields of design thinking and service design, e.g., service blueprinting, empathy maps, and smart service canvas (Poeppelbuss & Durst, 2019) that can be used to design innovative AI business models (Verganti et al., 2020). But to date, there are no integrated approaches that provide design methodologies, support decision-making (Sena and Nocker, 2021), and systematically guide through innovation processes, adequately considering ethical aspects in the context of AI business models (Astobiza et al., 2021; Vidgen et al., 2020). Towards the development of such an approach, the aim of the study is to investigate practitioners' understanding of and their requirements for methods for value-based design of AI business models.

THEORETICAL BACKGROUND

AI systems, considered as intelligent technologies, have increasingly found their way into our everyday lives, be it in private or at the workplace. Berente et al. (2021) describe AI as "the frontier of computational advancements that references humans intelligence in addressing ever more complex decision-making problems" (Berente et al., 2021, p. 1435). Depending on the discipline or application, the definition of AI differs, and yet no uniform one can be found. Distinguishing traits of AI compared to other technologies are its learning ability, autonomous decision-making, and inscrutability due to its complexity (Berente et al., 2021). Kaplan and Haenlein (2019) offer a more detailed definition: "[AI is] defined as a system's ability to correctly interpret external data, to learn from such data, and to use those learnings to achieve specific goals and tasks through flexible adaptation" (Kaplan and Haenlein, 2019, p. 3).

The features of AI described above cover a wide range of technologies, from machines that can recognize objects in images (natural image processing), to software applications that recommend the next best sales act (recommender systems), to systems that have a kind of consciousness and can process their current state (Sena and Nocker, 2021). The use of AI can contribute to human self-actualization, strengthen human agency, and enhance societal capabilities (Floridi et al. 2018). In business practice, salespersons, e.g., benefit from time savings by having AI assistants take over the planning and organization of their daily work, or even partially automating sales processes. Furthermore, potential customers can be identified (lead generation) and prioritized (customer scoring), enabling companies to record increased sales. Individualized purchase recommendations (next-product-to-buy) can also increase a companies' sales rates, but at the same time saves a private person from long wandering on websites (Kreutzer and Sirrenberg, 2020). In the healthcare sector, e.g., AI automatically interprets heart rates or imaging material to diagnose heart diseases (Canhoto and Clear, 2020). By the analysis of images and other sensor data of machines in manufacturing industry, companies can benefit from so called predictive maintenance which can lower maintenance and inspection costs, and reduce the number of expensive production stoppages (Burström et al., 2021). AI is also used in many other industries, such as agriculture, finance, automotive, as well as public sector. Ultimately, AI business models are relevant for companies because of their potential for strategic advantages, improved operational value, performance improvements, economic improvements, and increased efficiency and effectiveness in general (Burström et al., 2021; Hahn et al., 2020; Sidorenko et al., 2021).

Despite the numerous, promising advantages of the adoption and implementation of AI, this technological advancement also carries a destructive character that has raised concerns. Data scientists and AI developers are regularly confronted with privacy concerns and other ethical issues when building models for machine learning (Astobiza et al., 2021). Concerns about or risks of AI technologies are often related to accidental overuse or intentional misuse of data, driven, e.g., by greed or geopolitical hostility. Devaluing human capabilities, eliminating human responsibility, reducing human control, and undermining human self-determination are risks that address human dignity. This goes alongside the fear that AI could replace human employees and human-to-human-relationships (Floridi et al., 2018; Spiekermann et al., 2022). Digitalization generates masses of data (big data) that serve as input data for AI, and entails interconnectivity between sensors, databases, as well as other technologies. In this course, potential risks of privacy, data ownership, accessibility, and security arise. The consequences can be substantial If companies fail to build customer trust in a good use of their data (e.g. distorting personal information or boycotting firms altogether). There are demands for explicability and traceability of the data processing and AI output (explainable AI) (Kaplan and Haenlein, 2019; Kreutzer and Sirrenberg, 2019). Sidorenko et al. (2021) see a total of two blocks of ethical risks that arise from the use of AI. First, there are risks associated with the collection and processing of personal data, such as, e.g., biases in the data sets that are used to train AI and may ultimately lead to erroneous decisions (e.g. discrimination of certain groups of people). Second, there are risks, that involve the ethics of output decisions and their compliance with general, societal norms and values (e.g. intentional harm). There are questions about who will be liable for wrong decisions or actions based on AI, e.g., in production facilities, be it in legal as well as moral terms. Is the programmer, the computer scientist in support, the operations manager or even the executive employee responsible for the AI output? To address these concerns, national and international organizations are responding with an ad hoc development of AI expert committees, which are often tasked with developing strategy documents. The High-Level Expert Group on Artificial Intelligence, established by the European Commission, is one of these committees (Jobin et al., 2019). It seems these developments do not resolve concerns in society. Thus, the consideration of ethical aspects in early design phases, and not just taking legal requirements into account in the development and application of AI, are crucial (Barford, 2023; Spiekermann et al., 2022; Vidgen et al., 2020). Public acceptance and adoption of AI technologies will only occur if the benefits are deemed meaningful and the risks are deemed possible and conceivable, but at the same time avoidable or minimizable, e.g., through risk management (e.g., insurance) or redress (Floridi et al. 2018).

In general, a business model describes how an organization creates, delivers, and captures value (Osterwalder and Pigneur, 2010). Al-Debei and Avison (2010) reviewed 22 business models and suggest a unified framework of four business model dimensions: value proposition (offered products/services and interactions with the targeted customers), value architecture (core resources, capabilities and configurations of the organization), value network (relationships and interactions with external stakeholders), as well as value finance (cost structure, pricing methods and revenue streams). Scientific literature seems to lack of a precise definition of AI business models. Hahn et al. (2020) explain that AI-driven business model use AI to build at least one of the business model components.

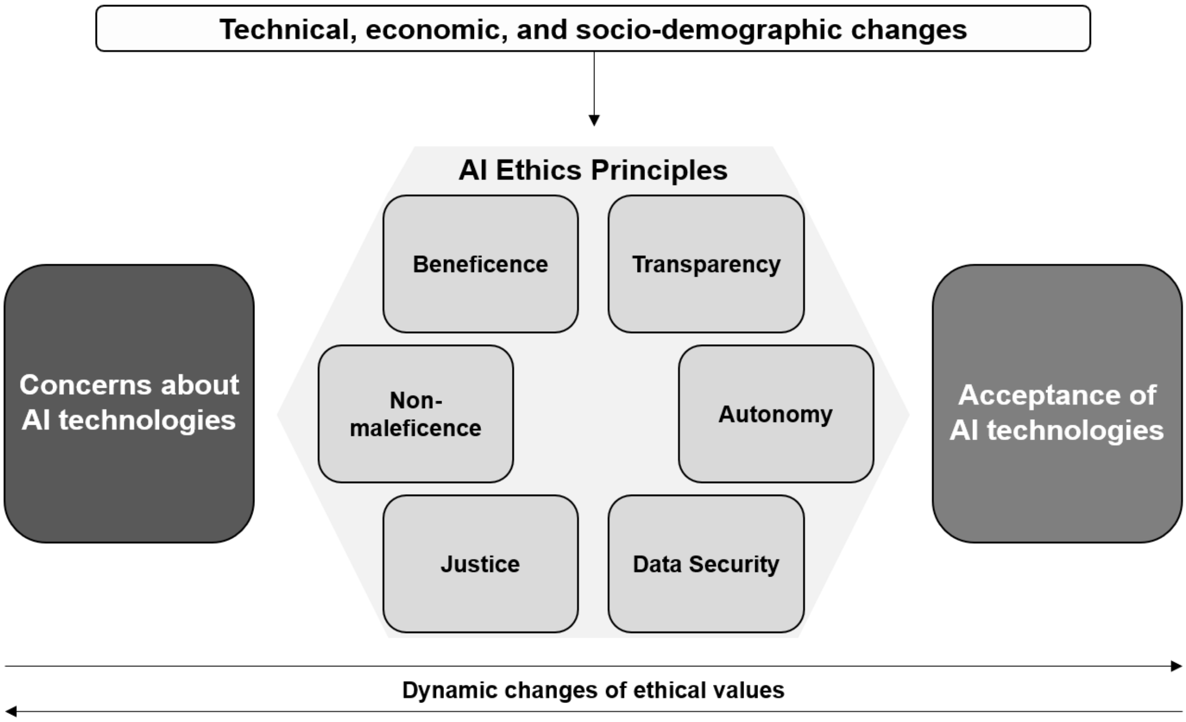
Gassmann et al. (2014) suggest a structural approach to design or innovate business models. First, a company must understand who are the relevant customer segments they want to address. Second, the value proposition, i.e., what is offered (products and services) to the target customers to satisfy their needs and is of benefit to them, has to be defined. Third, a company has to clarify how the value proposition is created and delivered, i.e., which processes, activities, resources and capabilities along the value chain are involved or needed. Fourth, they determine the revenue model, how the business model generates financial value, and list the cost structure.

Innovating business models is basically a recombination of characteristics across the dimensions. Patterns of business models can be observed (Gassmann et al., 2014). For example, based on a sample of 100 AI startups Weber at al. (2022) developed a business model taxonomy and derived four patterns: AI-charged product/service provider, data analytics provider, AI development facilitator, and deep tech researcher. For example, a well-known and frequently used strategic business tool that covers these dimensions as well, and visualizes the concept of new or existing business models by nine building blocks is the Business Model Canvas (BMC) (Osterwalder and Pigneur, 2010). There are numerous modified versions of it, even a business ethics canvas (Vidgen et al., 2020).

In the context of business model design, the literature roughly distinguishes between two understandings of "value-based". On the one hand, value is regarded as a subjective, perceptual, and context-specific construct. It is a customer’s perceived preference for, and evaluation of product or service attributes, its performance, and consequences that arise from use (Eggert et al., 2019). Inspired by empathy with the customers and user (human centricity) the value-based designed product or service should solve their specific problem (Verganti et al., 2020). Several studies provide more detailed distinctions of customer value (e.g. Eggert et al., 2019; Töytäri and Rajala, 2015). On the other hand, value-based refers to ethical alignment. The central question of ethics is always to find out how to behave in certain situations, i.e., which behaviour is morally right or wrong (Spiekermann, 2021). It should be noted that ethics are constantly changing due to technical, economic and other societal changes, as shown in figure 1 (Barton and Pöppelbuß, 2022).

In the field of AI most ethical models relay on utilitarianism, deontology, or virtue ethics (Barton and Pöppelbuß 2022). Leslie (2019, p. 3) defines AI ethics as “a set of values, principles, and techniques that employ widely accepted standards of right and wrong to guide moral conduct in the development and use of AI technologies”. The number of AI ethics publications is increasing. Barton and Pöppelbuß (2022) compared the PAPA framework (Mason, 1986), the AI4People model (Floridi et al., 2018), and the five core principles in the landscape of ethical guidelines (Jobin et al., 2019). They show that these frameworks overlap in content, and conclude that there are six central AI ethic principles that should be followed (see figure 1). Concise recommendations for action for companies facilitate the realization (Barton and Pöppelbuß, 2022).

Figure 1: Ethical principles in the AI era (adapted from Barton and Pöppelbuß, 2022, p. 477)



Integrating ethical issues in information systems usually demand time, personnel, thus, financial resources from the company. P7000 is a draft standard by the Institute of Electrical and Electronics Engineers (IEEE) for a process that aims an ethically aligned design for information systems with four core stages: 1. Concept of operations and context exploration process, 2. Ethical values elicitation and prioritization process, 3. Ethical requirements definition process, and 4. Ethical risk-based design process. However, it lacks of concise methodologies (Barford, 2023). Even if some companies already include ethical aspects in their corporate culture, AI ethics principles provide AI project teams additional guidance. They are already alert to the major ethical issues they need to bear in mind when designing AI business models, which can speed up the process as well (Mayer et al., 2021).

METHODOLOGY

To explore the practical understanding of and requirements for value-based design of AI business models we conducted a qualitative-empirical interview study. The data set consists of five semi-structured expert interviews, each of a duration of 41 to 76 minutes. The interview partners (see table 1) are from different companies, and supervised and implemented AI or

AI-related multiple business model innovation. The semi-structured interview guideline consists of three question blocks: opening (self-introduction and clarification of terms), main topic (process, actors, methods, success factors, and challenges of value-based design of AI business models), and closing (feedback and further recommendations). All interviews were transcribed for our detailed analysis.

Table 1: Interview partner

Informant pseudonym	Job title	Interview duration
AITRAIN	AI Trainer	01:15 h
AISTART	CEO & Co-Founder	01:01 h
BUSDEV	Head of Business Development	01:00 h
SENCON	Senior Consultant	00:58 h
BUSCON	Business Consultant	00:41 h

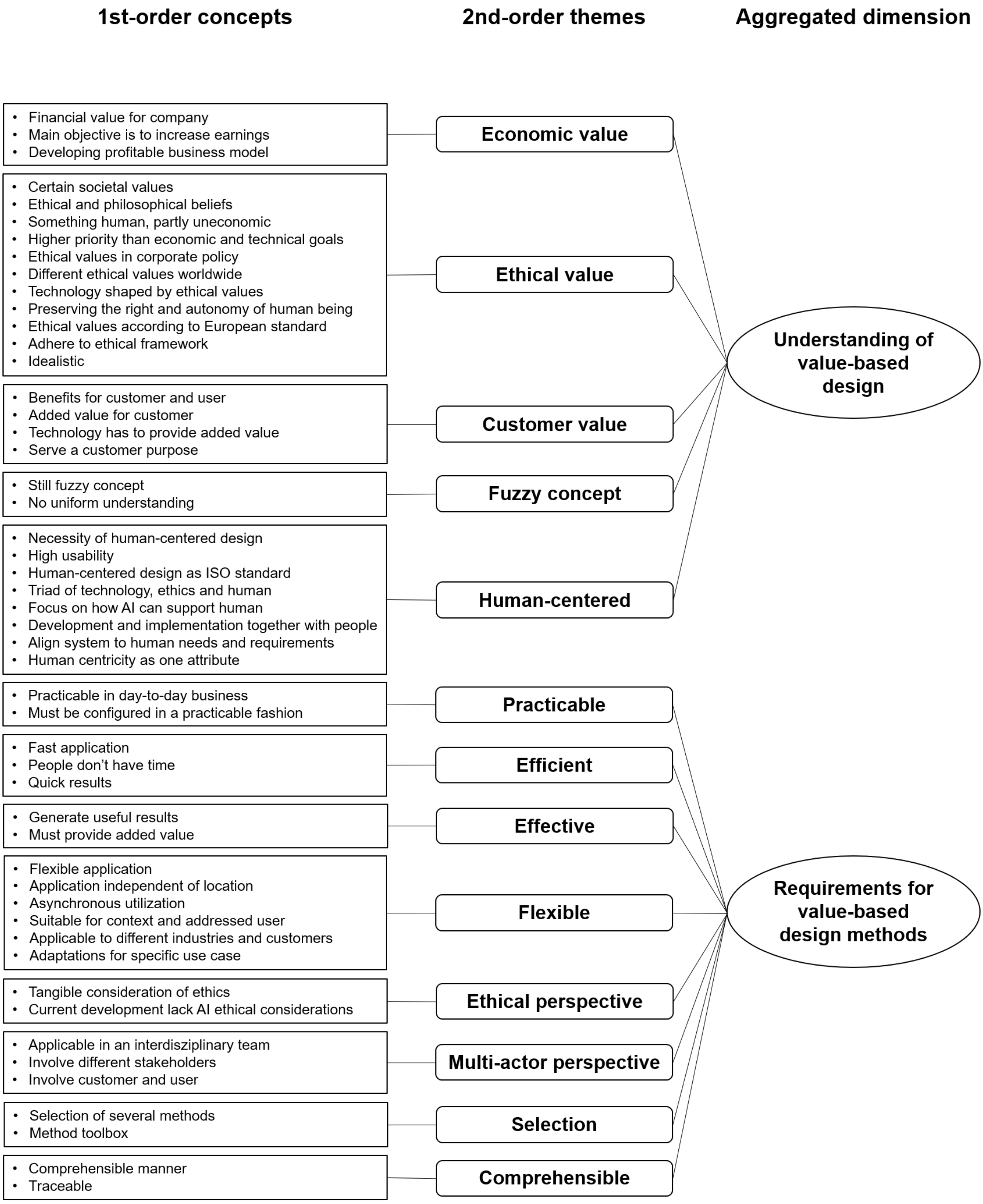
For the analysis of the interviews we followed an inductive approach (Gioia et al., 2013). During the 1st-order analysis we carefully went through the transcripts, and inductively assigned descriptive and in-vivo codes to passages that provide information about value-based design of AI business models, including, e.g., explanations of relevant terms, success factors, challenges, and information on the development process. Thus, the initial set of 1st-order concepts consists of 221 codes. When coding, we tried to closely adhere to the informant terms (Gioia et al., 2013). In the second step of our 1st-order analysis, we jointly tried to make sense of the large number of codes, seeking similarities and differences, and focusing on requirements for value-based methods, as well as understanding value-based itself. Thereby, we reduced our vast amount of codes into a manageable number of 50 1st-order concepts (Gioia et al., 2013) as shown in figure 2. In the 2nd-order analysis, we further distilled the set of concepts into 13 2nd-order-themes by constantly comparing the 1st-order concepts and underlying quotations across the different interviews. Finally, we assigned five themes to the aggregated dimension “understanding of value-based design”, and eight themes to “requirements for value-based design methods” (see figure 2).

In addition, a variety of service design methods (Lewrick et al., 2020; Osterwalder and Pigneur, 2010), as well as the consideration of AI ethic principles (Barton & Poeppelbuss, 2022; Jobin et al., 2019) were tested in four real-world use cases in the manufacturing and healthcare industry to gather feedback on aforementioned issues. We counted five to 11 participants, consisting of social scientists, engineers, psychologists, business information scientists, data scientists, business strategists, sales persons, and healthcare personnel (e.g., neurologist and radiologist). We carried out the methodology within workshops of the transfer project HUMAINE that aimed at identifying potentials for the development and deployment of AI in a human-centered way, using an interdisciplinary set of analytical tools (Bülow et al., 2022). The observations and notes from the workshop were only used as a supplement and largely correspond to the results of the interview study.

RESULTS

The results of the interview study, see figure 2, indicate that practitioners perceive value-based as a fuzzy concept. However, they basically distinguish three types: First, customer value describes the perceived benefits and added value that customers and user receive from the AI product or service. Second, economic value signifies the financial value (profit, earnings etc.) for the company. Third, ethical value covers societal, philosophical, as well as ethical values and standards, e.g., human rights and autonomy. The latter was explained most frequently and in the most detail by the informants. Several 1st-order concepts also address human-centered design, i.e., focusing on the target groups' needs and involving them actively in the design process, as is the case in design thinking (Lewrick et al., 2020). Human-centricity can be regarded as a subdimension of AI ethics (Thomaz et al., 2021).

Figure 2: Data Structure



"AI business models, unlike business models that use AI technology, have a service or product at the core of the business model as the main source of revenue, the main driver of the value proposition" (AISTART). That means, AI has to be an integral element of the value proposition, otherwise it is called AI-driven business model (Hahn et al., 2020).

We identified eight requirements for methods for value-based design of AI business models (see figure 2). The interview partners emphasized numerous times that design methods have to be practicable for a company and flexible in their application, be it in terms of the location, the time or the constellation of people. AISTART said it clearly: "You have to pragmatize the [innovation methodologies] considerably. Does design thinking perhaps also work if the sales person is not there that day? Does it perhaps also work if the data scientist is not standing live on set next to the flipchart, but perhaps gets asked some questions the day after? How do I get it embedded in a realistic business context with little time, little capacity, so that it still adds value? And, that's not so easy." Furthermore, methods should be comprehensible and traceable. Companies demand quick and useful result that can ultimately be used profitably, hence, effectiveness, as well as efficiency are crucial requirements. Statements like "Values in the sense of ethical values and especially perhaps European ethical values, which, in my opinion, should be taken into account in the development of such a technology." (AISTART) or "Then there's the ethics side. Which is still a bit difficult, because there aren't as many methods as there probably need to be." (AITRAIN) illustrate the requirement to include an ethical perspective in the approach of value-based AI business model design. Methods also have to be applicable in interdisciplinary teams and allow to represent the views of different stakeholders (multi-actor-perspective). Finally, there is a need for a selection of methods, like a toolbox. BUSDEV summed it up well: "I would end up saying: 'Take what you need from different methods'. [...] There are so many parameters. How are you going to take a fixed method that then should fit one to one like a stencil on [different use cases]? Difficult."

The testing and feedback gathering in workshop settings did not yield any requirements beyond these. However, it became apparent that the application of common service design methods (Lewrick et al., 2020; Poeppelbuß and Durst, 2019) in the healthcare sector has its limitations here and there. This could be due to the fact that those tools were primarily developed in classic business contexts. For example, in the development of image-processing diagnostic software for neuronal diseases, human beings and ethical risks play a more important role than, e.g., in personalized purchase recommendations. Decisions on distribution channels, revenue models etc. must consider more or at least different legal and industry-specific regulations. Further, we observed distinct differences concerning the AI ethical awareness in the people groups. For example, data scientists were pretty aware of the AI ethics principles transparency and data security but lack of understanding of the others.

This supports the assumption that actors of AI project teams need further training on AI ethics (Barton and Poeppelbuß, 2022).

AI and the successful development of AI business model face challenges like corporate resistance because of pure skepticism, missing knowledge about the technology and its potentials, little creativity, as well as additional economical and organizational effort. The success of it not only depends on ethical alignment so that customers accept and trust in the company and AI. The interview partners named the following success factors, in addition: The quantity and quality of data, digital maturity on the customer and company side, humbleness of design team, empathy with customers, interdisciplinarity of the project team, and the technology's fit for purpose.

DISCUSSION

We need to highlight that there is no unitary approach and practicable methods for the development of AI business models, certainly not with adequate consideration of AI ethical principles throughout the innovation process. Voices in society calling for trustworthy, ethically aligned AI products and services are being raised, but companies are still quite alone in realizing this demand (Spiekermann et al, 2022). Obviously, not everyone knows what is involved in ethical design (Astobiza, 2021), a knowledge gap that should be actively addressed to close. Future research could analyze or develop appropriate learn and trainings scenarios. The investigation of use cases of value-based AI design and best cases should also be addressed.

AI developers and other project actors must identify, analyse, and reconcile the ethical concerns of potential customers, users, and other stakeholders at the beginning of the development process (Barford, 2023). The use of AI ethics principles in combination with providing examples as a starting point to involve an ethical perspective in the early phases of innovation process, and to identify potential risks, and prioritize good values in the specific AI project, proved to be helpful for multiple actors (Mayer et al., 2021). Example Cards similar to the business model cards of Safe-DEED (2020) might be a helpful tool to support the development of value-based AI business models. The suitability of those innovation practices might depend on industry or company-specific factors, e.g., regularities and stakeholder (Verganti et al., 2020). Future studies should evaluate this.

The development of an approach with methods for value-based design of AI business models need to fulfill the eight identified requirements (see figure 2). It should be noted that the study findings are limited by the small number of interview partners. The objectivity is limited as only one person performed inductive data analysis. Further interviews might be gathered. Also, the significance of workshop feedback must be viewed critically because the authors did not accompany any complete innovation process of the real-world AI projects. The used methodology was a compromise between practicability and completeness, too.

Literature bypasses the provision of AI business model definitions. While Hahn et al. (2020) defined AI-driven business models, the study findings claim that AI has to be part of the value proposition to call it AI business model. However, AI should not be considered an innovation that creates value on a stand-alone basis (Astobiza et al., 2021).

CONCLUSION

As calls for the ethical alignment of AI products and services have been increasingly put forward, this study addressed the topic of value-based design of AI business models. Asking how practitioners develop AI business models and what they understand by value-based design, the aim was to clarify the understanding of the aforementioned term, as well as identify the requirements for methods of value-based design. The results of the qualitative-empirical interview study reveal that practitioners still perceive value-based as a fuzzy concept, but basically distinguish between three types of it: economic value, customer value, and ethical value. Moreover, they stress the importance of human-centricity which can be regarded as a subdimension of AI ethics. Methods for value-based design of AI business models have to be practicable, efficient, effective, comprehensible, flexible, consider ethics, and integrate a multi-actor perspective. Eventually, practitioners require a selection of various methods, a kind of toolbox. Making use of AI ethic principles in an operationalized manner in the innovation process can speed up the value-based design process. The study contributes to raising awareness of AI ethics alignment in the private sector. Business managers find first experience-based suggestions for and references to few suitable tools (e.g. business model cards) towards value-based design. The study findings are particularly useful to academics in the development of a modified approach to and method set of value-based design of AI business models.

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Service-Profit Chain in the Digital Age Digital Mindset as a Key Moderator

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Extended abstract

The service-profit chain (SPC) proposes a linkage between service companies' internal and external environment that drives organizations' long-term financial performance. This path is determined through the mediating constructs of employee satisfaction, loyalty, and productivity between internal and external service quality and mediating effects of customer satisfaction and loyalty between external service quality and the organization's financial performance (Heskett et al., 1994).

In light of digital transformation, the service industry faces enormous changes (Huang & Rust, 2021). Rethinking the SPC is necessary to account for digital transformation, affecting employees' and customers' roles, experiences, and expectations. It is crucial to understand how digitalization impacts service employees and to identify factors affecting successful coping with digital technologies (Hogreve et al., 2022).

In management research, scholars have proposed the idea of a suitable mindset for employees to drive digitalization within organizations – the so-called digital mindset. The construct can be defined as a cognitive filter that constitutes an essential competency for actively dealing with the complexity and power of digitalization in the context of digital transformation (Schäfer et al., under revision). Hence, this digital cognitive filter affects how individuals think and behave in the context of digital transformation. Therefore, it is expected to play a crucial role in successfully paving the way for digital transformation within organizations (Solberg et al., 2020).

Transferring this to the service context, it can be expected that a digital mindset is also valuable for service employees as it might impact how they adopt digital technologies, affecting the different SPC variables. Thus, the following research question arises:

How does employees' digital mindset affect variables within the service profit chain in light of the digital transformation?

METHODOLOGY

We integrate different streams from literature to identify how a digital mindset affects the internal and external environments of the SPC. We proceed with first ensuring the theoretical compatibility of both constructs. Second, we elaborate on structural linkages between SPC variables and the digital mindset.

First, to integrate SPC and digital mindset, it is required to build on a proven framework to combine theoretical lenses. We achieve this by applying the framework of Okhuysen and Bonardi (2011) to examine the conceptual distance and degree of compatibility in terms of underlying assumptions of both concepts.

Second, to identify structural linkages, we apply the following sub-steps: First, we reflect on SPC literature to understand relationships within the framework. Further, we analyze the revised SPC by Hogreve et al. (2022) to understand proposed relationships in light of digital transformation. Third, we review the literature on digital mindset to shed light on the construct and deduce antecedents and outcomes. Fourth, we directly link research on digital mindset to the (revised) SPC framework. Finally, we discuss and propose relationships between the digital mindset and the SPC.

FINDINGS

Our first step in the analysis revealed that the SPC and the digital mindset are theoretically compatible. Both build on the notion of how individuals act in certain ways to explain firm performance. The constructs rely upon their explanatory power to connect psychological business aspects (i.e., organizational behavior and leadership) to the general business and management field (Hogreve et al., 2022; Schäfer et al., under revision). Thus, the conceptual proximity, as well as underlying assumptions, are compatible.

Our second step in the analysis revealed the following: For the internal marketing environment, the findings propose that a digital mindset has moderating effects between internal service quality and employee satisfaction and positive effects on employee productivity and loyalty. For the external marketing environment. Further, customers' digital mindset moderates external service quality's effect on other SPC variables, like effects discussed from the employee perspective.

Further, our findings reveal that the digital mindset as a moderator fills a gap in the SPC moderators. Currently, the revised SPC considers moderators such as industry differences, and cultural and institutional effects (Hogreve et al., 2022). However, it does not consider individual employee/customer characteristics such as the digital mindset, which is conceptualized as a cognitive filter constituting a competency to actively deal with the power and complexity of digitalization (Schäfer et al., under revision). This conceptualization is different from the antecedents, mediators, and outcomes directly considered in the SPC, as the digital mindset as a cognitive filter does not directly affect the SPC variables but instead influences strength and direction. This becomes obvious when considering the constructs AI and technostress which are proposed as additions from the digital transformation context to the revised SPC (Hogreve et al., 2022). For example, a digital mindset may moderate technostress towards eustress or distress depending on the degree an employee display a digital mindset. Thus, we propose integrating digital mindset as a moderator for the SPC.

RESEARCH LIMITATIONS / IMPLICATIONS

Our implications are derived based on the impact assessment by Jaakkola and Vargo (2021) in terms of scientific, business, and societal impact.

First, for scientific impact, we enriched SPC theory with an understanding of a moderator that enables service employees' successful coping with digital transformation and hence, contributes to a competitive advantage. By drawing on discipline-bridging digital mindset research, we further ensured that the implications are transferable cross-disciplinary such as psychology. Additionally, we create a common foundation for future research which is required to empirically test proposed effects and relationships.

Second, for business impact, managers benefit from insights what lead service employees to proactively engage in digital transformation processes and hence, can support staffing decisions. Additionally, employees are provided with a reflection tool, e.g., they can use their insights on how the digital mindset affects their satisfaction to proactively improve their current status.

Third for societal impact, by establishing digital mindset as an integral moderator of the SPC we provide a public policy with an incentive to invest in fostering the digital mindset in their constitutes.

ORIGINALITY / VALUE

This article examines digital mindset as a valuable attribute of employees that can positively affect SPC variables in the context of digital transformation. It provides valuable insights into how service firms can embrace digital transformation that might affect employees' and customers' attitudes and behaviors, and hence remain competitive.

KEYWORDS

Service-profit chain, human resource management practices, digital transformation, digital mindset

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Exploring the Use of Immersive Technology in Nursing Practice: Case Study in Thailand

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ABSTRACT

The nursing education system has recently undergone transformation through the adoption of digital technologies, including immersive technology. However, the implementation of these technologies is still in its preliminary stages, and their effectiveness in nursing education requires further investigation. This study utilized a two-phase approach to identify the appropriate immersive technology for nursing practice and design a nursing practice system. The results of the first phase indicate that immersive technologies are a trend in nursing education, and VR technology is at the forefront of cutting-edge technology. The second phase involved an innovative design process that was tested on fourth-year midwifery nursing students. The findings of the study suggest that the use of technology in nursing education has several factors that impact the learning process, and the disadvantages of technology, such as cybersickness, need to be addressed in order to optimize learning outcomes. Further research is needed to refine and develop this prototype testing in mixed reality for midwifery nursing students.

Keywords: service design, healthcare education, systematic review

INTRODUCTION

The nursing education system has gradually redesigned its traditional teaching and learning process, as it stays at the forefront of digital technology (Adhikari et al., 2021; Gebreheat et al., 2022). The Personal Development and Performance Review (PDPR) and the COVID-19 pandemic have significantly impacted the system. Due to the pandemic, nursing students have been unable to practice their skills in simulation, theatre, OPD, or IPD, which has caused concerns about their ability to acquire and improve their skills and techniques for patient care (Bucher et al., 2020; Calica and Paterson, 2023). The uncertainty and anxiety surrounding the treatment and practice of patients have added to these concerns. As a result, the COVID-19 pandemic has necessitated the integration of digital technology in nursing education, as traditional teaching and learning methods have been disrupted. Immersive technology has emerged as a viable option to facilitate the learning and practice of nursing skills (Kadong-Edgren et al., 2019). However, the adoption of these technologies is still in its early stages (Bracq et al., 2019), and the full potential of immersive technology in nursing education is yet to be realized (Chao et al., 2021). Virtual reality (VR) is gaining popularity (Breitkreuz et al., 2021; Farra et al., 2018; Saab et al., 2021), with widespread adoption in medicine expected in the next three to five years. While most students enjoy learning in the virtual environment, some students may not prefer this mode of learning (Jeon et al., 2020; Yu and Mann, 2021).

On the contrary, some students have shown enthusiasm towards the new learning mode and are excited about using immersive technologies such as Oculus lenses and HTC Vive (Chao et al., 2021). However, the high cost of classroom management associated with these technologies makes it difficult for nursing students to afford and practice anytime and anywhere. Implementing immersive technology has also introduced new challenges (Kadong-Edgren et al., 2019), such as classroom management costs and access to technology. Additionally, some students may face a learning curve in adapting to the new learning mode. Therefore, nursing educators must approach the implementation of immersive technology with caution and ensure that it effectively enhances nursing education and improves patient care.

In conclusion, the use of virtual reality (VR) in nursing education is a promising development, but it must be integrated carefully into the existing curriculum. To address these concerns, the School of Nursing has identified emerging technologies, such as VR, to guide their students. However, the application of these technologies is still in its early stages, and only the basic functional requirements of these techniques are being used for practice and learning. This study aimed to identify the appropriate immersive technology for practicing nursing students, analyze it further, design a prototype, and test a nursing practice system.

METHODOLOGY

This study had two phases. The first phase used a systematic review technique to investigate the use of immersive technology in nursing education. The review began by establishing research objectives and conceptual boundaries, including specific categories of design, process, and outcomes of nursing education. The PICO classification was used to identify nursing students, immersive technology, type of immersive technology, and outcome. The search was limited to papers published between August 2012 and July 2021. A total of 1,236 potentially relevant articles were identified, which were then screened based on titles and abstracts. Of these, 911 studies were subjected to a more detailed evaluation, with five researchers involved in the initial screening of publications. A second screening was conducted by two or three authors according to inclusion criteria, and the final screening assessed the full texts of the remaining twenty-five articles that matched all inclusion criteria. Three electronic databases were used in the search: ScienceDirect of Elsevier, ABI/INFORM of Proquest, and PUBMED. The search strategy used a combination of keywords, including "Immersive Technology," "Augmented Reality," "Virtual Reality," "Mixed Reality," "Three-Dimension*," "Nurs*," and "Student*." Papers were excluded if they were published in languages other than English, not relevant to the study's objectives, or other publication forms such as conference proceedings, books, newspaper articles, and reports. The inclusion criteria were peer-reviewed journal articles, full-text articles, and qualitative and quantitative studies.

The innovative design process has a second phase that includes four components: defining design criteria, creating student personas, mapping the student experience, and conducting a pilot test. The pilot test was conducted on two groups of midwifery nursing students in their fourth year of study. The researchers reviewed the criteria for delivering midwifery guidelines and designed corresponding scenarios. Two obstetric physicians and three experts in the delivery room reviewed the design criteria. Next, the teacher set up the prototype in a role-play scenario using a sim-mom manikin and a 360-degree camera to prepare the prototype. An IT expert then edited the system to ensure smooth delivery and set up the platform. A total of 126 nursing students from Saint Louis College in Thailand participated in the study, and 42 nursing students with previous experience from the last semester were selected to test the immersive environment. The nursing students were divided into two groups: the first group, consisting of 43 students, used Google Cardboard, while the second group, consisting of 42 students, used VR immersive game cameras for their practice.

RESULT

The results indicated that the majority of the studies were conducted in the United States, with five studies, followed by Taiwan and South Korea, both with three studies. Two studies were conducted in Israel and Brazil, while other countries studied included the UK, South Africa, Slovakia, Norway, Iceland, France, Australia, and Canada. The trend in immersive technology studies began in 2012 and is likely to continue increasing, with eight studies in 2020 and six studies in 2021, based on data collected through August 2021. This study focuses on the design components of immersive technology.

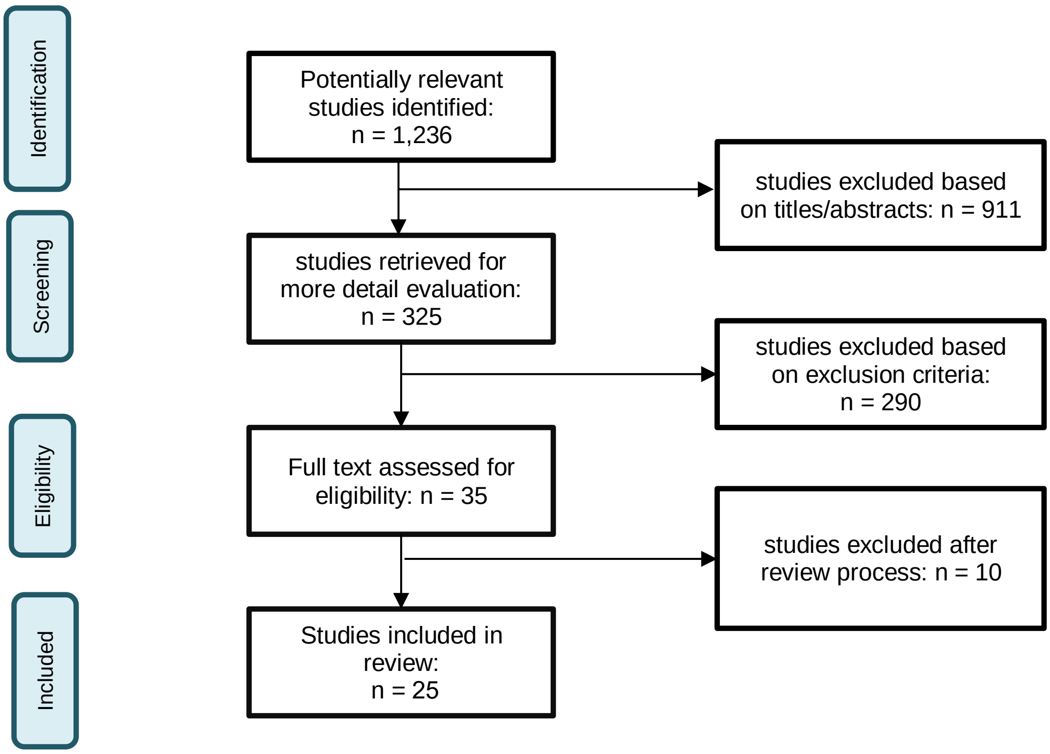

Figure 1 Flow chart showing the exclusion path from the entire search to the studies.

User experience

Some students who use immersive technology agree that they are able to practice better than through traditional methods (Kadong-Edgren et al., 2019). The interactive approach allows students to create a personalized and automated experience for themselves (Botha et al., 2021; Saab et al., 2021). Practicing with immersive technology can reduce training stress and provide a safe environment, allowing students to study more frequently and practice more efficiently (Botha et al., 2021; Farra et al., 2018). Depending on the type of immersive technology, nursing students can practice anytime and anywhere, offering more practical options to integrate both theory and practice (Jeon et al., 2020). Some studies show that nursing students who practice using both virtual simulators and conventional training have better automatic memorization (Adhikari et al., 2021; Berg and Steinsbekk, 2020), making them more competent learners (Jeon et al., 2020; Pereira et al., 2020).

However, despite the engaging and challenging nature of immersive VR games, they can pose technical difficulties that make it challenging to enjoy (Adhikari et al., 2021; Berg and Steinsbekk, 2020). For example, impaired functions in the virtual environment or limitations in feeling and emotional reactions can affect the training experience (Kadong-Edgren et al., 2019). Equipment like Oculus, which includes a headset, two Oculus Rift sensors, and a pair of Oculus Touch controllers, is essential to fully immerse users (Farra et al., 2018), but can be expensive (Thompson et al., 2020). While they offer a better experience than a monitor (Breitkruez et al., 2021; Farra et al., 2018; Hanson et al., 2019), they may require support from college staff during training if deployed at home. Large class sizes can also pose a challenge for designing VR for learning and practice, as not all students may have access to training, causing anxiety for those who have not been trained (Breitkreuz et al., 2021).

Immersive Environment

An essential element of the design, in addition to the student factor, must also consider the appropriate Virtual environment (Abelsson and Bishot, 2017; Yu and Mann, 2021). The visualisation is used to make students feel Immersive in the specified situation (Farra et al., 2018; Saab et al., 2021; Wingler et al., 2020), which will build skills for students and lead to a good user experience (Hanson et al., 2019; Nystrom et al., 2014; Thompson et al., 2020). Avatars should be designed to react to movements such as opening a drawer. Picking up tools, reading charts, and making interactive avatars enable students to make the best clinical decisions (Foronda et al., 2016; Ulrich et al., 2014). Practices with a nursing educator will allow students to experience different and diverse perspectives (Hara et al., 2021; Thompson et al., 2020). This can lead to the further development of the VR program (Hara et al., 2021; Wingler et al., 2020). In addition, there must be a guide and worksheet of guided activities for students to provide learning feedback (Bucher et al., 2020; Chao et al., 2021; Dobovi et al., 2017). Providing a safe environment (Hara et al., 2021; Yu and Mann, 2021) helps to stimulate students' interest. And to create a good experience must not be limited by cost (Evans et al., 2015; Jeon et al., 2020; Nyström et al., 2014; Smith et al., 2021; Wingler et al., 2020). Another factor is virtual patient design, which requires graphic design, character design, and animation skills (Botha et al., 2021).

Scenario

The teacher should consider using storyboards to prepare procedures and scenarios that are designed to be as realistic as possible (Butt et al., 2018; Dubovi et al., 2017; Nyström et al., 2014). This will challenge nursing students' learning and provide them with a more immersive experience (Abelsson and Bilsholt, 2017; Thompson et al., 2020; Wingler et al., 2020). It is recommended that at least three education experts review the scenarios (Farra et al., 2018; Hara et al., 2021; Smith et al., 2021) before they are developed to ensure they are effective. Scenarios should be varied (Chang and Lai, 2021; Urbanová et al., 2018), including complex situations, and challenging clinical communication, to encourage analytical thinking among students (Bucher et al., 2020; Jeon et al., 2020; Nyström et al., 2014; Yu and Mann, 2021). The immersive design process requires teamwork and communication (Günay and Zayback, 2018) to create a collaborative experience for the students (Hara et al., 2021; Kadong-Edgren et al., 2019; Yu and Mann, 2021).

Cybersickness

Learning through immersive technology has shown potential to enhance understanding and engagement (Hanson et al., 2019). However, the physical effects of motion sickness, also known as cybersickness, have been reported to limit its use (Hanson et al., 2019). Symptoms such as nausea, headache, dizziness, oculomotor fatigue, difficulties with interactions and gestures, and feelings of disorientation can negatively impact learning and pose a risk to users' physical safety (Jeon et al., 2020). Despite efforts to minimize cybersickness (Calica and Paterson, 2023), such as having participants watch learning material in a seated position, some users still experience slight dizziness (Chao et al., 2021; Hanson et al., 2019). Recent improvements in head-mounted display (HMD) technology and design have resulted in lower cybersickness symptoms (Breitkreuz et al., 2021; Kim et al., 2018; Samosorn et al., 2020).

The results of the first phase show that simulation, AR, VR, and mixed reality technologies are trending in nursing education related to healthcare training. Metaverse is also a keyword in cutting-edge technology. The relevant immersive technology design for nursing practice depends on technological limitations and is limited to a definite area. There are several factors that must be considered when using these technologies in the learning process.

Qualitative approach:
The use of immersive technology

Virtual reality technology provides an immersive experience for students, simulating the reality of childbirth and helping them to remember the correct sequence of delivery processes. It presents more realistic images, enabling students to recall birthing actions accurately. This technology offers a brief snapshot of the necessary steps, timing, and nursing care required during childbirth. Students can learn what tools to use, where to open, and how to wipe. They can also experience the delivery room's ambiance, feeling as if they have been present and witnessed every step of the birthing process.

Virtual reality technology allows students to imagine scenarios and assess situations when they encounter them in real life. They can view a broader picture of the delivery room environment, enhancing their educational experience. Comparing virtual clips to actual childbirth clips enables them to visualize the sequence and timing realistically, promoting analytical thinking. This technology enables them to practice repeatedly without causing any harm to the patient. In case of any errors, it can be analysed and corrected, enhancing their learning outcomes.

Students can access this technology anytime, making it more convenient for their studies. It provides an exciting teaching experience that benefits the students, allowing them to learn from their mistakes and improve before implementing their learning in real-life scenarios. This technology serves as a rehearsal and preparation for students, enabling them to practice coping with different situations and techniques before handling actual childbirth cases. Students require access to this technology for all their courses to experiment and practice before going into actual practice.

The virtual teaching model improves competencies

Immersive technology enables nursing students to develop practical skills that closely resemble actual situations. Virtual reality (VR) allows students to understand the midwifery delivery process and improve their skills. They can watch the delivery process repeatedly until they feel comfortable enough to perform it themselves. By practicing in a virtual environment, nursing students can prevent mistakes in real-life situations. Using VR can increase their competence in taking care of mothers and infants, including improving communication skills, teamwork, reducing fear, and building self-confidence. It also helps in developing knowledge, sensitivity, creativity, imagination, and self-review techniques. Through VR training, nursing students can observe the entire process of giving birth and try out different birthing positions.

This type of training encourages students to think about and solve potential issues on their own, leading to a better understanding of the different roles in the delivery room.

In conclusion, VR training can help nursing students gain confidence in delivering babies. It reduces anxiety and fear and helps develop knowledge and skills through virtual learning. This knowledge can be applied to practical use and analytical thinking.

The Benefits of Using Virtual Experiences

VR immersive technology can have a positive impact on the learning experience by providing students with an engaging and interactive way to study and practice. Prior explanation of procedures by teachers can help alleviate anxiety and fear about using the technology. Nursing students have gained new perspectives on the role of VR immersive in education, challenging the cultural belief that it is only for gaming. Additionally, students' use of VR immersive at home can foster a positive attitude toward VR technology among families.

As the perception of technology has shifted from just gaming to being useful for learning and practice, VR has gained recognition for its educational benefits. Although some students may experience health problems from using VR devices for long periods, the excitement of learning can help them return to the experience. However, some students may prefer reading and practicing over watching VR immersive content. Based on this study, it is necessary to provide various scenarios to choose from for training on cases with abnormal births to meet the students' needs.

DISCUSSION

This study identified the appropriate immersive technology for practicing nursing students, analyzed it further, designed a prototype, and tested a nursing practice system. The study had two stages. The first stage, a systematic review, was employed to identify the main points for designing immersive technology. The second stage, a qualitative approach, was employed to explore users' experience of immersive technology in nursing education and to test VR immersive in the design process. The study involved conducting an intervention with 126 nursing students at Saint Louis College in Thailand. The paper discusses the benefits and limitations of using immersive technology in nursing education. It is essential to consider the design of the virtual environment, user experience, scenario development, and cybersickness in designing an immersive learning experience.

User experience (UX) is critical to designing technology-based learning environments in nursing education. Integrating immersive technology into nursing practice has allowed students to learn in interactive environments (Günay and Zayback, 2018; Wingler et al., 2020). The advantage of immersive technology is the potential to provide users with a more engaging and interactive learning experience (Farra et al., 2018). Immersive technology allows students to practice in a safe environment (Adhikari et al., 2021; Calica and Paterson, 2023; Kadong-Edgren et al., 2019; Pereira et al., 2020), which reduces training stress and makes it possible to study often and practice efficiently (Chang and Lai, 2021). With the introduction of immersive technology, students have more practical options (Botha et al., 2021). They will be able to integrate both theory and practice (Saab et al., 2021). Some studies show that nursing students who practiced using the virtual simulator and conventional training were more competent in their learning approach (Adhikari et al., 2021). The benefits of immersive technology are (1) enhanced positive thinking by adopting technology to study and practice in the learning experience (Bracq et al., 2019; Kadong-Edgren et al., 2019; Pereira et al., 2020); (2) opened new perspectives to learning (Bucher et al., 2020; Chang and Lai, 2021; Smith et al., 2021); (3) shifted a paradigm from VR games to being used for education, learning, and practice (Adhikari et al., 2021; Berg and Steinsbekk, 2020); (4) encouraged creativity in the learning process (Botha et al., 2021; Günay and Zayback, 2018; Pereira et al., 2020; Saab et al., 2021; Wingler et al., 2020); (5) reduces anxiety and fear of using technology (Breitkreuz et al., 2021); (6) sensation like in the actual delivery room (Botha et al., 2021; Jeon et al., 2020; Wingler et al., 2020; Yu and Mann, 2021); (7) review the delivery procedure anytime and anywhere (Berg and Steinsbekk, 2020; Jeon et al., 2020; Smith et al., 2021). At the same time, individual differences were found in the use of VR, supported by research that showed some students had fun in practice (Bracq et al., 2019; Farra et al., 2018). Nevertheless, some groups of students had problems divided into health problems and learning problems (Hanson et al., 2019). The learning problems were the characteristics of students who were proficient in reading and imagining the visualization in their mind than watching in VR immersive (Bracq et al., 2019; Pereira et al., 2020).

There are many critical components to consider when implementing immersive technology for nursing education. This study identified three main groups of components: tool and equipment components (Chao et al., 2021; Hanson et al., 2019), design components (Jeon et al., 2020; Wingler et al., 2020), and location components. Tool and equipment components refer to the devices used to access immersive technology (Wingler et al., 2020), which can be divided into two groups: economic and expensive (Smith et al., 2021). The economic group includes VR cameras such as Google Cardboard and VR immersive games, which are easily available and low-cost. In contrast, the expensive group includes bundles like the Oculus, which comprises a headset, two Oculus Rift sensors, and a pair of Oculus Touch controllers (Chao et al., 2021). Expensive immersive technology provides sensory, motion, and hearing stimuli to fully immerse users, but it may not be feasible to provide for all students at once or allow them to use outside of the college (Smith et al., 2021). Design components refer to creating environments that mimic actual nursing situations (Breitkreuz et al., 2021; (Jeon et al., 2020), such as wards, OPDs, IPDs, and equipment (Chao et al., 2021; Urbanová et al., 2018). Avatars are also used in virtual systems, but they cannot react to movements such as opening a drawer, picking up tools, reading charts, or making interactions. The study found that VR immersive Avatars are still incomplete due to technological limitations and the need for experts to design virtual reality on virtual technology. To use VR immersive effectively, a guide and worksheet of guided activities following standard nursing procedures accepted by international standards are also essential elements.

Location components focus on the wireless connection between the platform and the VR device, which must be properly designed to ensure proper use (Saab et al., 2021; Smith et al., 2021). The training facility must be small enough that each student can complete the training virtually, and the location should provide a safe environment to stimulate students' interest (Pereira et al., 2020; Wingler et al., 2020).

This study found that the design of complex scenarios was not adequately described. Only one study was identified that proposed at least three categories for scenario diversity (Urbanová et al., 2018), including complex patient care (Bracq et al., 2019; Hanson et al., 2019), challenging clinical communication, and team communication to foster a collaborative experience (Günay and Zayback, 2018). These scenarios require nursing students to actively participate and can aid in skill development (Jeon et al., 2020; Smith et al., 2021; Yu and Mann, 2021). Immersive technology has the potential to provide a more engaging (Adhikari et al., 2021; Kadong-Edgren et al., 2019) and interactive learning experience, but the physical effects of cybersickness remain a limitation that needs to be addressed. Recent advancements in head-mounted display (HMD) technology and design have reduced the incidence of cybersickness symptoms (Bracq et al., 2019; Kadong-Edgren et al., 2019), but further efforts are necessary to improve the effectiveness of VR systems (Hanson et al., 2019). Continued research and development in this area could lead to more effective and engaging learning experiences for both educators and learners (Chao et al., 2021; Smith et al., 2021).

Individual differences were also found to be a factor affecting nursing students' learning (Berg and Steinsbekk, 2020; Bracq et al., 2019; Hanson et al., 2019; Pereira et al., 2020). Some students can easily grasp new technology (Calica and Paterson, 2023), using it to further their education through imaginative and creative means (Hanson et al., 2019). However, others may struggle with technology and require more practical practice (Jeon et al., 2020). Additionally, some students may excel using traditional methods, such as reading and writing, while others may prefer immersive technology (Berg and Steinsbekk, 2020; Pereira et al., 2020). Based on these findings, teaching and practice guidelines were developed for three groups of students using suitable theoretical concepts, such as the VARK model (Amaniya et al., 2020). A model for nursing student learning was developed in four procedures:

Procedure 1: Learning using reading and writing for nursing students who are not proficient in technology.
Procedure 2: Learning using immersive technology alongside practice.
Procedure 3: Practice using manikins and simulations in the practice room.
Procedure 4: Practice-based learning under the guidance of a teacher.

CONCLUSION

The study concluded that immersive technology in education provides a more engaging and interactive learning experience. However, it is essential to consider the design of the virtual environment, scenario development, and user experience. Individual differences and cybersickness remain limitations that need to be addressed. Continued research and development in this area may lead to more effective and engaging learning experiences that benefit educators and learners. The study also concluded that the findings suggest the arrangement of teaching and practice guidelines for three groups of students based on the VARK model. The learning model consists of four categories: reading and writing, immersive technology, virtual simulation technology, and the integrated approach of immersive and virtual simulation technology.

IMPLICATIONS/FURTHER RESEARCH

Further research is to redesign and develop this prototype testing in the Mixed reality for nursing students in midwifery, examine the VARK model and evaluation outcome of the learning.

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Unravelling fle-robot-customer value co-creation orientations

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ABSTRACT

The research introduces nine value co-creation orientations significant for developing co-working relationships between service robots-FLE and customers. Drawing on value co-creation and FIRO theory, two studies are designed to theorize the critical co-creation orientations in triadic service encounters. This study contributes to the emerging research on human-robotic integration in service theory and practice through the development of an FLE–customer–service robot co-creation orientation framework. Thereby highlighting the expectations of robots' role performance within service work and processes from FLEs and customers' perspectives.

INTRODUCTION

The adoption of more humanoid forms of service robots is increasingly becoming an integral part of frontline service operations across a myriad of service sectors (Čaic et al., 2018; Xiao and Kumar, 2021). Due to their abilities, service robots are seen as value co-creators who have autonomy, mobility, and sensory capabilities, which allow them to perform roles and tasks similar to human frontline service employees (Ivanov et al., 2017**).** Emerging empirical research (Savela et al., 2021; Schepers and Streukens, 2022) supports the use of robots as colleagues and discusses the types of service tasks and roles that suit human-robot work teams.

Despite the growing interest in the field, few studies (e.g., Paluch et al., 2021) have addressed the impact of robots as co-workers on the human service frontline. Research that aims to understand interpersonal relationships with human-like embodiments in human-robotic integration (HRI) is particularly scarce (e.g., Odekerken-Schröder et al., 2021). Insights that explain the perspectives of FLEs and customers and their orientations toward service robots with a specific focus on inter-relational aspects and its impact on the co-working between humans and machines to support value co-creation is lacking. Currently, most studies highlight dyadic interpersonal relationships (e.g., Giebelhausen et al., 2014), between FLEs and robots, but have not presented a comprehensive representation of how a triadic service exchange influence needs for co-creation to occur between FLEs, robots, and customers. Triadic service exchanges are more relevant in hospitality, healthcare, aged care etc. where HRI format of service frontline can offer better service experiences. It is therefore worthwhile to understand how the robots fit within the service frontline roles and how they are perceived as valuable co-creators by human FLEs and customers. Knowledge of the differences between FLEs' orientation and customers' orientation toward value co-creation in human–robot exchanges will assist in identifying ways in which human services can be matched with customer expectations while also developing organizational strategies to re-skill the human workforce, improve service processes, and prepare better for service exchange integration.

To fill these knowledge gaps, the study proposes the following research question: *What are the FLE-robot and customer-robot orientations that influence value co-creation during a triadic service encounter?* Drawing on the value of co-creation and Fundamental Relationship Orientation Approach (FIRO) by Schutz (1958) for interpersonal relationships, we argue that service FLEs and customers have interpersonal orientations towards in service exchanges. Due to their anthropomorphic characteristics, they are perceived as machines with rudimentary humanistic abilities. Hence, they create a sense of social presence (Odekerken-Schröder et al., 2021) and elicit expectations similar to those of other human workers, resulting in perceived orientations held toward service robots. Using two studies, the research theorizes nine value co-creation orientations held by FLEs and customers toward service robots. Further, we argue that each co-creation orientation can positively or negative impact the potential for the humans (both FLE and customers) to build collaborative relationships that fulfil the needs for inclusion, control, and affection to varying degrees The study contributes to the development of an FLE–customer–service robot co-creation orientation framework.

THEORETICAL BACKGROUND AND FRAMING

Reimagining the service workforce with a good balance between humans and robots as value co-creators has been at the center of much recent empirical research. Such human–machine integration requires an extensive understanding of how collaborative interpersonal relationships manifest in the service frontline, and how such relationships between humans and service robots are perceived by customers. The current literature highlights the supportive roles played by service robots, for example, as in healthcare (e.g., Čaic et al., 2019). Literature also suggests that to create a better co-working relationship with human service employees, service robots need to demonstrate more humanistic attributes, as this can have a positive psychological impact on humans (Becker et al., 2022). However, value co-creation with service robots is influenced by many factors such as humans' (both customers and FLEs) perceptions, attitudes, trust, social influence, hedonic motivations, anthropomorphism, and prior experience with robots (Solakis et al., 2022).

This means FLEs and customers may perceive the role of a service robot in service interactions differently. Blauroack et al. (2022) postulate a human–robotic integrative (HRI) theoretical framework, which suggests that interactions between humans and robots are role performances in which the structure of the interaction is socially defined by associated meanings that guide and direct the behavior of the human and the design of the role interface (i.e., appearance) and role enactment (i.e., role script) of the robotic interaction. By zooming into a consumer–robotic service interaction, the framework shows how programmed robots can perform service roles and enact role scripts. However, when the robot's roles are at odds with consumer role expectations, the service encounter becomes ineffective and may result in service failure (Blauroack et al., 2022). Despite the usefulness of the HRI integrative framework, it leaves knowledge gaps regarding the perspective of the FLE as a separate service actor, who may have a different set of role expectations. Customer expectations may also change when both human FLEs and robots interact with them. While FLEs may see the robots as allies, partners, and colleagues, customers may only see them as substitutes for human FLEs. Some studies indicate that FLEs can also experience depersonalization in their relationships with customers due to the interference of the technology (Mende et al., 2019), and they may find it challenging to manage their roles and identities (Green et al., 2016).

Likewise, studies (e.g., Belanche et al., 2020) argue that frontline service robots vary in their acceptability across different service contexts. For instance, in healthcare, they may provide augmenting benefits for employees by supporting customization and customer-centric work (Barrett et al., 2012). In contrast, they may dehumanize the care of the aged by causing social isolation of the elderly when robots are substituted for human FLEs (Čaic et al., 2018). Nevertheless, humanoid robots are perceived to be warmer and more empathetic due to the anthropomorphic effects, and these can help alleviate customer concerns. It is evident that research to date into the role of service robots as co-working value co-creators has failed to provide a concrete understanding of the capabilities in co-working interpersonal relationships for which service robots are valued by FLEs and customers.

To create compatible interpersonal collaboration between robots, FLEs, and customers, which supports service routines and processes, humans need to believe that service robots are meaningful co-creators of value. Such beliefs will assist in developing a positive orientation toward developing co-worker human–robot relationships. Humans' orientations toward any focal object, whether living or non-living, will be predictive of their behavior toward it (Kreitler and Kreitler, 1972). In other words, humans' beliefs orient them either positively or negatively toward a focal object (viz., robots), thereby predicting either favorable or unfavorable behaviors when co-working with the robots. Different types of value co-creation orientation may emerge among human service actors (FLEs and customers). While research on the value co-creation orientation of FLEs is scarce, there is some evidence that co-creation orientations are viewed as the capabilities of service providers that enable the co-creation of value for network partners (e.g., Karpen et al., 2015). A recognition of these orientations could provide insights into how humans may assimilate and internalize the concept of having service robots as co-workers.

Against this background, this research employs the value co-creation paradigm, which suggests that service robots can perform the role of value co-creators with frontline service employees and customers (Glushko and Nomorosa, 2013) in a triadic service encounter. In this encounter, the service robot can co-create value with the FLE and the customer, either simultaneously or sequentially. Such triadic service encounters present an interesting avenue for investigating co-creation orientations that may be significant for achieving role congruence outcomes for both FLEs and customers, thus impacting service benefits. The study conceptualizes nine value co-creation orientations (see Table 1). Thereafter, guided by the application of the FIRO theory in management (Lidell et al., 1976), research illustrates how each value co-creation orientation is shaped by the extent to which the human FLEs' and customers' need to feel included, in control, and affection toward their robotic co-workers and whether this improves compatibility, impacts group performance, and improves value co-creation. To do so, the feeling of inclusion is theorized as extent to which FLE/customer believes that the relationship with robot co-worker fulfill their need to belong or associate allowing them to be an in-group or out-group. Similarly, the feeling of control is the extent to which FLE/customer believes that the relationship with robot co-worker fulfills their need for power over (control) the robot or being over-powered (controlled) by robot. Finally, feeling of affection is the extent to which FLE/customer believes that robot fulfills their need for personal connection/emotional closeness. In line with this approach, the study proposes that in triadic service interactions FLEs and customers, need to feel significant, competent, and likable when integrating resources for value co-creation with service robots. It is important that the service robots' co-creation orientations are conceived in a way that allows the FLE and customers to fulfill these needs.

METHODOLOGY AND ANALYSIS

Study 1. Study 1 was conducted to explore the unique orientations that service robots need to integrate resources in such a way that they align with the expectations of FLEs and customers in service contexts. Preliminary a-priori orientations were inspired by value co-creation (e.g., Karpen et al., 2015), human resources (Choi and Jacobs, 2011), and service robotics in marketing (e.g., Mende et al., 2017) literature. Applying a qualitative methodology of in-depth interviews with consumers and frontline service employees, 21 semi-structured interviews were collected. The interviews were conducted with 15 frontline employees and six consumers. A projective interviewing technique was employed in which a video was used to elicit responses in relation to the characters (i.e., a robot, an employee, and a customer) and to the value co-creation script of the video. The video was developed in line with the a-priori robot co-creation orientation domains derived from a review of the literature. The interviews were analyzed using Nvivo software to allow for a systematic approach. A dualistic approach of inductive and deductive coding process was undertaken in this process. The combination of both approaches allowed for the refinement of existing themes and the development of unexpected themes that did not fall within the initial codebook (Roberts, Dowell, & Nie, 2019) to derive a more complete data analysis. Consequently, nine orientations were validated in the interview data (see Table 1): logistical orientation, judicious orientation, relational orientation, factual orientation, collaborative orientation, sales orientation, development orientation, inclusive orientation, and ethical orientation.

Key findings

The interview data provided thematic evidence for nine themes representing the domains and sub-themes that constitute perceived FLE–customer–robot co-creation orientations. See Table 2 for details.

Study 2. The aim of study 2 was to predict how the nine different types of human–robot value co-creation orientation that emerged from the in-depth interviews will meet the co-working interpersonal needs of: 1) frontline employees and 2) customers. To assess this, we adopted Delphi technique, experts in the field who are asked their opinions on the topic, and identifying a consensus view across as they reflect and reconsider their opinions based on anonymised opinions of others (Barrett etal., 2020). We engaged a panel who had expertise in frontline interactions in general, and in the domains of human resources and marketing, in particular. Next, based on FIRO theory the panelists were given a concise definition of the three needs valued in a relationship, namely, inclusion, control, and affection. Each participant were asked to give a rationale for their ratings. The feedback thus received was then collated and shared by the facilitator with the panellists'. The participants were then asked to adjust their responses taking into consideration the reasoning of the other experts. This process continued until consensus was reached.

Key findings

From the FLE perspective, the HR experts rated the logistical, judicious, sales, and inclusive orientations high on inclusion, indicating that for FLEs to develop co-working relationships with robots, it is important that the robots should have the abilities that make it possible to include them as part of a service exchange. The robots' inclusive and relational orientations were rated high on the dimension of affection, indicating that FLEs perceive that robots should have the ability to develop emotional connections with them so that they feel included and can relate to the robots for better value co-creation. Interestingly, the collaborative and ethical orientations were rated highly across all three dimensions of inclusion, control, and affection, suggesting that during the service process, for co-creation to occur, robots must be ethical, and must have the ability to involve human FLEs in a way that they should not over-power humans, and should offer personalization. The one exception was for developmental orientation where HR experts rated all three interpersonal dimensions as low. Similarly, from the customer perspective, the marketing experts rated judicious, relational, and inclusive high on inclusion, suggesting that customers believe that robots with capabilities can be accommodated in a service environment. If they are perceptive regarding their needs, they will be better co-workers for value co-creation. The relational and collaborative orientations were evaluated highly on the dimension of affection, suggesting the significance of robots being competent to build emotional connections for collaborative co-working, which was consistent with the FLEs. Finally, logistical, ethical, and developmental orientations were rated highly across all three dimensions. The raters evaluated sales orientation as low across all dimensions, with the assumption that inclusivity, control, and affection were less significant in cases of value co-creation during selling. See Table 3 for details.

IMPLICATIONS FOR THEORY AND PRACTICE

The study contributes to research on value co-creation with service robots by providing a more holistic understanding of the types of co-creation orientation that customers and FLEs have toward co-working with service robots. The proposed framework provides a valid and comprehensive set of nine distinct orientations that facilitate the knowledge needed to guide expectations of robots' role performance within service work and processes from the FLEs and customers' perspectives. It is apparent from the findings that the co-creation orientation of service robots extends not just to their interpersonal and social intelligence, but also to their knowledge and information quality. Importantly, it also includes their humanistic attributes, such as ethics and inclusiveness. This thus contributes to the emerging body of knowledge within service research that focuses on how best to develop human–robotic resource integration mechanisms (e.g., Blaucker et al., 2022) for better value co-creation outcomes. This research also draws on FIRO theory to relate the nine co-creation dimensions to three major needs of human interpersonal co-working: inclusion, control, and affection. The process revealed that the orientations vary across these nine dimensions and thus present opportunities for robot and service designers to feature AI programs and physical designs that meet these interpersonal needs. As far as possible, it is important to avoid a "one size fits all" approach and to avoid role incongruency when introducing robot co-workers. Finally, the study offers several practical implications. For instance, service managers need to be mindful of the importance of these domains to customers and FLEs when designing service roles within hospitality services. For example, service robots that are placed to meet and greet customers must meet the needs of domains that are not just relational in nature but also bear in mind ethical considerations.

In addition, the Delphi study showed that service robots satisfied FLE needs in terms of inclusion, control, and affection. The needs that were considered suggest that service teams' norms and practices need to be considered when using service robots. For instance, how social robots are introduced into a service work team and how they work alongside FLEs need to be curated to ensure that the humans' needs for sufficient control and the right balance of power in relation to the technology are met to ensure that co-creation will occur. Furthermore, the social contexts in which FLEs and service robots work can have implications for their connections and emotional closeness. Service managers can design work processes that will enhance the meeting of these needs, such as allocating tasks that signal mutual support or helping to build relationships between the FLE and the robot.

Table 1: Value co-creation definitions and study 1 findings

Orientations definitions and Sub-Themes	Quotes

Logistical orientation	*Belief that the robot will seamlessly integrate with the service-scape (surrounding environment) during a co-creation encounter (a service interaction).*
Adapt to speed of working	So, in my line of work I need to - not run but walk fast, go in and go out. So, if I have a robot working with me unless he is fast then yes - even then I haven't really got time to say, 'hey, can you do this for me?' No. Because I know what to do. I need to do it fast. Participant 10 (Employee: Male)
Geospatial fit within the environment	…also, literally the space it takes up and the nuances in behaviour and how to handle it. If you can tell that a guest is - I don't really want to be talking to this thing, how do I make it go away? Like a dog, it is like a big scary dog or something. Participant 11 (Employee: Female)
Judicious orientation	*Belief that the robot will be intelligent and perceptive during a co-creation encounter.*
Anticipation of needs	If someone turns up and they are super old, you can anticipate that they might have questions or needs that you can say like 'oh I'll help you with your baggage.' Or 'this restaurant's a really good one to go to because I can see that you've got a walking frame and there's no stairs.' Things like that, I guess that anticipating needs is something that humans are better at than robots. Participant 11 (Employee: Female)
Problem solving competency	… But if it's probably things like if you have an issue in the hotel, maybe a dirty sheet or maybe someone is harassing you in the hotel, then if it's a robot …, I think it is not highly technical enough to resolve such problems. You still need a person to be there to resolve such issues. Participant 21 (Employee: Male)
Responding to situation	Can a robot determine that sort of thing? Do you know what I mean? I mean, some of the staff, they don't know. They're oblivious. If they're in the fridge cleaning and things like that, you don't really know. When is the food ready? When are the coffees ready for you to come and collect them, that sort of thing? So, they have to be aware of the situation. Participant 1 (Employee: Female)
Factual orientation	*Belief that the robot will have the ability to provide facts, figures or data during a co-creation encounter.*

Presents analytics, infographics, and customised data	… I can see him making customers happy like those for leisure or work. They have both got different needs, but he will be able to help. For example, leisure customers, they often want information about where to party tonight, or 'can I get a bottle of wine?', or 'can I get some snack?', or I don't know, even a lot of things. For workers, they will be like 'oh, I need a wake-up call tomorrow, and oh, can you order me a taxi as well.' I think this robot will be able to easily do that for them. Participant 5 (Employee: Female)
Provides automated and accurate information	Yeah 50 per cent you can rely on the robot because it's a standard thing, put it that way. It's nothing you know. Just put it on and the robot will tell you exactly the direction - you want a direction. Participant 18 (Consumer: Female)
Provides explicit information	Usually, it's about opening times or menus at the other restaurants. I know a lot about us and probably about the Towers, but then Crown has what, 25 different venues and I can't know everything about all of them, so I think it's really useful for robots to be able to provide the external information. Participant 6 (Employee: Female)
Relational orientation	*Belief that the robot will enhance social and emotional connections during a co-creation encounter (e.g.: increasing interactions and emotional bonds)*
Emotional connection	That's right, it's like a robot playing the happy birthday or singing happy birthday, it'll be a robotic-type voice singing it instead of a human being that can actually sing and have some feeling into it, rather than just a song. Participant 18 (Consumer: Female)
Executing empathy	I would say that the technical skills would - if you could build the right mechanism, then it would work, but that – yeah, that artificial intelligence, whether it could capture emotional and feelings of sympathy and empathy, I'm not sure if that would happen. Participant 8 (Employee: Male)
Personalise interactions and socialising	Also, basically, the doorman is just an excuse, it's an excuse to talk to people. So, when you open the door for them you have the interaction. Good morning. Good morning, Mrs Smith, how was your stay, did you enjoy your breakfast? Because you see them again and again, and I booked the car for you yesterday, so oh, Mrs Horton did

	you – are you enjoying the car, where did you get up to yesterday, where did you go? Participant 6 (Employee: Female)
Relationship building	You wouldn't have the social aspect where you'd go and maybe have a knock off drink with someone or you go out for your break at the same time and get to know them and what they've done for the day. You probably wouldn't get that with a robot. Participant 9 (Employee: Female)
Sales orientation	*Belief that the robot can fulfill upselling and cross-selling functions during a co-creation encounter.*
Customised offerings	Read people... If you actually see how the people, you can actually make a good guess, say ah he might like a gin, he might like this, he might like that, so you can actually go straight to that one…That's the thing that, when you work in bars, you get to understand more, you get to see more to profile people. Participant 9 (Employee: Male)
Hard selling	Where do you draw the line? It's like… would you like two drinks? Well, if you are by yourself, maybe you should just have one at a time instead of getting two... So, knowing when to offer something or not. Upselling food as well. You've just had a pint. Why don't you have a burger as well or with some chips? Just recognising when to perhaps slow people down [alcohol]. Participant 8 (Employee: Male)
Ability to upsell	…if the robot is upselling a lot, people will get away from it because it'll be like, it's far simpler for me to just talk to someone and get exactly what I want. I'll ask for a room and that's what I want, or I'll ask for dinner and that's all I want. Participant 17 (Consumer: Female)
Collaborative orientation	*Belief that the robot will effectively facilitate coordinated and integrated service processes as a team during a co-creation encounter.*
Clear and equitable roles	… I think that that's why a person would be more appropriate. So, I think it wouldn't be much point in having two people there or a robot and a person, so you either pick the robot or you pick the person. Participant 8 (Employee: Male)

Power distribution in collaboration	Mainly because I'm a bit of a racist on that but how are you going to command or tell a robot what to do? That's something that I don't really get. If you're the boss. You tell the robot to f, and if something is wrong. There will be conflict. Participant 7 (Employee: Male)
Task empowerment /disempowerment	Sort of like reminders and helping the team to communicate with guests for what information we need to make their stay more enjoyable. Participant 6 (Employee: Female)
Developmental orientation	*Belief that the robot can educate and help competence development during a co-creation encounter.*
Adaptability to learners	… as long as the robot is patient and can audibly explain how a certain thing is done. But then – this depends how rigid the robot is? Is it programmed by Head Office? … So, it depends on how they program it. Participant 3 (Employee: Male)
Communicating surface versus deep knowledge	I think it would be really hard to do training through a robot. Maybe like training presentations, we get a lot of - I know [Hotel X] did an orientation for three days where we just listen to someone talk and watch the presentation. I think that could have been done by a robot. It's the same presentation they do every week. Participant 4 (Employee: Female)
Demonstration ability	What I found is that people don't learn until they actually do it… If the robot is able to do this, because I don't believe in someone talking or showing because it's a very practical job, nothing is hard, but you need to learn all the situations about moving rooms, … If the robot is able to have eyes and see if someone is doing that correctly, then yes. Participant 9 (Employee: Female)
Ethical orientation	*Belief that the robot will act in fair and non-opportunistic ways during a co-creation encounter.*
Privacy concerns	I guess the whole privacy point again about if the robot has a camera lens which is then recording and then shows you that you have something in your room or someone in your room. That could be a privacy issue. Participant 19 (Consumer: Male)
Sensitivity in revealing data	Well, the robot can't be biased as a thing. It treats people the same regardless of anything. So, in that sense - even though we are trained

	to be polite with people, but we do have people that sometimes are just - oh gosh - sometimes you can't help it, your expression tells everything … But robots they don't have that problem. They are robots. There are things that you've got to be careful of … Participant 2 (Employee: Male)
Inclusive orientation	*Belief that the robot will have the ability to engage with diverse groups of consumers during a co-creation encounter.*
Diversity of verbal and non-verbal communication	Definitely. If the robot – that is something I hadn't thought of – but if the robot could speak different languages, then the language barrier would be instantly removed. Participant 3 (Employee: Male)
Equitable and flexible to use	Yeah, because they might see her as kind of a cool thing. New generation stuff. … Older people might get a little bit more restricted but young people probably would enjoy dealing with that [robot]. Participant 7 (Employee: Male)

Table 2: Study 2 need fulfillment ratings for FLE perspective on value co-creation orientations

Orientation (FLE perspective)	**Need fulfillment Scale Rating 1 Very low 7 Very high**	**Inclusion**	**Control.**	**Affection**	**Panel Expert Type**
Logistical Orientation		6	2	3	3 HR and 3 Researchers
Judicious Orientation		5	3	3	3 HR and 3 Researchers
Factual Orientation		7	6	6	3 HR and 3 Researchers
Relational Orientation		3	3	7	3 HR and 3 Researchers
Sales Orientation		4	3	3	3 HR and 3 Researchers

Developmental Orientation		3	3	3	3 HR and 3 Researchers
Collaborative Orientation		5	5	5	3 HR and 3 Researchers
Inclusive Orientation		6	3	6	3 HR and 3 Researchers
Ethical Orientation		5	5	5	3 HR and 3 Researchers

Table 3: Study 2 need fulfillment ratings for customer perspective on value co-creation orientations

Orientation (Customer perspective)	**Need fulfillment Scale Rating 1 Very low 7 Very high**	**Inclusion**	**Control**	**Affection**	**Panel Expert Type**
Logistical Orientation		5	5	4	3 Marketing and 3 Researchers
Judicious Orientation		6	3	5	3 Marketing and 3 Researchers
Factual Orientation		3	6	2	3 Marketing and 3 Researchers
Relational Orientation		7	4	7	3 Marketing and 3 Researchers
Sales Orientation		4	3	3	3 Marketing and 3 Researchers
Developmental Orientation		6	6	5	3 Marketing and 3 Researchers
Collaborative Orientation		6	6	6	3 Marketing and 3 Researchers
Inclusive Orientation		7	3	6	3 Marketing and 3 Researchers
Ethical Orientation		4	5	4	3 Marketing and 3 Researchers

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Hustle behavior and employee wellbeing: The double edge sword of technology

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ABSTRACT

Workaholism and excessive working, also known as hustle culture, emerged from the industrial revolution until today. Digital distraction was mentioned as one of contributors due to the nature of digital devices that blurring work-life boundaries. This study aims to explore the impact of hustle behavior and individuals' overall wellbeing. We collected 280 incidents and 460 survey data from Indonesia and the UK. We contribute to the literature by providing robust methodology starting from a qualitative-exploratory approach using Critical Incident Techniques (CIT) to understand how hustling affects employee wellbeing, followed up with cross-country surveys that capture the dynamics of hustle behavior across developed vs developing economies.

Keywords: *digital workers, employee wellbeing, hustle behavior, technostress, technology use*

INTRODUCTION

Hustle culture has been firstly introduced by Oates (1971) as work addiction or workaholism, indicating the normalization of excessive working. The phenomenon of hustle culture is much more supported by the increasing trend of business growth, seeing productivity as a measure of organization or someone's worth (Ens & Marton, 2021). People think that the more productive it is, the better it is. It leads to a guilty feeling from taking a break or rest or leisure time instead of working.

Digital distraction was mentioned as one of the biggest contributors to enhance the prevalence of hustle culture (Balkeran, 2020). It is due to the nature of digital devices and technology that blurring work-life boundaries and therefore nudging individuals to perform work outside the workplace. Hustle culture is closely related to multitasking so that it could lead to higher productivity with the same amount of time spent on work. It creates a high role for technology to make work become more efficient, such as: 1) automatization software that enables quick data processing and access, 2) messaging apps to enable group coordination, 3) video conferencing apps to enable communication across different time zones, etc. Therefore, the rise of digital technology is mentioned as one of the contributors to the rise of hustling behavior (Sessions et al., 2021). Previous studies mentioned that technology is a double-edged sword with the ability to both harm and help, depending on how people use it is as important as how much time they spend on the digital environment (Sum et al., 2008; Yang & Gong, 2021).

Hustle behavior is much studied in human-capital literature to provide negative behavior, such as burnout (Absher, 2020). Most of those studies lead to a different spectrum of wellbeing but mostly on psychological wellbeing (Jose et al., 2022). However, social and physical dimensions of wellbeing of individuals performing hustling behavior requires deeper exploration. This study aims to explore the impact of hustle behavior to individuals' productivity and overall wellbeing. We further explore the role of technology through technostress. More specifically, we also intend to explore how the use of technology can affect different dimensions of wellbeing.

LITERATURE REVIEW

Hustle Culture

Hustle culture is defined as "*an unspoken agreement between supervisors and employees concerning a designated workplace commitment compliance, which determines the minimum expectation of an employee's productivity capability"* (Balkeran, 2020). Hustle behavior has emerged in almost every part of the world, with the emergence starting from east Asia, such as Japan and China, creating workaholism as a culture. Hustling behavior is firstly acknowledged as performing side or double-jobs, while nowadays it also happens to employees working in a single company. Despite the rocketing productivity and performance as a result of technology infusion and long working hours, hustle cultures were reported to have numerous negative implications. Some of the studies mentioned employee burnout (Morgan, 2016), anger and frustration (Li, 2019), negative employee-employer relationship, and subsequently affect individual well being.

Wellbeing and Technology

There are numerous definitions of wellbeing available in the literature. From a health behavior perspective, it has been broadly defined as quality of life (Camfield & Skevington, 2008). Some marketing literature defines well being as happiness (Lucas, 2007), while others take it as physical wellbeing (McCloughen et al., 2012). In this study, our preliminary study conforms with Anderson and Ostrom (2015) to take the broadview of wellbeing consisting of social, existential, psychological, and physical wellbeing. We take the definition to capture how hustle behavior affects not only the individuals, but also how their social relationship at work and their social life perception trigger them to do hustling (Amankwaa et al., 2020).

While wellbeing is an individual predisposition, technology serves as an external actor that affects individuals. Several studies mentioned technology as a social actor (Fogg, 2002). It could affect individual users in either positive and negative (Hill et al., 2015; Tarafdar et al., 2010). Studies in IT/IS mentioning the benefit of technology use at the workplace such as improved information access (Eley et al., 2009); promoting engagement and positive functioning (Riva et al., 2012), and increased innovation (Ahmad et al., 2020). On the other hand, it could also lead to negative impacts such as technology addiction (Magsamen-Conrad & Greene, 2014), or disempowerment (Hill et al., 2015). Therefore, the role of technology is not yet conclusive.

On the study of HCI, to address wellbeing, psychological needs in using the technology must be considered within five different spheres of analysis including: at the point of technology adoption, during interaction with the interface, as a result of engagement with technology-specific tasks, as part of the technology-supported behavior, and as part of an individual's life overall (Peters et al., 2018). Therefore, it is important to see in what context, when, and how technology can support individual wellbeing in performing their jobs.

Technostress

Technostress, defined as an individual's experience of stress when using Information and Communication Technologies (ICTs) (Tarafdar et al., 2008). Technostress inflicts low performance and productivity at work (Ayyagari et al., 2011). This is because technostress is a negative psychological condition caused by computer technology that can threaten or influence users by triggering stress and strain while using technology. Some conditions usually experienced by someone attacked with technostress includes anxiety and mental fatigue that can reduce productivity (Farmania et al., 2022)

METHODS

We conducted a sequential mixed method using critical incident techniques (CIT) then followed by cross country surveys. CIT was used to explore the employee experience while having hustling experiences and identify major incidents that lead to the positive or negative well being of the workers. We asked participants by asking them to recall: *"Please recall your most recent hustling circumstances (i.e. working devoting as much of your day as possible working — hustling) at least the recent 6 months. Please describe the circumstances and what happened during the incident. What specific details do you recall that made this experience memorable for you?"*.

We followed up the CIT with cross-country study between Indonesia and the UK to explain the relationship between hustle behavior, technostress and the impact for employee wellbeing (physical, psychological, financial, and social). We collected a total of 460 usable data of adult workers who are currently working on full-time basis in both technology vs non-technology sectors (299 UK and 161 Indonesian respondents, respectively).

The dependent variable of the study, employee wellbeing (WB), was measured in four dimensions: physical, psychological, existential, and social. Finally, the questionnaires were mainly divided into five parts: Demographic Profile, Wellbeing (WB, 7 items), Productivity (PR, 4 items), Technostress (TS, 4 items), and Hustle Behavior (HB, 4 items). Each item of independent variables was assessed with a 5-point scale with endpoints of "strongly disagree" and "strongly agree".

RESULTS

From the CIT, we obtained two important findings. First is related to the context or the situations when doing hustle behavior, and second is related to the consequences of hustle behaviors at work. We categorize the results as presented in Table 1:

Table 1 Context of Hustle Behavior Situations

Factors	**Descriptions**	**Sample of terms/phrases**
Time constraint	Limitations given to the employee based on working time given	Deadlines, personal time devotions, long hours work
People constraint	Situational limitations caused by other humans, either from between staffs, internal company, or external company such as clients and customers	Communication, team work, team resignations/short staff, backup others' job, client feedback
Outcome expectancy	Situational influence caused by the expected output and outcome set by	Deliveries, targets, outcome importance, job roles &

	the work	responsibilities, work-home conflict, avoid penalty
Pecuniary forces	Situational motivations and influence caused by financial or monetary orientation to do the work	Extra money, paying bills, kids presents
Emotional involvement	Situations perceived by the employee related to the psychological support & emotional motivation at work	No appreciations, anxiety, top-down pressure/authority, sense of achievement, after-life orientations, psychosomatic
Infrastructure	Situations affecting employee due to facilities supporting their works	Slow gadgets, working & selling online, tech helps, AI checked, tech support, tech-mediated communication, work from home, automation

Regarding the respondent profile, Indonesia and UK samples have many similarities in terms of profile distributions. Most of the employees surveyed lived and worked in urban areas. We divide whether they work in the tech industries (i.e. IT, eCommerce, Fintech, etc) or non-tech sectors (i.e. healthcare, education, hospitality, etc), and most of the respondents were from non-tech sectors. We also asked whether they work more than one job or have side jobs, in Indonesian samples the proportions are almost similar while in the UK it is dominated by people working only in one job. The complete profile description is presented on Table 2.

Table 2 Respondent Profiles

Profile	Indonesia samples	UK samples	Profile	Indonesia samples	UK samples
Working Experience			**Have more than 1 job/side job**		
0-3 years	57	110	Yes	78	73
3-10 years	47	113	No	83	226
> 10 years	57	76	**Working location**		
Job Positions			Urban	128	209
Staffs	82	162	Sub-Urban	33	90
Supervisor	24	61	**Job Sector**		
Mid Manager	40	56	Tech/digital	59	92
Upper Manager	15	20	Non-tech/ digital	102	207

To do the data analysis, the model was confirmed through validity and reliability tests before the hypothesis measurement. Cronbach's alpha was used to test the reliability and Pearson's correlation for the validity test. From table 3, we can infer that hustle behavior has both direct and indirect impact on wellbeing with productivity as a mediator *(p< .001)*.

Table 3 Mediation Analysis Summary

Relationship	Total Effect	Direct Effect	Indirect Effect	Confidence Interval		Conclusion
				Lower bound	Upper bound	
HB -> PR -> WB	0.264 (.000)	.136 (.001)	.128	.085	.178	Partial mediation

On one hand, hustling can significantly affect individuals' productivity and subsequently their wellbeing. However, we are curious to discern which elements get affected more or less, positively or negatively in developed vs developing nations. Therefore, we run a multiple regression with four types of wellbeing and compare the analysis based on country as shown on Table 4.

As presented in Table 4, hustle culture, technostress, and productivity have various impacts on different aspects of wellbeing in two countries. For psychological well being, both countries agree technostress impacts positively (□$_{Indo}$= .208; □$_{UK}$= .205) and productivity impacts negatively on psychological wellbeing (□$_{Indo}$= .208; □$_{UK}$= .205). Meanwhile, that hustle behavior does not have a significant effect on all respondents.

Table 4 Hypothesis Testing in each country

Hypothesis	Indonesia			UK		
	beta	p-value	Summary	beta	p-value	Summary
HB -> PsyWeb	.020	.802	Rejected	-.034	.534	Rejected
TS -> PsyWeb	.208	.010	Accepted	.205	.000	Accepted
PR -> PsyWeb	-.186	.024	Accepted	-.278	.000	Accepted
HB -> SocWeb	.079	.333	Rejected	.027	.623	Rejected
TS -> SocWeb	-.057	.487	Rejected	-.163	.003	Accepted
PR -> SocWeb	.211	.012	Accepted	.343	.000	Accepted
HB -> ExtWeb	.079	.228	Rejected	.170	.002	Accepted
TS -> ExtWeb	-.035	.594	Rejected	-.193	.000	Accepted
PR -> ExtWeb	.605	.000	Accepted	.294	.000	Accepted
HB -> PWeb	.019	.812	Rejected	-.030	.604	Rejected
TS -> PWeb	.028	.733	Rejected	-.019	.742	Rejected
PR -> PWeb	-.258	.002	Accepted	-.085	.146	Rejected

Interestingly, as hustle behavior does not impact any of the well-being aspects of Indonesians, productivity affects all four well being dimensions. Productivity affects social and existential wellbeing positively (□$_{Indo}$= .211; .605, respectively) and to physical and psychological wellbeing negatively (□$_{Indo}$= -.258; -.186, respectively). It could be inferred that hustle behavior is merely another way of working that does not define and necessarily impact themself. Productivity is the only measure that Indonesian workers care about. Data also shows that excessive attention to productivity negatively affects their physical health and psychological conditions. This results conforms with Sutarto et al. (2021) that studied how employees' psychological well-being are negatively correlated with productivity.

Meanwhile for UK samples, hustle behavior impacts their existential wellbeing (□$_{UK}$= .170; *p-value*= .002) but not the other three aspects of wellbeing. It is very interesting finding on how hustle behavior could have a positive impact on the UK's existential wellbeing. The most possible explanation is that it can be understood that many people mislead busy and long working hours to be considered as good by the society, seen as hard working people and having high social status at work. It also confirms with Schulte (2014) & Kreider (2012) that busyness makes people feel good since it provides a sense of importance.

For UK samples, all predictors do not impact their physical but their existential wellbeing. This is interesting because when we return to the CIT results, many UK respondents mention the impact of hustling behavior to lack of sleep, less hydration, skipping meals, etc. In many wellbeing measures, the physical domain is usually overemphasized with the result that other important domains (for example psychosocial or existential) are underrepresented (Cohen et al., 1996). Further interesting finding is that hustle behavior affects the existential wellbeing positively ($\square_{UK}$= .170; p = .002) rather than negatively. We cross-checked with our CIT results, and found the majority of sentences mentioning the struggles of hustling but then closed with statements of other positive outcomes, such as: “but it is rewarding experience”; “turns out we made it”; “I’m 100% satisfied with the end result”. Therefore, we could conclude that to some extent, hustling is one of the ways for employees to push their boundaries and prove themselves at work.

Technostress negatively affects social and existential wellbeing in the UK ($\square_{UK}$= -.163, *p-value*= .003; $\square_{UK}$= -.193, *p-value*= .000, respectively) but not in Indonesia ($\square_{Indo}$= -.057, =-.035, *n.s.*). It shows that the negative impact of technology is more pertinent in the UK compared to Indonesia. It could be understood that the IT and internet use of UK workers is more than Indonesian workers (Office for National Statistics, 2020). The higher use of technology could significantly impact technostress (Camarena & Fusi, 2022).

Further, we would also like to discuss further the different effects of technostress, which affect psychological wellbeing positively but existential negatively ($\square_{UK}$= .205, *p-value*= .000; $\square_{UK}$= -.193, *p-value*= .000, respectively). Technostress is neutral in a holistic perspective, different types of technostress would be appraised differently (Lei & Ngai, 2014). It is found that a proactive personality could counter the negative effects of technostress, therefore when the employee uses technology mindfully, the impact would be positive (Tiwari, 2021). On the other hand, employees who work and infuse their work with technology too much could lose their feeling of existence to some extent.

CONCLUSIONS

This study unveils the phenomena of hustle culture and the role of technology to employee wellbeing. To provide rigorous evidence, we provide robust methodology starting from a qualitative-exploratory approach using CIT to understand how hustling affects employee wellbeing, followed up with cross-country surveys that capture the dynamics of hustle behavior across developed vs developing country contexts. This study is the first exploring the role of technology in hustle behavior and how it impacts employee multidimensional well being aspects. From both studies, it shows that hustle behavior could arise from various contexts and impact different dimensions of wellbeing, not only within the same country but also in cross-country settings. Although our cross-country comparison of the role of technology at work and wellbeing measures, we do not include the technology used factor, such as techno-overload, techno-complexity, techno-insecurity, from both countries. Future study could benefit from including technology used factors and explore the person-environment fit across cultures.

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Service robot acceptance and customer satisfaction: The role of customers' needs for the social sharing of emotions

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Keywords: Service robots; social sharing of emotions; organizational frontlines; negative emotions; service automation

Extended Abstract

Although human personnel remains dominant on organizational frontlines, service firms increasingly adopt Artificial Intelligence (AI) to automate service delivery processes and personalize customer experiences. Service robots (SRs) are an AI-powered technology that has started penetrating the service landscape. However, an intriguing question is whether only technical competence is sufficient, considering that satisfying customer service experiences rely on customers' emotional connection with the organizational frontline (Giebelhausen et al., 2014). Thus, this study explores whether and how customers build an emotional connection with SRs, a question that remains unexplored.

Previous research has shown that the emotional connection between customers and organizational frontlines is most important when customers enter service encounters with specific emotional episodes (Zablah et al., 2017). However, the literature offers little empirical evidence on how customers' emotional states affect how they evaluate service experiences after interacting with an SR. As SRs are gaining prominence on organizational frontlines, examining their efficiency in providing social-emotional support to customers in a negative emotional state while offering instrumental support during service encounters becomes imperative. This study argues that customers' service satisfaction after interacting with an SR depends on their emotional state before the interaction and the sympathetic capabilities of the SR.

This study fills the gap in the literature by addressing the following research questions:

RQ1: How do customers evaluate service experiences after being served by an SR when they are in a negative (**vs.** neutral) emotional state during service encounters?

RQ2: Which mechanisms and boundary conditions explain the relationship between customers' negative (**vs**. neutral) emotional state and their service experience evaluation after being served by an SR?

Drawing upon the theory of constructed emotion (Barrett, 2017), the social sharing of emotion (Rimé, 2009), and utilizing three scenario-based experiments, we assert that a negative emotional state elicits the need for direct anxiety reduction and increased cognitive clarity through social-emotional support to regain the balance of affective and mental states. However, a neutral state does not elicit such a need. These distinct characteristics induce differences in customers' service experience evaluations after being served by SRs. We show that the social sharing of negative emotions is part of customers' emotion regulation process to bounce back to neutral affective and mental states (Lee et al., 2020), which is critical to understanding why customers in a negative emotional state are less satisfied with service experience involving SRs than those in a neutral state.

Our results confirm our expectations and show that customers in a negative emotional state are less likely to evaluate their experience of being served by SRs as satisfying than those in a neutral state. Parallel mediation analyses (study 2) revealed that perceived appropriateness and perceived relatedness explain why customers in a negative (neutral) emotional state evaluate their service experience as less (more) satisfying when served by an SR. Customers in a negative emotional state feel less social pleasure interacting with an SR because they cannot relate to it. They are also less likely to perceive service firms' decision to employ SR as appropriate than those in a neutral state. However, Study 3 shows that this situation can be improved if SRs display sympathy, highlighting the importance of integrating such attributes into SRs that interact with customers, especially those in a negative emotional state. Our findings are consistent across different methods of emotion manipulation, negative emotional states—sadness (Study 1), anger (Study 2), and anxiety (Study 3), and sources of emotional states—internal to customers and unrelated to service firms (Studies 1 and 3) and external to customers and related to service firms (Study 2). Presenting (Study 3) or not presenting (Studies 1 and 2) the images of the SRs did not change the results. They also remained consistent across scenarios that presented (Study 3) and did not present (Studies 1 and 2) a satisfactory outcome of interacting with SR.

Given the increasing prominence of SRs at organizational frontlines, this research is timely and relevant. Theoretically, this research offers new insight into how customers in a negative emotional state react differently when interacting with SRs due to their need for direct anxiety reduction and increased cognitive clarity. The need for social sharing of negative emotions is a part of customers' emotion regulation process to bounce back to their initial affective and mental states. This research further validates the need for SRs to offer social-emotional and instrumental support to elevate positive service experience.

As this research confirms the importance of establishing an emotional connection between customers and SRs, service firms must ensure that their SRs can detect customers' emotional states. The emotional data gathered will determine the level of social sharing of negative emotions needed to be shown by SRs when interacting with customers. Our finding also suggests that customers in a neutral state are satisfied with functional SRs, while customers in a negative emotional state will benefit from SRs with empathic intelligence. Therefore, service firms should invest in both functional and sympathetic capabilities of SRs toward fully utilizing mechanical, analytical, and feeling AI.

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The Paradox etween the Perceived Intended and Unintended Consequences of Using Digital Health Technologies

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ABSTRACT

Digital healthcare technologies (DHTs) have transformed the healthcare industry, but their unintended consequences on user well-being are not fully understood. We conducted twelve qualitative interviews with clinicians from public hospitals and clinics in Oman to understand the unintended negative impact of DHTs. Using NVivo to analyze the data, the findings reveal that DHTs cause technological, emotional, social, and professional negative outcomes for healthcare providers. This research contributes to the trajectory of transformative services research by identifying and classifying the unintended negative outcomes of using DHTs. We provide practical guidance for healthcare practitioners to mitigate the unintended negative impact of DHTs.

INTRODUCTION

Healthcare is one of the most critical, transformative and complex services which require continuous improvement of care delivery. The increased use of DHTs has caused remarkable changes in how healthcare services are delivered. The global market for DHTs is estimated to reach US$256.30bn by 2027 (Statista, 2023). DHTs such as artificial intelligence, internet of things (IoT), and big data have changed the way healthcare providers operate and gain knowledge (Meyer et al., 2020). DHTs such as telemedicine, and electronic health records has facilitated dynamic access to medical information and promoted effective connection between healthcare providers and patients. DHTs have also transformed responding to medical ecosystem needs. For example, patients with respiratory disease can use e-inhalers to track their medication use. Doctors can offer better diagnosis by using intelligent clinical decision support systems. In a healthcare ecosystem that involves high levels of interpersonal and transformative service exchange, it is advantageous to involve patients actively in value co-creation activities (McColl-Kennedy et al., 2017). A comprehensive review of the literature on transformative services suggests that despite the transformative nature of healthcare services, limited understanding is available on the unintentional negative outcomes of utilizing

DHTs and how to mitigate them. Our research aims to explore the paradox between the perceived intended and unintended consequences of using DHTs from the healthcare providers' perspective. Specifically, we aim to address the following research questions:

RQ1. What are the perceived unintended consequences of using DHTs among healthcare providers?
RQ How do the perceived unintended consequences of using DHTs affect healthcare providers' wellbeing?

LITERARURE REVIEW

Transformative service research (TSR) is driven by the idea of using services as a "bridge" for individual and societal transformation and aims to inspire uplifting changes in the wellbeing of individuals and communities (Anderson et al., 2013). TSR has demonstrated that the positive impact of services on consumers' wellbeing is linked to positive organisational outcomes such as improving customer loyalty and experience (Rosenbaum 2017). The complex nature of transformative services makes them more susceptible to unintended negative outcomes compared to non-transformational service efforts (Blocker et al., 2022). In TSR, unintended consequences refer to the unforeseen (positive/negative) outcomes of an intended positive action/change by different stakeholders, including service providers, employees, consumers, and communities. TSR emphasizes the responsibility of service managers and researchers to consider the unintended consequences of service improvement efforts on the wellbeing of consumers and others (Ostrom et al. 2010). This is particularly relevant as the use of DHTs in healthcare delivery increases, but emerging research highlights potential unintended negative consequences (Parkinson et al. 2022).

METHODOLOGY

We employed a qualitative approach to seek answers for our open-ended research questions (Osemeke and Adegbite, 2014). A qualitative approach is considered as an appropriate approach for this study as it allows for discovering insights and identifying common themes and patterns (Patton 2002). We conducted twelve semi-structured interviews with a purposive sample of clinicians from different areas of specialism from large public hospitals and clinics in Oman. Our interview guideline included questions about participants experiences of using DHTs and what they liked/disliked and we used NVivo software for data analysis.

RESULTS

Our findings indicate that some of the key perceived unintended consequences of using DHTs include concerns around unauthorised access to patients' data, over examining patients, system inefficiency and malfunction, the creation of emotional and mental burden, the deterioration of the quality of social interaction with patients, and the loss of some skills/competences due to overreliance on technology.

CONTRIBUTIONS

We make two novel contributions to the literature related to DHTs and transformative service research. First, we contribute to existing limited research on the perceived unintended consequences of using DHTs and impact on healthcare providers' wellbeing Second, we provide healthcare researchers and practitioners with a fined grained understanding of the tensions between the intended benefits and perceived unintended negative outcomes of using DHT.

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Enhanced service experience design through NFT technology

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ABSTRACT

This study aims to investigate the use of Non-Fungible Tokens (NFTs), new digital assets based on blockchain technology that can be routinely bought, sold and traded using cryptocurrencies. In particular, we focus on the use of NFTs by service providers and our theoretical framework revolves around the identification of three main roles played by NFTs: our research leads us to consider NFTs as multidimensional service design resources enabling the customer experience. We offer a fresh contribution to the literature on service design and customer experience by focusing on a technology not yet explored by these research domains.

INTRODUCTION

In recent years, an increasing number of companies, including service providers, have used Non-Fungible Tokens (NFTs) as a supplementary element of their offerings and sometimes as a core element (Rehman *et al*., 2021). Non-Fungible Tokens (NFTs) are new digital assets designed to certify the authenticity and uniqueness of digital objects owned (Chalmers *et al*., 2022). The ownership and authenticity of NFTs are verified by the Blockchain, a distributed data structure that is duplicated and shared by network participants (Christidis and Devetsikiotis, 2016). NFTs can commonly be bought, sold, and traded using cryptocurrencies; moreover, NFTs are considered the central component of the metaverse because they allow for the creation of a real market for digital goods (such as tweets, videos, songs, and photographs) in a context where ownership and distribution laws are poorly defined (Wang *et al*., 2021). A growing number of studies are exploring the potential of NFTs (Wilson *et al*., 2022); many scholars have investigated the main features and advantages of using this novel technology (Wang *et al*., 2021). The great part of the studies focused on NFT's deals with economic and financial implications (Dowling, 2022) and the several usage possibilities in different fields (Murray *et al*., 2023). More recently some studies have started to investigate the link between NFTs and customer experience in some specific fields (e.g., in the fashion industry) (Alexander and Rutter, 2022; Joy *et al*., 2022). Technological innovation can change service experiences while service designers can exploit technology to create new interaction modes with customers (Teixeria *et al*., 2017). Service design entails a holistic view of the customer experience, which can be supported by current technologies understood as novel touchpoints (Roto *et al*., 2021). However, there is still little understanding of how NFTs can play a role in service design and how service providers can use these resources to influence the customer experience. The literature still lacks a clear definition of NFTs as useful resources for service design to enhance the customer experience. This study aims to investigate this gap by trying to provide an in-depth understanding of the possibilities of using NFTs. First, we provide an overview of the literature on customer experience, service design, NFTs, and the Metaverse. Secondly, we describe our research method. The results present the framework, and finally, we conclude with a discussion to provide further clarification.

LITERATURE REVIEW

Customer Experience

The customer experience originates from an evolution of the concept of the relationship between customer and company (Gentile *et al*., 2007). Among the first, Hirschman and Holbrook (1982) argued for the recognition of important experiential consumption aspects that scholars considered a phenomenon directed toward the pursuit of fantasies, feelings, and fun. According to Berry *et al*. (2002), companies can orchestrate an integrated set of clues that collectively meet or exceed people's emotional needs and expectations; in this view, offering products or services is no longer enough, and companies compete by providing customers with satisfying experiences. The literature has provided several definitions of customer experience. Most notably, Meyer and Schwager (2007, p. 2) define the customer experience as “the internal and subjective response customers have to any direct or indirect contact with a company”. Furthermore, Verhoef *et al*. (2009, p.32) state that “the customer experience encompasses the total experience, including the search, purchase, consumption, and after-sale phases of the experience.” In addition, “this experience is created not only by those elements which the retailer can control (e.g., service interface, retail atmosphere, assortment, price) but also by elements that are outside of the retailer’s control (e.g., the influence of others, the purpose of shopping)” (Verhoef *et al*., 2009, p.32). Another significant contribution comes from Lemke *et al*. (2011), who adopt a value-in-use approach; the scholars suggest that CE can foster a deeper understanding of how customers achieve their goals, expanding companies' creative options to contribute to value co-creation. In general, several definitions of customer experience support the multidimensionality of the concept and, thus, its holistic nature. Schmitt (1999) identifies five Strategic Experiential Modules that marketers can create for customers: sense, feel, think, act, and relate. According to Gentile *et al*. (2007), the customer experience originates from a set of interactions between a customer and a product, a company, or part of its organization; the interaction generates a reaction, and the resulting experience is strictly personal and implies the involvement of the client at different levels (rational, emotional, sensory, physical and spiritual). Lemon and Verhoef (2016) argue that customer experience focuses on a customer's cognitive, emotional, behavioral, sensorial, and social responses to a firm's offerings during the customer purchase journey. Part of the literature focuses on how technology can affect the customer experience. Novak *et al*. (2000) developed a structural model to analyze the impact of website design on the customer's experience; Rose *et al*. (2012) focus on the formation of the CE that results from online shopper interactions with e-retailers; Neuhofer *et al*. (2014) instead offers a holistic understanding of technology-enhanced experiences and propose "experience hierarchy" consisting of four main levels. A more recent research stream investigates the relationship between the customer experience and immersive technologies (e.g., virtual, augmented, and mixed reality) (Flavian *et al*., 2019).

Service design and customer experience

Service design can improve the quality and interaction between service providers and customers; specifically, it aims to design services that are useful, usable, and desirable from the user's point of view and efficient, effective, and different from the provider's perspective (Mager and Sung, 2011). Service design is a collaborative, cross-disciplinary activity that involves marketing, human resources, operations, organizational structure, and technology disciplines (Ostrom *et al*., 2010). Several studies argue that experiential service elements are an increasingly important aspect of service design (Pullman and Gross, 2004; Voss *et al*., 2008). In particular, service design requires an understanding of the way the customer experience unfolds over time through interactions at many different touchpoints (Bitner *et al*., 2008). Service designers are called upon to assemble coherent elements, or clues, along the customer journey to enable the desired experience (Berry *et al*., 2002). Several scholars attempt to give a holistic view of the customer experience to support service design by developing reference models. Patricio *et al*. (2011) proposed the Multilevel Service Design (MSD, an interdisciplinary service design method that contributes to a multilevel understanding of customer experience; specifically, the MSD method includes three levels of customer experience design and offers a systemic view and a flexible approach that accommodates the co-creative nature of customer experiences. Teixeira *et al*. (2012) introduced Customer Experience Modeling (CEM), a model-based method combining three multidisciplinary contributions and aimed to represent customer experiences for service design efforts: CEM supports the holistic nature of customer experience, including the physical artifacts, the systems enabled by the technology, and the actors involved in the customer journey. Several scholars also explore the role of technology, its relationship to service design, and its impact on customer experience. Bolton *et al*. (2018) conceptualize customer experiences within a three-dimensional space based on three main "realms" (digital, physical, and social) whose congruence fosters superior service design. In sum, scholars offer a conceptual framework to analyze the formation of customer experiences that incorporates the three realms and considers new technology-enabled services. Ballantyne and Nilsson (2017) focus on shifting service design from a physical place to an interactive digital space where the customer can be engaged (through smartphones, digital avatars, or a "mouse click."; the scholars investigate how the digital service space challenges the traditional view of what constitutes the customer experience. Another relevant contribution was made by Teixeira *et al*. (2017), who integrate two service design perspectives (management and interaction design) into an interdisciplinary method (the Management and INteraction Design for Service or MINDS), to innovate technology-enabled services while enabling seamless customer experiences.

NFTs and Metaverse

Non-Fungible Tokens (NFTs) are innovative digital assets that may be routinely bought, sold, and exchanged using cryptocurrencies. NFTs can be considered a unit of digital information (tokens) stored on a blockchain and are not inherently interchangeable with other digital assets (Chohan, 2021). In other words, they are blockchain-enabled cryptographic tokens made to vouch for the legitimacy and exclusivity of owned digital items (Chalmers *et al*., 2022). While cryptocurrencies are distinguished by their fungibility (or interchangeability) (i.e., one bitcoin is equivalent to another bitcoin), the non-fungibility of the NFTs is what makes each of these assets distinct (Dowling, 2022). In addition to non-fungibility, the other key properties of NFTs can be summarized as follow (Chandra, 2022): uniqueness (each NFT is distinguishable and unique), authenticity (the information of the creator of the NFT as well as knowing the current owners) scarcity (NFTs are usually created in limited quantities or "editions"), collectability and resaleability (NFT can be sold and resold in the secondary market). NFTs emerged from the crypto-arts and the gaming world (Osivand, 2022). However, according to the contexts in which they are used, scholars typically divide NFTs into six main domains: art, representing digital artworks (such as images, videos, or GIFs); collectibles, including items of interest to collectors; games, such as digital objects used in competitive games; utility, consisting items serving a specific purpose; and other, which includes the remaining collections (Nadini *et al*., 2021). Since the 2021 NFT market explosion, many scholars have focused on the financial aspects of the phenomenon, examining issues such as market efficiency, asset pricing, or financial risk (Dowling, 2022; Karim et al., 2022). Further works argue instead on the disruptive impact of NFTs in several industries, such as gaming (Fowler and Pirker, 2021), art (Vasan et al., 2022), and music (Li, 2022). In sum, NFTs offer a real market for digital assets within virtual worlds, regardless of their nature. Thus, the evolution of the metaverse and the proliferation of NFTs are intimately intertwined (Wang *et al*., 2021).

The term "metaverse" originally appeared in 1992 thanks to Neal Stephenson's science fiction book "Snow Crash" which described a virtual reality that existed alongside the real world. Many years later, the idea of a metaverse gained further traction. First, thanks to the smash hit "Ready Player One," and then in 2021, when Facebook changed its name to "Meta Platform, Inc." and made a significant investment to build its metaverse. The metaverse concept refers to immersive three-dimensional virtual worlds (Dwivedi *et al*., 2022). According to early informatics studies, it can also be defined as a multiuser environment that combines physical reality with computer virtuality (Park and Kim, 2022). Thus, the metaverse is an environment that blends physical and digital and encourages the convergence of Internet, Web, and extended reality technologies; it is generally centered on a well-defined idea of an immersive Internet as a vast persistent, shared unified domain (Lee *et al*., 2021). However, the idea of the metaverse and the ideas of augmented reality and virtual reality diverge in several important ways. Park and Kim (2022) assert that although the metaverse does not always use AR or VR technology, it has a significant service component and social significance. The metaverse also includes a scalable environment that can support several users. Although the metaverse presents several difficulties it can expand markets by providing consumers with the complexity and dynamics found in the real world (Papagiannidis *et al*., 2008).

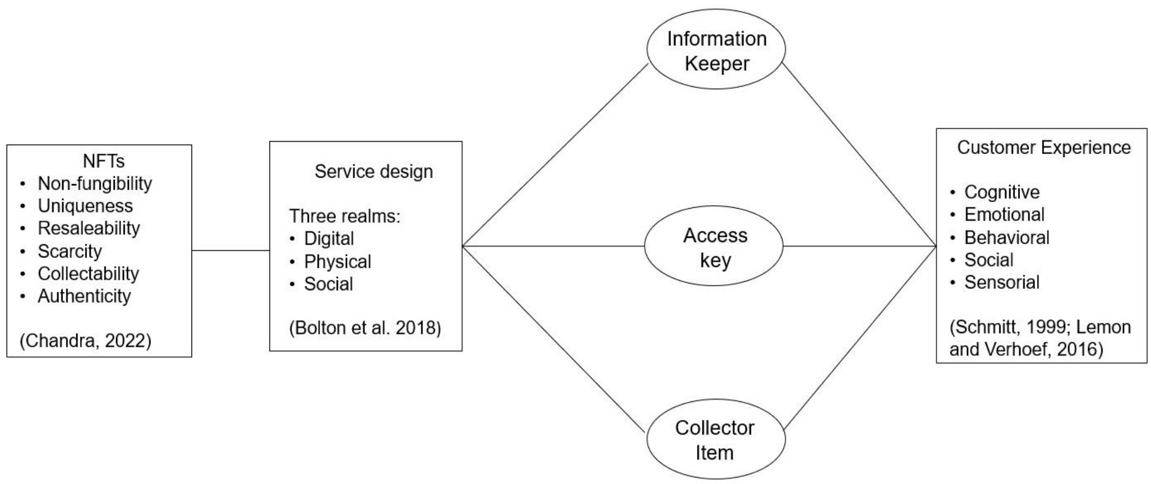
RESEARCH PROCESS

A critical review of recent literature was done to examine customer experience, service design, and how NFT and Metaverse are developing throughout the business and management disciplines; in particular, we began by looking at research that examined important factors related to emerging NFTs or technologies in several commercial fields (mainly management, R&D, marketing, and organization). The analyses benefit from examples that help us understand how businesses experiment with NFTs (Webster and Mertova, 2007). Jaakkola (2020), who claimed that in conceptual papers, arguments are not produced from data in the traditional sense but include the assimilation and integration of evidence in the form of previously developed concepts and theories, agrees with the option to link theory to examples. As a result, conceptual papers draw from and expand upon theories and concepts established and validated by empirical study. We selected several companies based on several factors. The scenarios demonstrate what businesses may create through testing and learning, illuminate the framework's fundamental elements, and offer conceptual understanding. When it comes to investigating complexity and emergent factors, the variety of businesses makes it easier to make meaningful comparisons across contexts. It ensures that the novel conceptualization is more consistent. They also offer helpful examples of complex and emergent processes (Siggelkow, 2007). We began by looking for businesses launching initiatives about NFTs in periodicals, websites, and other online resources. To create a theoretical framework that is integrated, accurate, and easily understood for future research, we combine data gathering, synthesis, and theoretical analysis (Sandelowski and Barroso, 2006). By adding additional details to the descriptions or expanding on existing ones, we used cases to explain outcomes.

FINDINGS

NFTs can give rise to new modes of interaction between companies and customers. In showing the results of our research NFTs emerge as resources that can integrate multiple dimensions and empower service providers to create additional positive customer experiences (see fig.1). First, we understand NFTs as assets that enable the integration of digital, physical, and social dimensions (Bolton *et al*., 2018) specifically, we identify three main categories of NFTs: Information Keeper, Access Key, and Collector Item. Second, we cite several different NFTs use cases in heterogeneous service industries by investigating how companies can use such assets to enhance the customer experience (understood as a multidimensional construct involving cognitive, emotional, behavioral, social, and sensory aspects) (Schmitt, 1999; Lemon and Verhoef, 2016).

Figure 1: NFTs as “multipurpose” resources to customer experience



NFTs as dimension integrators for service design

NFTs are digital assets based on blockchain technology; the technical peculiarities of this novel technology have made it possible to identify some key features directly related to its digital nature: non-fungibility, uniqueness, resaleability, scarcity, collectability, and authenticity (Chandra, 2022). Despite their digital nature, the versatility of the underlying technology allows NFTs to have a deep connection with the physical dimension. NFTs may be associated with a physical good or with a service or particular benefit that a customer can enjoy in the real world (and sometimes even in the metaverse). At the same time, NFTs can give rise to new modes of interaction between consumers or between various actors, sometimes even giving rise to new ecosystems. Based on the empirical evidence, we have therefore identified three main categories or usage possibilities to which the possible applications of NFT from a business perspective can be traced: Information Keeper, Access Key, and Collector Item. Each of the three domains identified (albeit in different ways) connects and integrates the digital, physical, and social dimensions (Bolton *et al*., 2018). As “Information Keeper”, NFTs can be used and offered to customers by service providers because of their ability to store and guard data and information securely (Murray *et al*., 2023). The utility of the asset, in this case, thus lies in its information potential (Astakhova and Kalyazin, 2022). Sometimes, NFTs may contain a set of sensitive data related to the consumer for whom the service offered by the company is intended. The data may also be related to a service that can be enjoyed in the physical world, or it may be connected to tangible goods: in the latter case, the NFT thus assumes the role of a "digital twin"; companies thus make available to consumers digital assets that can attest to a set of reliable information related to the history of a product (origin, past use, current status, etc.). From the social point of view, the power of information and the assurance of reliability and security that NFTs foster contributes to creating virtuous ecosystems based on trust and transparency in which company and customers (or other types of actors) are participants. As “Access Key” service providers can create NFTs that confer exclusive benefits or advantages to the customer-owner; in this case, the value of the NFT thus consists of the right that the company grants to its customer (Wang *et al*., 2021). These rights can be redeemed on the metaverse platforms (e.g., Decentralanad, Roblox, and The Sandbox) or in the real world (e.g., travel tickets, food supply, etc.). Sometimes, NFTs can act as tickets to access selected events (located in the metaverse or the real world), or they can allow access to exclusive communities; with this in mind, NFTs thus offer customers the opportunity to make new connections and expand their network of relationships. Finally, as “Collector Items” NFTs can be proposed by service providers as valuable objects to be collected and treasured (Ali and Bagui, 2021). This category of NFTs includes, among others, artistic images, tokenized music tracks, accessories wearable by avatars in the metaverse, or virtual reproductions (non-digital twin) of tangible products or accessories existing in the physical world. NFTs understood as collectibles often foster the emergence of NFT communities that group passionate customers who support each other and sell or trade collectible NFTs with each other. It must be made clear, however, that the proposed categorization does not necessarily imply that an NFT belongs exclusively to only one category: the versatility of such assets allows companies to propose a variety of solutions, and an NFT may at the same time possess characteristics that can be attributed to two or even all three of the identified domains. In sum, we have illustrated how different ways of integrating the three realms (Bolton *et al*., 2018) give rise to three different categories of NFTs. We, therefore, define NFTs as digital assets that can converge digital, physical, and social dimensions and that offer service providers new possibilities for service design.

NFTs as customer experience enabler

Service providers can use NFTs to provide consumers with a new kind of experience. Considering CE as a multidimensional construct composed of the cognitive, emotional, behavioral, social, and sensory aspects (Schmitt, 1999; Lemon and Verhoef, 2016), we illustrate how service providers can use NFTs (understood as Information Keeper, Access Keys, or Collector Item) to enable customer experience.

Information Keeper

NFTs understood as "Information Keepers" influence the customer experience mainly through the cognitive dimension. The ability of such NFTs to guard data enables customers to learn and be aware of valuable information. The reliability of the technology on which NFTs rest and the assurance that the information is trustworthy also have a profound impact on the customer's trust in the company (emotional). Authentico offers authentication services, specifically allowing any operator, technician, manufacturer, or retailer to issue an NFT for every report, certificate, diploma, and spare part proving ownership on the blockchain and physical delivery of the product/service.

At the same time, NFTs also serve as enablers for the creation of ecosystems of actors based on transparency and mutual trust (social). Lablaco is active in the slow fashion sector and aims to connect all stakeholders to accelerate digitization and the transition to a multidimensional circular economy for fashion. Lablaco's initiative consists of a Circular-Retail-as-a-Service (CRaaS) platform for brands and retailers to easily tokenize products by activating circular business models; customers thus have the possibility to tokenize used items (creating digital twins containing product information).

From a behavioral point of view, the availability and reliability of information can be the pretext for service providers to push customers toward behaviors that are considered virtuous (e.g., with a view to sustainability or transparency). MS&AD Insurance Group Holdings is an insurance company that announced in 2022 the development of a safe and secure virtual space within the metaverse (proofed against risks of theft, information leakage hacker attacks, etc.) and where NFTs are used to guard sensitive policy and customer information and data. Carchain is a company that aims to help current and future car owners build a chain of trust over the history and use of their vehicles. Specifically, Carchain allows car owners and manufacturers to securely store vehicle data on the blockchain via NFTs, creating its digital twin. Immutable data on the vehicle's history, integrity, and life are all embedded in the NFT that can be updated, shared, sold, and transferred by the owner.

Access Key

As an “Access Key,” NFTs can impact the customer experience mainly through the emotional dimension. Service providers propose NFTs as a means of deepening the relationship with the customer by fostering loyalty and granting services and benefits of various kinds. From a social perspective, NFTs can be used to give people access to selected events or special NFT communities. Companies can then use such NFTs to engage customers and push them towards a participative relationship with the company (behavioral). In the restaurant sector, KFC launched an NFT artwork entitling its owner to a year's free supply of KFC. Travala offers a blockchain-based travel booking platform; the company has created a collection of 1,000 NFTs whose possession gives access to exclusive membership and numerous spendable benefits through travels.

Very often, NFTs as “Access Key” can also be associated with an artistic image that gives the digital asset a kind of corporeity (sensorial). Finally, the cognitive dimension is usually underdeveloped but can take on greater importance when giving the NFT some detailed information about the benefit it gives access to. In the fashion retail context Dolce & Gabbana created the “Genesi” collection consisting of 9 unique pieces, each offering unique digital, physical, and experiential benefits (e.g., access to exclusive events, ownership of physical or digital clothing, etc.). The airline airBaltic has created a collection of 10,000 unique NFTs that gives access to several benefits spendable through air travel (e.g., free airline flights).

Collector Item

As a “Collector Item”, NFTs can be used by service providers to trigger positive reactions in customers of a predominantly sensory nature: NFTs often take the form of artistic images, tokenized songs, or wearable accessories from avatars in the metaverse. Service providers may create collectible NFTs not to offer benefits or information but simply to create a product that can give customers a sense of belonging to the company and strengthen their bond with it (emotional). Netflix has produced a series of collectible NFTs depicting characters from one of the streaming platform's most popular series. In the entertainment sector, The Walt Disney

Company launched the "Golden Moment NFT" collection depicting some of the most famous moments from the stories told by the world-renowned brand.

Buyers of NFTs are prompted to behave no longer as "customers" but rather as "collectors" who buy, cherish, and exchange valuable collectibles (behavioral); moreover, collectible NFTs often give rise to communities of NFTs around them (social). Collectible NFTs may also have high artistic value and stimulate customers' attention and reasoning through imaginative and elaborate imagery (cognitive). McDonald's involved three artists in creating three artworks that turned into 300 NFT collectibles to promote the launch of a new product. Finally, in fashion retail, Nike created the Nike Dunk Genesis Cryptokicks collection, consisting of 20000 NFTs, and virtual replicas of sneakers.

DISCUSSION

The NFT market is likely to grow in the coming years: on the one hand, companies may become more aware of the potential and applications of NFTs from a service perspective; on the other hand, customers may become more confident and familiar with this new technology. We defined NFTs as resources that integrate digital, physical, and social dimensions and are able to contribute to service design (Bolton *et al*., 2018). The different ways of integrating the three dimensions allowed us to identify three distinct types of NFTs: Information Keeper, Access Key, and Collector Item. We argue that service providers can leverage different types of NFTs to create customer experiences (Verhoef *et al*., 2009). The case studies allow us to bring out NFTs as highly dynamic assets, suitable for different service contexts and adaptable for multiple purposes. It can be seen as a multipurpose resource enhancing different realms (digital, physical, and or social) to work together to provide the best experience for customers. However, a deeper understanding of our research requires some clarifications. First, the three categories of NFTs identified should not be understood as three strict domains to which NFTs can be traced, but rather as three distinct roles that NFTs can play in contributing to service design: the implication is that a single NFT could be created in such a way as to have characteristics that can be traced to two or all three of the identified categories (e.g., NFTs that provide access to performance could at the same time store information and serve as collection objects). Second, we argue that the dimensions that constitute the consumer experience (cognitive, emotional, behavioral, social, and sensory) may be affected differently depending on the category of the NFT. We, therefore, suggest that offering consumers NFTs that can be traced to two or all three of the identified categories could help shape more complex experiences. Third, NFTs are a new technology, so their use by service providers may change dramatically in the coming years; our research is therefore an attempt to frame and understand an emerging phenomenon whose evolution is likely to contribute to our deeper and more structured categorization.

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Designing data-driven service with data blueprinting

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ABSTRACT

The ecosystem shift and the data shift create a growing awareness of dark patterns of multi-party data acquisition and analysis in digital services. Therefore we posit that an evolution of service blueprinting is required to support service development in an increasingly data-infused environment. We introduce data blueprinting that extends the service blueprinting concept to capture multi-party data-driven services and to indicate the transparency of analytics activities to customers and their surprising and/or problematic effects. Such blueprints can aid researchers in exploring complex data-driven services, e.g., to expose dark patterns and support practitioners in the responsible design of data-driven services.

MOTIVATION

Two shifts raise novel demands for the analysis and design of services. On the one hand, the ecosystem shift is increasingly making inroads into service research and practice. Technological and organizational networks are linked for a joint service provision for contextualized service experiences, often facilitated by platforms (Hein et al. 2018, Mustak and Plé 2020, Ng and Wakenshaw 2018, Riedl et al. 2009, Van Alstyne et al. 2016, Vargo et al. 2017). In this regard, service providers interact with other (third) parties and implement them for performance management, cloud infrastructure, analytics, or advertisement (Gopal et al. 2018, Harkous et al. 2018). On the other hand, a data shift has materialized and will increasingly permeate services in the future. Providers of digital services process data related to a customer as a key resource for providing smart services that reflect the context of use (Li and Unger 2012). Service rooted in automated decision-making based on data and the use of data-based technologies in interactions, such as service robots or chatbots, make the generation of data, and its use a key aspect of service design. In this regard, AI-based service requires data to learn and operate (Huang and Rust 2018). However, data used in one interaction can come from other unrelated interactions. Summing, up, the ecosystem shift and the data shift create a growing awareness of dark patterns of multi-party data acquisition and analysis in digital services.

Data usage and sharing is directly linked to the normative perspective and discussions surrounding information privacy. Multi-party data-driven service can lead to personal data diffusion and rebounding effects with unexpected and adverse consequences for customers. In this context, some studies addressed the problems for information privacy in service ecosystems by investigating value co-destructive privacy patterns (Kurtz et al. 2022) and proposing an analytical framework for privacy-critical issues (Kurtz et al. 2018) and potential regulatory solutions (Kurtz et al. 2019). However, understanding the whole movement, processing, and life cycle of personal data is difficult (Conger et al. 2013, Spiekermann and Novotny 2015). The opacity of data acquisition and analysis within service ecosystems create the need for transparency, as privacy depends on the activities of all parties involved. Transparency can provide service researchers and practitioners with the ability to "see" a system—an ability often equated with understanding its underlying mechanisms (Ananny and Crawford 2018). Transparency also creates a basis for judging whether parties and related practices exist as intended; therefore, it is the key to ethical service design to address corporate digital responsibility in service firms and their ecosystems (Wirtz et al. 2022).

In this regard, service blueprinting is a well-known method to create transparency. The method seeks to visualize service processes on a detailed level (Bitner et al. 2008, Sampson 2012). The approach is based on the idea of describing processes and identify possible disruptive factors and obstacles in service provision, e.g., in consideration of front-stage and back-stage activities (Bitner et al. 2008, Sampson 2012). While this approach has found diverse applications and has been a valuable method for service development, it reaches its limits in coping with the changes resulting from the ecosystem shift, the data shift and their combination. In detail, the approach does not accomplish to depict the complexity of data-intensive services (e.g., the acquisition and use of data) and interactions across a plethora of actors in service ecosystems. Therefore we posit that an evolution of service blueprinting is required to support service development in an increasingly data-infused environment. Thus, we introduce data blueprinting.

METHODOLOGY

We follow a design science research methodology (Peffers et al. 2007) to create and evaluate the method of data blueprinting. Design science research is an iterative approach commonly used in information systems research and some applications in service research (Teixeira et al. 2019). Our first iteration bases on 37 cases of privacy-critical issues in service ecosystems public made public. Table 1 gives examples of the cases, while table 2 indicates the data material types collected and analyzed.

Table 1: Privacy-critical cases in service ecosystems

Case excerpts	Link
Facebook receives data (e.g. heart rates) from popular apps.	cnet.co/3mPi1jq
The Weather Channel app collects and shares location data.	cnet.co/2Qrew1Q
App GasBuddy sold location data to Third Party Reveal Mobile.	cnet.co/2U51Vub
Waitlist apps to collect personal data from customers.	cnet.co/2I32PA2
Uber drivers have access to all users' pick-up and drop-off locations.	cnet.co/2KcInsW

Table 2: Data material collected across cases

Type of data material	Quantity
News article	180
Blog article	11
Study	4
Court decision	2
Privacy policy	9
0Party website	9
Government press release	9
Technical documentation	7
Sum	**227**

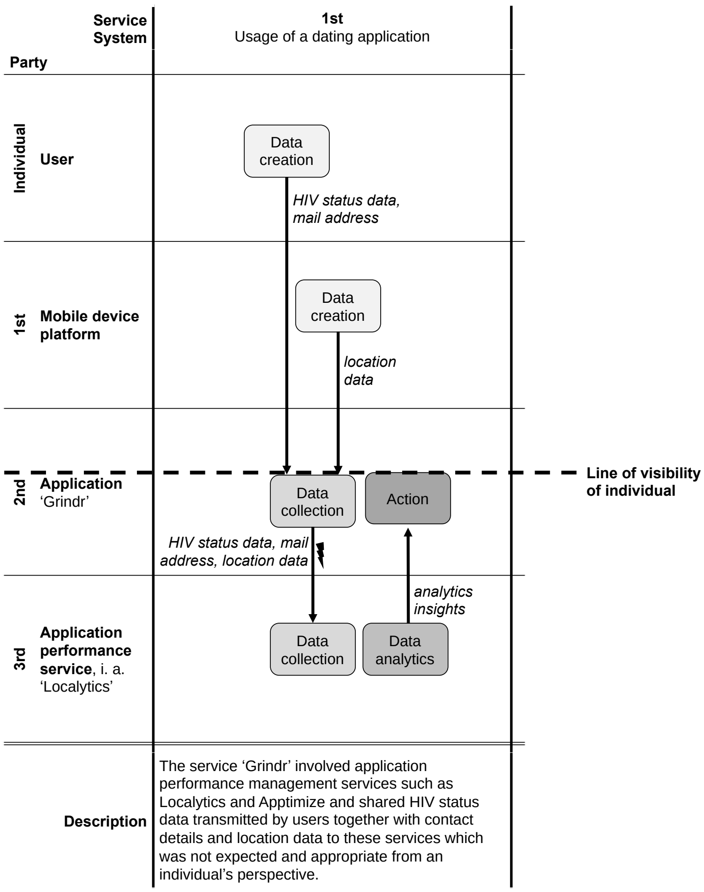
DATA BLUEPRINTING

The data blueprinting method allows to map out data-based service encounters. The approach is still under development and includes the following components: On the horizontal level, the service ecosystem and the different service systems existing in it are presented, whereas, on the vertical level, differentiation is made between the different types of actors. In this arrangement, the method allows for illustrating the different data flows between the different data activities (data creation, capture, analysis, action). An ecosystem line of visibility defines which parties and activities are visible to customers. In addition, unexpected and/or negative effects for consumers due to data activities are highlighted.

In the following, we will demonstrate the method's applicability through an expository instantiation. We particularly demonstrate that actors engaging in data-infused service encounters may have only limited visibility of the data-related activities of other actors.

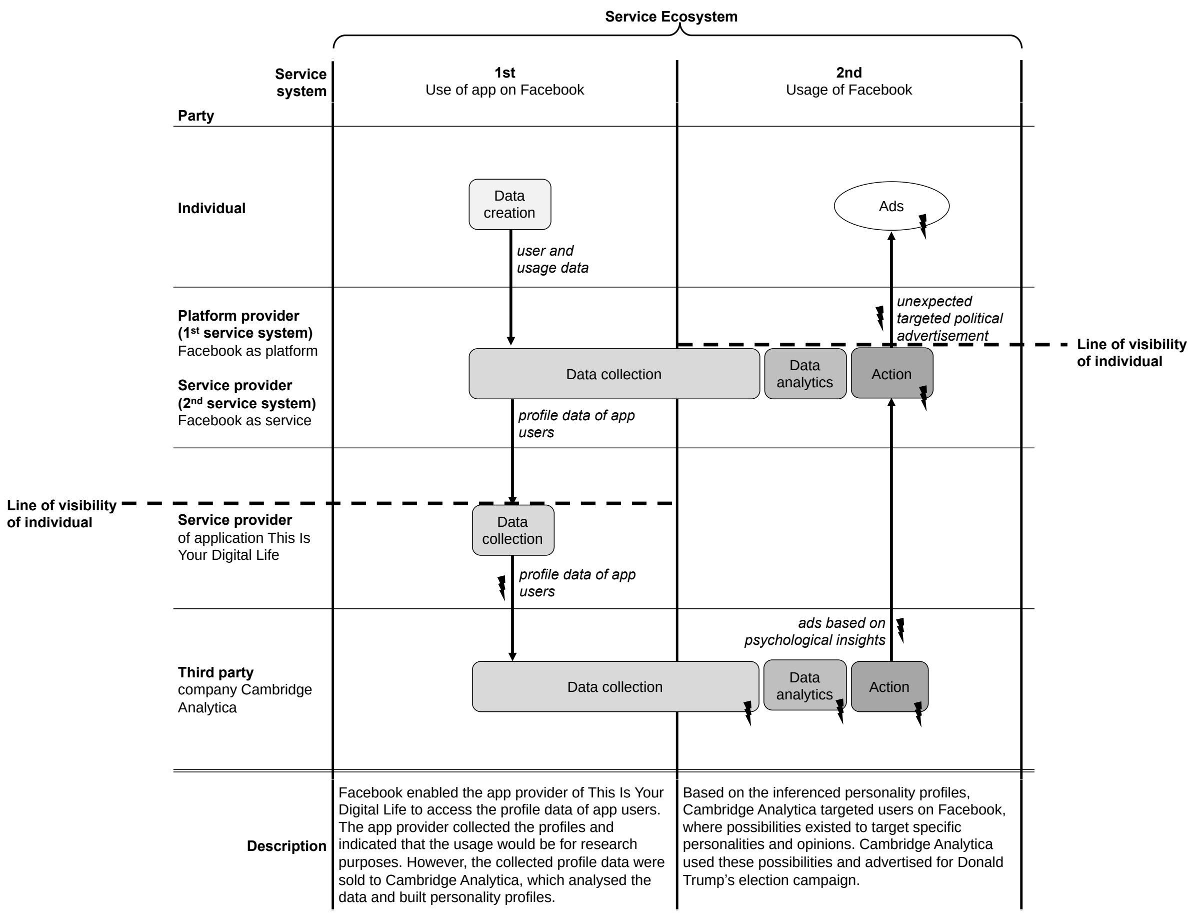
In the first instantiation (Figure 1), the dating application Grindr available on Android and iOS (Grindr 2018) with more than 3.6 million daily active users (Kimball 2018), transmitted user data in the form of HIV status together with sexual tribes, mail address, and precise GPS position to two application performance management services Apptimize and Localytics (mail address only to Localytics) (Sveriges Television and SINTEF 2018). In the EU, sexual orientation and HIV status are sensitive information and should have a high level of protection (Höglund and Simpson 2018). Grinder's chief technology officer Scott Chen reasoned that shared data are used to test and optimize its application which is “industry practice” (The Guardian 2018). Chen argued that the sharing “is done under strict contractual terms that provide for the highest level of confidentiality, data security, and user privacy.” However, the privacy policy for users stated that the user “[…] may also have the option to provide information concerning health characteristics, such as your HIV status or Last Tested Date. Remember that if [the user] choose to include information in [his/her] profile, and make [his/her] profile public, that information will also become public.” (Ghorayshi and Ray 2018). After the case became public, Grindr stopped to share users' HIV status data with third parties, as Grindr's security chief reported (Fried 2018). In this case, the combination of HIV status data sharing in combination with other personal data behind the visibility of individuals show critical circumstances.

Figure 1. Data blueprint of a service system (Grindr case)



In the second instantiation (Figure 2), the developer, Aleksandr Kogan, built the personality quiz app This Is Your Digital Life (TIYDL) on the Facebook platform. However, the terms conflicted with Facebook's platform policy for developers. Despite this conflict, the application passed Facebook's app review process. When installing and using the application, users had to accept the requested data access by the app along with the app's terms of service. By accepting these conditions, users not only allowed the app to access their data but also the data of their Facebook friends (Facebook 2018). This access was possible due to the far-reaching design of the data access defined by the platform provider Facebook. Whereas the users consciously using the app were asked to accept it's app's terms, and by this act consent to its processing, the user's friends were not asked directly and had no chance to refuse. Instead, Facebook implemented the option of letting the app access the personal data as an option within the profile settings of the users' friends and kept it activated by default (Facebook 2018). Many users' friends did not do that, resulting in Facebook allowing the app to access the friend's user data. Here, the data access implementation led to the unveiling of the data of 87 million Facebook users to TIYDL, where although 270,000 of those had actively used the app. After that, TIYDL did not comply with the platform provider's policy to share accessed data via the platform. The app provider shared the data with Cambridge Analytica, which used it to target users on Facebook for individualized advertisement (Rosenberg et al. 2018). In this instantiation, different data activities of the actor groups of the platform, service provider, and third party where behind the line of visibility for the customer and show critical circumstances.

Figure 2. Data blueprint of multiple service systems (Cambridge Analytica case)



CONTRIBUTION

Digital service routinely rests on a multitude of actors contributing such data or acquiring data in the context of service encounters. We believe that we are providing an original contribution by integrating data and ecosystems as two key components into the blueprinting of services. We show that data sharing and processing practices through ecosystems have consequences beyond the customer-provider relationship that is often considered. Thus, the data blueprinting method extends the service blueprinting method to capture multi-party data-driven services and to indicate the transparency of analytics activities to consumers as well as their surprising and/or problematic effects. Thus, we make an important addition to the increased reliance and value of acquiring and analyzing data in many digitally-enabled service innovations. The blueprints that are created based on our method can aid researchers in exploring complex data-driven services, e.g., to illustrate effective practices or expose dark patterns and support practitioners in the responsible design of data-driven services.

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Towards Autonomous Stores: How varying degrees of in-store automation impact retail patronage

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ABSTRACT

Technology continues to reshape retailing (Grewal et al. 2020; Shankar et al. 2020). For example, technology-enabled, autonomous or unstaffed stores represent a new retail format (Pickard 2017) that arguably addresses customers' increased expectations of shopping convenience (Gauri et al. 2021) and the shift towards more self-service during the COVID-19 pandemic (Weinswig 2020). Some of the world's largest retailers (e.g., Amazon, 7-Eleven, Carrefour, or Aldi) experiment with autonomous versions of their convenience stores (Palmer and Repko 2020), and this market is estimated to be worth US$67.48 million in 2019 and predicted to grow to US$1,640.32 million by 2027 (Research and Markets 2020). Most retailers experiment with different levels and technologies of in-store automation partly to address the current challenges around staff shortages and as such heading towards autonomous stores. In autonomous stores retail staff are replaced by technology, and unstaffed customer journeys are possible.

Alongside such growth predictions though, we find evidence of disappointment with some of those trials and subsequent revisions. For instance, in 2019 the Dutch retailer Albert Heijn switched technology partners, revised the concept and target group, now offering autonomous stores in offices (ESM magazine, 2021). The Swiss retailer Valora moved the container store, revised the concept, placing its four locations to traffic hubs on large commuter roads. Even the widely publicized Amazon Go rollout has been slower than predicted. Although it anticipated opening 3,000 stores by 2021 (Convenience Store News 2019), only about 40 Amazon Go stores have appeared (Eley 2021). Currently Amazon has halted the expansion in the UK since they have fallen short of the expectations (Nott, 2022).

To achieve widespread adoption retailers need to understand how the level and type of automation impact retail patronage. Adapting convenience theory (Berry, Seiders, and Grewal 2002) and based on secondary data, the current study identifies three main locations (urban traffic hub, rural and community based such as at a University or hospital) as well as four main elements in which existing autonomous stores differ from each other and from staffed stores

impacting their convenience: 1) Check-in options (access convenience) differ by customers checking in to the store with a credit card or provider app compared to no check-in as usual for staffed stores. 2) Staff support (assistance convenience) differs by offering virtual or phone staff support contrasted with human staff support. 3) Check-out options (transaction convenience) differ in that the check-out can be through self-scanning, through scan-pay-go with the customer's own device or automated via video cameras. This is contrasted with staffed checkout options. Lastly, a regular issue with autonomous stores is the basket verification (verification convenience). Hence, basket costs being displayed minutes after or hours after payment is compared to staffed stores in which basket costs are displayed upon payment. With a rating-based conjoint, the authors will present results on the utility of each feature depending on the location. By leveraging these findings, retail managers can design effective autonomous store concepts and establish accurate predictions of patronage outcomes based on locations and consumer characteristics.

Effects of Hotel Choice References on Revisit Intention

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ABSTRACT

This study aims to examine the relationship between different hotel choice references and revisit intention. Hypotheses were developed to investigate whether hotel choice based on customers' own past experience, others' recommendations, or online reviews would lead to higher revisit intention compared to the choice that is based only on prices. The relative sizes of effects of different hotel choice references were also examined. We analyzed survey data with a large US sample. The results show that hotel choice based on previous visits, recommendations, and online reviews significantly affects customers' revisit intentions and the impact is large in the order of previous visits, followed by recommendations, and lastly online reviews. These findings emphasize the importance of customers' direct and indirect experiences for hotel choices. Hotel choices that refer to their own experiences or others' recommendations are more likely to lead to revisits.

INTRODUCTION

When choosing a hotel, customers are influenced by diverse factors, such as recommendations from their friends, their own past experiences with a specific hotel, promotions, etc. Besides these factors, recently, online reviews also became the primary and powerful source that customers refer to for their hotel choices. Examining the relative impact of these various hotel choice references is critical to understand hotel customer behaviors. Therefore, this study examines the following hypotheses by analyzing survey data with a large sample.

H1: Those who select a hotel based on online reviews would have higher revisit intention than those who select based on price.

H2: Those who select a hotel based on recommendations would have higher revisit intention than those who select based on price.

H3: Those who select a hotel based on their previous visits would have higher revisit intention than those who select based on price.

H4: The effect on revisit intention would be greatest for previous visits, followed by recommendations, and lastly online reviews.

MODEL

The survey data used in this study was collected by a survey company in 2015. The survey aimed to capture feedback from a large sample of individuals in the United States who had recently stayed in a hotel brand. The respondents were asked to provide feedback on their hotel stay within the past 30 days from the time of the survey.

To ensure statistical confidence in our estimation and to streamline the computational process for Bayesian estimation, we filtered data. This involved selecting the top 30 hotel brands based on respondents' visits. By focusing on these brands, we obtained a sample of 59,393 respondents.

The selection of independent variables in our model was an important process. For this process, we utilized responses from a multiple-choice question that asked respondents about the factors they considered when selecting the hotel that they visited (i.e., “Why did you select the visited hotel? Mark all that apply”). The respondents could choose among multiple options. Among them, we selected respondents who choose at least one of the four options: price, online review, recommendation, and past experience. Individuals who did not indicate any of these four as a criterion for hotel selection were excluded. After applying these filters, we ended up with a sample size of 18,871 respondents.

For the dependent variable, we utilized responses to the survey question "Assuming you are in this area again, how likely are you to stay at this specific hotel again?" The respondents answered on a 4-point scale where “1 = Definitely will not, 2 = Probably will not, 3 = Probably will, and 4 = Definitely will."

In our model, the independent variables were whether the hotel selection was based on online reviews, recommendations from others, or past experience with the hotel. The baseline revisit intention was determined by individuals who considered only the price for their hotel choice. Given the discrete and ordered nature of the revisit intention variable, we employed an ordered logit model. This model captures the categorical nature of the survey-based intention measure by assuming a continuous latent variable that generates the observed survey responses.Hence, the latent revisit intention for customer ii is modeled as follows:

$$\theta_{ii} = \beta_1 * review_{ii} + \beta_2 * recommend\_i + \beta_3 * past\_exp_{ii} + \omega_{1:3} V_{ii} + \zeta_h \quad (1)$$

In Equation (1), β_1 represents the regression parameter for the effect of online review-based choice on revisit intention. Similarly, β_2 and β_3 represent the regression estimates for the recommendation-based choice and the past-experience-based choice, respectively. The group that made a hotel choice based only on price is designated as the reference group for the dummy variable. The focal parameters, β_1, β_2, and β_3 allow us to test our hypotheses from 1 to 3. The term $\omega_{1:3} V_{ii}$ is included to control for observed heterogeneity, and V_{ii} is a vector of control variables that may be correlated with both hotel choice references and revisit intentions. These control variables include the number of factors considered for hotel choice, hotel prices, and the respondent's income. Additionally, to address the fact that individuals may have different baseline revisit intentions for each hotel, we include the hotel-specific fixed effect with ζ_h. Since the survey responses for the revisit intention question were measured on a 4-point categorical scale, we model the latent revisit intention, θ_{ii}, as follows:

$$P(Y_{ii} = y) = P(\kappa_{y-1} < \theta_{ii} < \kappa_y) \quad (2)$$

where $Y \in \{1, 2, 3, 4\}$ represents the revisit intention scale, and Y_{ii} is the revisit intention submitted by customer ii. The terms κ_{y-1} and κ_y represent the lower and upper bound cut points for each revisit intention category y.

To test Hypothesis 4, we adopt a Bayesian estimation approach as traditional regression models pose a challenging problem in testing the relative size of parameter estimates. In a Bayesian estimation, by analyzing the posterior distributions, the relative sizes of the coefficients can be assessed and the degree of influence that each predictor has on the outcome variable can be gauged. This approach is pertinent to our study, as we compare the effect sizes of coefficients linked to various hotel choice references on revisit intentions.

RESULTS

Table 1 presents the Bayesian estimation results for the ordered logit model, showing the mean estimates, and 95% credible intervals (2.5% and 97.5%) for each of the hotel selection criteria, control variables, and threshold intercepts.

The results show that choosing a hotel based on online reviews had a mean estimate of 0.31, with a 95% credible interval ranging from 0.22 to 0.4. This suggests a positive and significantimpact of online reviews on revisit intention, supporting H1. Hotel choice based on recommendations demonstrated a significant positive effect on revisit intention, with a mean estimate of 0.43 and a 95% credible interval ranging from 0.34 to 0.51, supporting H2. Hotel choice based on past experience exhibited the strongest influence on revisit intention, with a mean estimate of 0.93 and a 95% credible interval ranging from 0.87 to 0.99, supporting H3. The analysis of the posterior distribution of parameter estimates reveals that the effect size for past experience is the largest. Furthermore, the posterior distribution of parameter estimates for past experience overlaps with those for recommendation by less than 5 percent, indicating a significantly smaller effect size for recommendation compared to past experience. Similarly, the posterior distribution of parameter estimates for recommendations overlaps with those for online reviews by less than 5 percent, suggesting a significantly smaller effect size for online reviews compared to recommendations. Therefore, we can conclude, with over 99 percent confidence, that the effect size for past experience is the largest, followed by recommendations,and then online reviews, and therefore H4 is supported.

Table 1. Posterior estimates of the parameters: mean and its 95% confidence interval

	mean	2.5% CI	97.5% CI
Online Reviews	0.31	0.22	0.4
Recommendation	0.43	0.34	0.51
Past experience	0.93	0.87	0.99
Number of considered aspects	0.15	0.13	0.17
Income	-0.04	-0.05	-0.03
Hotel price	0.00	0.00	0.00
κ_1	-2.74	-3.12	-2.38
κ_2	-1.4	-1.77	-1.04
κ_3	1.24	0.88	1.6

In Table 2, we present the marginal probabilities of expressing the intention to revisit the same hotel on a scale from 1 to 4. These probabilities are calculated by considering the probability of expressing the revisit intention assuming only one reference is considered and subtracting the default probability which is the case when only price is considered. All other variables are set at their median values, and a median value for the hotel-specific intercept is chosen.

Table 2. Expected Probability Changes in Revisit Intention for Each Response Option Across Different References of Hotel Choice

References of Hotel Choice	Probability	Median (2.5% CI, 97.5% CI)
Online reviews	Pr(Definitely will not)	-0.011 (-0.010, -0.012)
	Pr(Probably will not)	-0.024 (-0.020, -0.027)
	Pr(Probably will)	-0.030 (-0.014, -0.051)
	Pr(Definitely will)	0.066 (0.044, 0.091)
Recommendation	Pr(Definitely will not)	-0.015 (-0.015, -0.015)
	Pr(Probably will not)	-0.032 (-0.030, -0.034)
	Pr(Probably will)	-0.046 (-0.025, -0.071)
	Pr(Definitely will)	0.093 (0.070, 0.120)
Past experience	Pr(Definitely will not)	-0.027 (-0.030, -0.024)
	Pr(Probably will not)	-0.060 (-0.064, -0.055)
	Pr(Probably will)	-0.130 (-0.099, -0.160)
	Pr(Definitely will)	0.217 (0.193, 0.240)

Figure 1 presents the marginal probabilities of expressing the highest intention to revisit the same hotel, specifically indicating a "Definitely will revisit the hotel" response, for each decision criterion. Notably, the greatest increase of 21.7 percent in the intention to revisit the hotel at the highest level is observed when the customer's selection is based on their own past experience at the same hotel. This highlights that personal experience with a specific hotel plays a crucial role in boosting revisit intentions. When the hotel selection is influenced by recommendations, the marginal probability shows a significant increase compared to situations where only price is considered, reaching up to 9.3 percent. Similarly, when the selection is based on online reviews, the marginal probability shows a significant increase of 6.6 percent. These findings suggest that not only personal experiences but also indirect experiences from online reviews and recommendations contribute to the likelihood of revisiting.

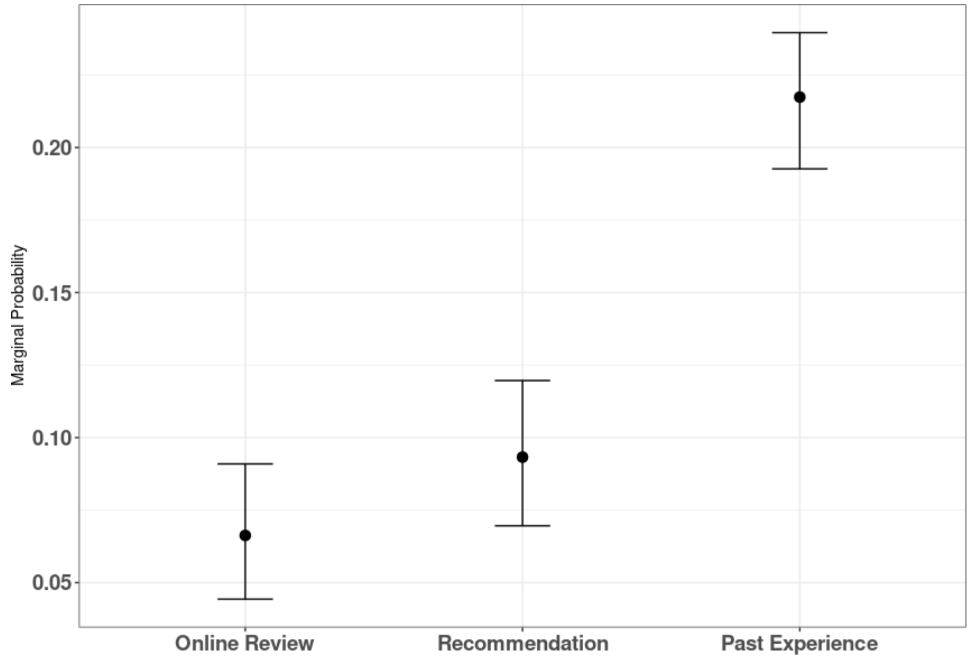

Figure 1. Marginal probability to answer “definitely will” to the question “Assuming you are in this area again, how likely are you to stay at this specific hotel again?”

Do Managerial Communications Improve Customer Satisfaction and eWOM? The Moderating Effect of Response Authenticity

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ABSTRACT

As hotel managers are actively responding to customer reviews that are critical for hotel choices, many researchers are investigating the effects of managerial responses. Previous studies, however, have mainly focused on open communication that takes place on social platforms or online travel agency (OTA) websites. These limitations raise research questions, such as whether private interactions between managers and customers would be effective, whether the effect would differ between dissatisfied and satisfied customers, and what role the authenticity of managerial responses would play in these interactions. To address these questions, we investigated the effect of private managerial interactions. The effect of a managerial apology on customers' future satisfaction, the effect of a managerial "thank you" on customers' future electronic word-of-mouth (eWOM), and the moderating effect of response style (i.e., personalization and length) were examined. We analyzed data from a customer satisfaction survey in which customers leave feedback and hotel managers respond to each customer personally via email. Our results reveal that a private managerial apology increases customers' future satisfaction only when it is long or personalized. A private managerial "thank you" positively affects customers' eWOM in the next period. This research provides empirical evidence for the effect of private managerial interactions, extending the existing discussions on the effect of managerial responses to the private digital communication context. This research contributes to the research areas of managerial response, service recovery, and digital communications.

INTRODUCTION

In the hotel industry, online bookings are prevailing, and customer online reviews are easily found. Customer online reviews greatly influence others' hotel choices. In response to this shifting hotel customer behavior, a managerial response, which refers to a manager's response to customer reviews, is becoming increasingly important. Managerial responses affect consumer booking behavior, hotel ratings, electronic word of mouth (eWOM), etc. While researchers are giving remarkable attention to the effect of managerial responses, it is noteworthy that most previous studies mainly focused on the effect of open communication that occurs on social platforms or websites of online travel agencies (OTA), therefore failing to provide enough information on the effect of private interaction. This study investigates the impact of a private managerial response to a customer's survey feedback about their previous stay on the customer's satisfaction with and eWOM of the next stay.

LITERATURE REVIEW

In order to investigate the effect of managerial responses, we divide managerial responses into a managerial apology, which is sent to dissatisfied customers who left negative reviews, vs. a managerial thank you, which is sent to satisfied customers who left positive reviews.

The Effect of Managerial Apology on Customer Future Satisfaction

A service process is a set of activities that must function properly for a service to be produced (Edvardsson & Olsson, 1996). In this study, a hotel's service process includes not only service activities provided during customers' stays but also hotel managers' communication efforts to check customers' satisfaction after their stays and resolve their complaints. As a managerial apology is a hotel's post-purchase management of the customer experience when the stay was unsatisfactory, it is natural to assume a managerial apology as a part of the service process that determines customers' overall perceptions of the hotel.

Although the investigated interactions were open communications, several previous studies empirically support the positive effect of managerial response on customer satisfaction (e.g., Proserpio & Zervas, 2017; Ravichandran & Deng, 2022; Sparks et al., 2016). For example, Xie et al. (2016) analyzed data from TripAdvisor and found that a managerial response leads to significant increases in star ratings of the sample hotels. Wang and Chaudhry (2018) analyzed OTA websites, including Expedia and Hotels.com, and found a positive effect of managerial response on subsequent hotel ratings. Some studies revealed specific conditions under which a managerial response may work. From an analysis of data from TripAdvisor and the Chinese travel site Daodao (www.daodao.com), Schuckert et al. (2019) showed the difference between hotel brands; the frequency of a managerial response had a positive effect on satisfaction for domestic

Chinese hotel brands, but the effect was limited for international hotel chains. Based on the previous studies, it is presumed that managerial apology for the review of the previous stay positively impacts customer satisfaction in the next period.

H1 Managerial apology for the review of the previous stay positively impacts customer satisfaction in the next period.

The Moderating Effect of Message Authenticity

As managerial interaction becomes critical, sending a managerial apology to dissatisfied customers has become a common post-purchase customer management strategy. As consumers are used to receiving a managerial apology, they become blunted, and a managerial apology may require certain conditions to be effective. We presume that the impact of managerial apology differs according to its authenticity. A message can convey its meaning well when authenticity is ensured. If the authenticity is doubtful, customers do not rely on the message as an informational cue, and communication performance can be impaired (Boulding & Kirmani, 1993). Authenticity can be more important in digital communication via email, which is underpinned by theories related to computer-mediated communication (Lee, 2020). Previous studies empirically showed the importance of message authenticity. For example, Hennig-Thurau et al. (2006) found that inauthentic interactions between service personnel and a customer yield lower satisfaction than authentic interactions do, thereby harming rapport building. Groth et al. (2009) showed that while sincere acting by service employees enhances customer perceptions of service quality, surface acting does not, in both online and offline contexts. Through an experimental study, Labrecque (2014) showed that consumers are not influenced by brands' responses on social media if they learn that the responses are automated. Likewise, authenticity can play a critical role in managerial apology. By sending a managerial apology, managers try to restore the decreased satisfaction of disgruntled customers. Yet, if a customer feels the apology is inauthentic, it will not be able to convince customers.

The current study recognizes personalization and length as response styles determining authenticity. An automated managerial apology that is identically provided to every customer will be hardly perceived as authentic (Liu et al., 2021). Previous studies support the moderating role of personalization. Through an experimental study, Min et al. (2015) found that customers are more satisfied when the response is paraphrased because it signifies the managers read each review thoroughly and try to address customer complaints. From an analysis of TripAdvisor data, Zhang et al. (2020) found that personalization strengthens the effect of managerial responses; the content matching between managerial responses and customer reviews increased hotel ratings. Thus, we expect that dissatisfied customers' future satisfaction will be more strongly impacted by a personalized managerial apology.

H2 Personalization positively moderates the effect of a managerial apology on the next period's customer satisfaction.

The length is also expected to moderate the effect of a managerial apology (Xu et al., 2020; Xu & Zhao, 2022). An interaction is valuable when it is relevant and informative to listeners (Grice, 1975). A short apology that does not contain enough information is hard to be specific and relevant to each customer's feedback and is likely to be perceived as inauthentic (Chen et al., 2019; Min et al., 2015). Therefore, the following hypothesis is developed.

H3 Response length positively moderates the effect of managerial apology on the next period's customer satisfaction.

The Effect of a Managerial Thank You on a Customer's Future eWOM

The positive effect of a managerial thank you on eWOM of satisfied customers is supported by the commitment–trust theory that explains the nature and key characteristics of relationship marketing (Morgan & Hunt, 1994). It proposes commitment and trust as two key factors for relationship marketing to be successful. Commitment is defined as an exchange partner believing that an ongoing relationship is so important as to put maximum effort into maintaining it. When both parties are fully committed to the relationship, they begin to believe it is worth working on to ensure its endurance, and cooperation is one of the key outcomes. In the current research context, satisfied consumers' eWOM can be considered as a cooperation behavior. A managerial thank you manifests managers' extra efforts to maintain a strong relationship with customers, which can strengthen customers' commitment, leading to their cooperative behavior (i.e., eWOM). Indeed, the effect of commitment on positive WOM was empirically demonstrated in previous studies grounded on commitment–trust theory and a relationship marketing framework (e.g., Brown et al., 2005; Li & Chang, 2016). Therefore, we expect that a managerial thank you increases the eWOM of satisfied customers.

H4 Managerial thank you for the review of the previous stay positively impacts eWOM in the next period.

METHODS

We analyzed data from a customer satisfaction survey in which customers leave feedback and hotel managers respond to each customer personally via email. The data was collected during the period from January 2015 to December 2018. It consisted of 544,194 customers' 334,538 survey responses toward 515 randomly selected hotels owned by the company. After filtering out the customers who responded to the survey at least twice throughout the data window, 5,058 customers were left, which provides a large enough sample size to guarantee the statistical power of our analysis.

RESULTS

Because of the straightforward interpretation of the standard error and the ease of estimating all three models' parameters simultaneously, we adopted the Bayesian approach. The models were implemented using Stan (Carpenter et al., 2017). We confirmed that the models converge using the potential scale reduction factor (PSRF) (Gelman & Rubin, 1992). The parameter estimates with posterior means, and 95% highest posterior density regions (HPD) are shown in Table 1. The main effect of managerial apology on future satisfaction was not statistically significant, failing to support H1. The effect of $\text{PersonalScale}_{t-1} \times \text{APOLOGY}_{t-1}$ was significant, supporting H2. It confirmed that if managers apologize for the service failure with a personalized text response, it increases customers' satisfaction in the next period. If managers apologize to complainants with a lengthy response, the customers' satisfaction significantly increased in the next period, supporting H3. These results show that a managerial apology is effective only when it is perceived as authentic by being personalized or long. The estimate of $\beta_{2,1}$ in the posting model was significantly positive, confirming that a managerial thank you increases satisfied customers' online review posting tendency in the next period, and thus H4 was supported.

Table 1 Posterior summary of satisfaction and posting models

Description	Parameters	Satisfaction Model: Mean [95% HPD]	Parameters	Posting Model: Mean [95% HPD]
ThankYou_{t-1}	$\beta_{1,1}$	0.029 [-0.123, 0.184]	$\beta_{2,1}$	**0.434 [0.254, 0.624]**
APOLOGY_{t-1}	$\beta_{1,2}$	-0.215 [-0.610, 0.176]	$\beta_{2,2}$	0.152 [-0.304, 0.610]
$\text{PersonalScale}_{t-1} \times \text{ThankYou}_{t-1}$	$\beta_{1,3}$	-0.054 [-0.305, 0.194]	$\beta_{2,3}$	-0.097 [-0.363, 0.154]
$\text{PersonalScale}_{t-1} \times \text{APOLOGY}_{t-1}$	$\beta_{1,4}$	**0.384 [0.085, 0.683]**	$\beta_{2,4}$	-0.150 [-0.508, 0.190]
$\text{ResponseLength}_{t-1} \times \text{ThankYou}_{t-1}$	$\beta_{1,5}$	-0.006 [-0.106, 0.092]	$\beta_{2,5}$	-0.053 [-0.171, 0.055]
$\text{ResponseLength}_{t-1} \times \text{APOLOGY}_{t-1}$	$\beta_{1,6}$	**0.222 [0.040, 0.404**]	$\beta_{2,6}$	-0.035 [-0.251, 0.158]
Current Satisfaction (S'_t)			φ	**-0.070 [-0.119, -0.021]**
Selection Bias Adjustment ($\widehat{\lambda_{iht}}$)	ρ_1	**0.188 [0.018, 0.358]**	ρ_2	0.149 [-0.112, 0.404]

DISCUSSIONS

We demonstrated the impact of a private managerial response and revealed the moderating effect of message authenticity. This study has fourfold academic implications. First, this study provides empirical evidence for the effect of private managerial interactions. Second, this study presents a clear empirical basis to include a managerial response into effective service recovery practices. Third, this study offers an understanding of how a post-purchase interaction leads to customers' favorable patronage behavior. Lastly, this study provides valuable, specific information in terms of the effective format of online managerial responses.

This research has significant practical implications for hotel management. Based on our findings, the following suggestions are developed. First, hotel managers should actively involve private managerial interactions with customers at the post-purchase stage. Second, when managers express an apology to customers via email, they need to employ response styles that can deliver a sincere, authentic message. Third, responding to satisfied customers is of great importance too, as it increases the chance of future eWOM. Therefore, managers should actively communicate with satisfied customers at the post-purchase stage so that customers' satisfaction can be transformed into positive eWOM. Last, more investment is required to develop advanced digital CSS systems. In the hotel industry, automation is becoming the mainstream in hotel services, and managers are trying to find appropriate ways to apply new technologies to hotel operations. In line with this effort, an optimized interactive feedback system needs to be developed.

Exploring Trends in Self-service Innovation to Boost Social Engagement among the Elderly from 2000 to 2022

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ABSTRACT

Self-service technology is accelerating, particularly for the elderly. Among the potential health repercussions of being alone include depression, anxiety, and suicide. This has led to scope of research on social engagement services. This study examines elderly self-service technology from 2000 to 2022 to discover prospects for enhancing social engagement. Five of the 292 publications were on social engagement. Service-logic innovation framework was used to identify service business models from the full text analysis on self-service technologies for the elderly. The outcome will be a new perspective on service research in which technology is leveraged to enhance the quality of life.

INTRODUCTION

Throughout this moment, megatrend on the issue of the elderly has been widely discussed across the world. A signal of the global economic crisis and the increasing proportion of the elderly population, indicating that the current health and social care systems are not sufficient to guarantee the well-being of people's physical, mental, and social (Illario et al., 2016). Especially in the crisis of rising long-term care costs and individual's specific needs (Goldman et al., 2005; Lopez-Hartmann et al., 2012; Schultz et al., 2015).

Designing solutions for realizing social well-being while stepping into an aging society has become a major challenge (Lee et al., 2009). It is also a chance to develop or transform a new business to grow with a trend of demographic change. Innovation is an important business competition initiative in the digital disruption era (Lopez, 2012) and necessary to develop new business opportunities in order to remain profitable and achieve sustainable competitive advantage (Lindgardt et al., 2015). Although the age range of the elderly and innovation is generally considered a contrasting phenomenon (Djellal and Gallouj, 2006). However, the power of innovation and technology now certainly gives senior citizens independence and demands for solutions which improve their quality of life and careers (Yusif et al., 2016). This is an opportunity to support people integrating into society for longer while fostering new markets simultaneously. Appropriate technology is one of the strategies for improving quality of life and further boost the economy (Kohlbacher and Hang, 2011). We can also consider new business opportunities that encourages innovation in services to gain a competitive advantage (Chesbrough, 2011). In recent years, the literature on elderly innovation and technology driven by emerging technology has grown rapidly. However, the review of research studies to conduct in-depth understanding and development trends in this area are limited.

This study explores research on innovation and technology for elderly in 2015-2022, with the aim to address two research questions: What is the trend of elderly self-service technology and how has it changed after COVID-19, and how does self-service technology promote social engagement of the elderly. We expect that the findings of this study will be applicable to both academic and business contexts.

INNOVATION CHALLENGE FOR THE ELDERLY

The emerging and pervasive mega-trend is stepping into an aging society where business growth for the emerging markets is interested. Besides the innovation for the elderly being a constantly growing segment, there are also targets of social mission that will create opportunities for sustainability in business. The challenges facing older people in developing products are individualized needs and various obstacles, such as poor physical and/or mental health, housing requirements, lack of transport facilities, community knowledge and communication services, and low income. On the other hand, entering seniors often comes with greater costs for healthcare, home care, transportation, and so on (Faucounau et al., 2009). Globally healthcare organizations are encouraged to find more efficient ways to provide cost savings for high quality care (Vergados et al., 2008). "Active Elderly" is also a social agenda for Europe to provide their lives with a flexible infrastructure so they are motivated, engaged in lifelong learning and contribute to society (Byrne et al., 2018). The World Health Organization has stated that Active and Healthy Ageing (AHA) is a challenging process for improving elderly people's health maintenance and social involvement to preserve their quality of life. While the European Commission (EC) launched the European Partnership for Innovation (EIP) on AHA in 2011 to accelerate the use of innovative health and social care system solutions (Medrano-Gil et al., 2018).

From the above, it reflects the necessity and importance of business opportunities in this emerging market. It is important to establish innovation and technology that are consistent with behaviours in each age group, because the new seniors who step into the future are born and grown up with technology learning at different levels.

Elderly people's user requirement and business opportunities

Over the past decade, there is a greater tendency for elderly people to live isolated from their offspring. Senior citizens typically consider remaining in their own homes rather than being relocated to residential home or nursing home (Yusif et al., 2016). The fundamental requirement is that they can self-manage their lives in a safe, convenient, and healthy environment. Elderly people who live alone have often been concerned that they will not receive immediate help if they are injured or sick. This pain point created various businesses in the area of automation, both mobile and home device to provide convenience and assistance. The next wave of smart healthcare tends to focus primarily on concepts of home-based care in order to transfer healthcare from clinics or hospitals to own homes (Vergados et al., 2008). There is also a house automation business, alarm, and monitoring systems as well as assistive technology and services aimed at providing the living environment with simpler and more efficient care, as well as specialized home care serviced. Assisted living technology can help a person to live independently while also reducing the cost of health and treatment (Procter et al., 2018).

Frail elderly or physically impaired that need care support is increasing, in contrast to the number of caregivers who are beginning to encounter shortages due to work-related causes. This pain point is the beginning of the integration of assistive technologies such as socially assistive robotics (Zsiga et al., 2013). The development of robots helps the elderly and the disabled people to remain self-case as long as possible and stay healthier at home, which will benefit the cost of long-term care and reduce human caregiver shortages. Medrano-Gil et al. (2018) identified user needs related to the daily life aspects including 1) motility (ability to move as standing, walking, running, climbing, and various movements, etc.) 2) basic daily living activities (e.g., dressing, self-feeding, Personal hygiene care, excretion, and going outside). 3) instrumental Activities of Daily Living (e.g., ability to cook food, housekeeping, phone usage, shopping, and Use of Transportation). 4) socialization (e.g., family visits, attending senior centers, or other attractions).

Although there are many interesting opportunities, therefore it also has limitations as challenges to develop a product or service. The most common problems in elderly people related to visual and hearing impairments and functional challenges in the use of daily technology. Links to the Internet are viewed as troublesome for individuals without access to a computer for further information. Cognitive deficits impeded the use of modern technologies and the perceived problems increased (Eek and Wressle, 2011). Even though they are not well-informed about the technology and the internet, the social needs of the elderly still require keep in touch, news and entertainment as well (Karahasanović et al., 2009).

The possible targets for innovation in the provision of care services for the elderly can be used to identify into customers are the Elderly person, Family or relatives of the elderly person, Care givers or helpers, and Provider organization including hospital residential home, companies, association (Djellal and Gallouj, 2006) with the objective to increase autonomy and safety (Vergados et al., 2008), emergency assistance (Zsiga et al., 2013), social life (Karahasanović et al., 2009), and assistive technology (Miskelly, 2001). The use of technology solutions for elderly people has a beneficial effect on quality of life and is able to live independently easily (Mostaghel, 2016). Robotics and ICT provides an effective solution to the problem of providing affordable social care programs to aging citizens (Bonaccorsi et al., 2016). Therefore, technology is the target used in designing products and solutions for elderly care services and defined into tangible and intangible artefacts (Djellal and Gallouj, 2006).

PREVIOUS CONTRIBUTIONS

We have previously discussed the limitations of literary studies on innovation and technology for elderly people to understand in-depth and the development trends in this area. To address the mentioned limitations, in this paper, we conducted a thorough survey of previous research on innovations and technologies for elderly and summarize their contribution in Table 1. We determined that past research is unsuitable for the purpose of this study.

Table 1: List of contributions from previous studies on innovation for the elderly

No	Reference	Year	Field	Contributions
1	Minh Dang et al.	2019	Healthcare	• The latest IoT in healthcare components, applications, and market trends in 2015-2019.

No	Reference	Year	Field	Contributions
				• An IoT privacy and security issue in healthcare (Internet of Things).
2	Saare et al.	2019	Elderly care	• Identify factors affecting the adoption of smartphone applications that facilitate the adopting of the latest technologies by elderly
3	Byrne et al.	2018	Assistive technology	• Classified Ambient Assisted Living (AAL) systems taxonomy and proposed an alternative approach to evaluate EvAAL competition by consider a sub-section of the outlined classification framework.
4	Frennert et al.	2017	Assistive technology	• Report the cases of doing research on socially assistive robots in Real Homes to find challenges and opportunities
5	Mostaghel	2016	Elderly care	• Review the elderly and technology tools in Sweden. • Map of major actors and technology for elderly. • Assessing impacts and costs of elders' technology tool adoption.
6	Yusif et al.	2016	Assistive technology	• Review the main barriers to the adoption of assistive technologies (ATs) by older adults. • Assistive technology acceptance is a main keyword.

ARTICLE SELECTION BY PRISMA STATEMENT

This study employs a systematic literature review as its methodology. The method outlined in PRISMA statement (Liberati et al., 2009; Lopez-Hartmann et al., 2012; Moher et al., 2009; Rouyard et al., 2017). A literature search in Scopus, and ScienceDirect database was carried out in 2000-2022. The search was limited to peer-reviewed article, open-access, and published in English. A combination of indexing items and free-text keywords concerning self-service and innovation or technology with the elderly including synonyms was used to find relevant articles (Liberati et al., 2009; Moher et al., 2009; Rouyard et al., 2017)

The articles are published in a peer-reviewed section of the international journals. Multiple database search results obtained a total of 292 titles. Following the screening title, 50 unique titles were chosen for abstract screening. The criteria for screening including 1) The research paper involves the use of technology to design innovative products or services for social engagement of the elderly, which does not include large-scale infrastructure systems and complex task like smart city system or smart home 2) The research paper mentions the elderly technology and innovation for self-service and realizing well-being society to the elderly including prevention, which does not cover health problems, patients, medical or therapeutic work. 3) The research design of the paper is clearly defined. The selected 50 articles were then assessed, and the final 5 publications being included in the final review. Figure 1 depicts the PRISMA flow diagram for selection. We employed inductive and interpretative theme analysis, which is appropriate for a systematic review aimed at comprehending a broad subject area (Kaartemo and Helkkula, 2018).

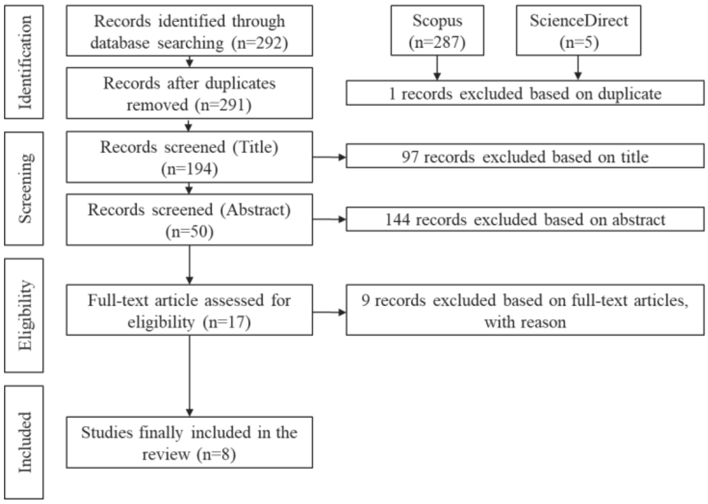


Figure 2 PRISMA flow diagram for selection

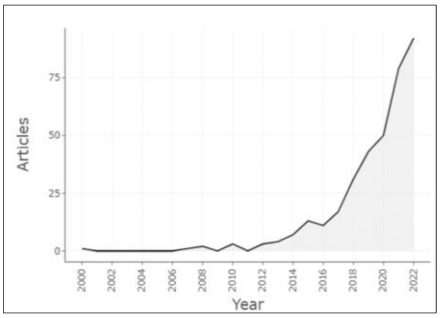
INVESTIGATE THE CASE OF SELF-SERVICE INNOVATION FOR ELDERLY

In this study, we adopted the service-logic innovation framework from Brown et al. (2008), which implement from an assessment of 26 outstanding service innovation cases. The obvious pattern is each service-logic innovation alters at least one of the roles of customers as users, payers, and buyers, as well as the context in which the service is used. The elderly can be users who pay for themselves and have someone else pay for it. This is either supported by governments or Asian cultures where descendants are responsible for caregiving for aging parents. The framework for the firm's value creation is divided into smart offerings, value integration, and value constellation. This pattern visualizes the business model in addition to identifying the actual target audience. We therefore utilize it to classify the service innovations investigated in this study.

FINDING

To explore the evolution of self-service technologies for the elderly research, the 23 years of publications were divided into two time periods. The research trend is presented in Figure 3 Annual Scientific Production. The first period (from 2000 to 2012) comprises 12 articles, whereas the second period (from 2013 to 2022) contains 280 articles from two databases. The most recent trending topic is Covid-19. Trend topics relating to customer experience, AI, and the technology acceptance model will be followed by service robots and service quality from 2020 to 2022. From 2018, the trend topics were service quality, trust, and satisfaction as shown in **Figure 3** Annual Scientific Production Figure 4 Trend Topic. This is consistent with the screening of titles, which primarily focus on behavioural studies and technology adoption research.

We screened the titles from all 291 articles based on the consideration criteria, namely the use of technology to design innovative products or services for the social engagement of the elderly, thereby eliminating irrelevant topics. We discovered that the research topics in self-service technology include the following: 1) behavioural studies and adoption research 2) self-service that does not encourage socializing or engagement 3) AI/robot interaction, and 4) self-service activities that lead to social engagement.



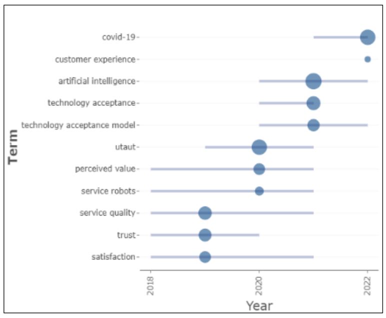


Figure 3 Annual Scientific Production

Figure 4 Trend Topic

We found that roughly half of the papers are about consumer behavioral studies and adoption research that do not address social engagement with self-service technologies, such as attitudes, self-consciousness, anxiety, psychological, emotional barriers, and the intention to adopt AI or digital technology, which were not included in this study. Self-service that do not encourage socialization or participation include mobile health monitoring system, wearable health technologies, drone food delivery, self-order kiosks, self-service parcel services, smart meter, smart personal assistants, m-wallets or digital banking services, online shopping or mobile commerce, mobile ticketing applications, mobile apps for hotel booking, m-government services, online News, online food delivery, online health coaching, telemedicine, e-learning, and so on. These services are available both in person and online. However, we determined that it did not increase social engagement, which was the research's aim. As a result, these items were taken out.

SELF-SERVICE INNOVATION FOR SOCIAL ENGAGEMENT

We reviewed whether self-service technologies and services added value by boosting social engagement and well-being. Then, we constructed two categories: customer role and firm's value creation. The type of technology or service, as well as the functional value, were then identified. In our review of the document, we referenced the text relating to expectation of technology use and interpreted the potential services using these technologies with the service-logic innovations framework. We defined value creation through smart offerings, value integration and value constellation (Brown et al., 2008) in Table 2. The following is an explanation of value creation.

Smart Offerings are new offerings that allow customers to co-create value in new directions. In the automobile industry, for example, automatic gears, cruise control, and global positioning systems or data-mining software applications that assist managers in making better decisions.

Value Integration relates to the integration of knowledge resources as part of any customer value co-creation. For example, IKEA's business model is integrative in that it provides customers with a data-rich catalogue while also changing the buyer role that the customer must take on by encouraging them to transport and then assemble the furniture themselves.

Value constellation is a value-creating system comprised of suppliers, partners, and customers. Google, for example, co-creates value by entering search strings, and the quality of the search results is largely determined by the user's ability to define his or her interest with appropriate keywords.

Table 2: Classification of services based on the Service-Logic Innovations framework

No	Reference	Technology/Service	Functional value	Expectation of technology use	Potential services by using technology
1	Chang et al. (2020)	Hearing aids among old adults	Resolving hearing issues leads to	"Patients can get their live health data such as the hearing ability,…."	*Smart Offerings:* Smart device and convenient platform

No	Reference	Technology/Service	Functional value	Expectation of technology use	Potential services by using technology
		in smart cities.	improve social participation.	“Hearing aid devices can be adapted for diff. types of hearing requirements and envi. changes..”	*Value Integration:* Adaptation according to the user's situation
				“Government understand their needs and provide instant medical services when patients need …”	*Value Constellation:* Medical and social welfare services are customized for consumers.
2	Čaić et al. (2018)	Socially interactive and assistive robots	A robot that aids in creating social interactions.	“Socially interactive and assistive robots can communicate human..”	*Smart Offerings:* Socially interactive and assistive robots
				"This service supports video or voice calls with family/friends/ physicians ...."	*Value Integration:* Connecting online communication with desired people.
				“Users will have an option to create an activity...”	*Value Constellation:* Participation in community society.
3	Bum et al. (2018)	Virtual Reality Leisure Sports	Virtual leisure activities for physically healthy life and social interactions.	“4IR offer opportunities that are not only free of restrictions of equipment, but offer a chance for both genders to play together”	*Smart Offerings:* Virtual Reality sports activities for leisure
				“A mere game to become part of a healthy leisure sports culture.”	*Value Integration:* Turning games into a well-being culture.
				"VR leisure sports emphasizes a ‘structure that allows people to play	*Value Constellation:* Enhance well-being and social engagement

No	Reference	Technology/Service	Functional value	Expectation of technology use	Potential services by using technology
				together' rather than 'physical superiority'"	without physical constraints.
4	Stieger et al., (2018)	PEACH, a smartphone- and conversational agent-based coaching	Conversational agents on mobile devices for intentional personality change	"An application can get access to data from sensors and usage logs, which allow objective measurement behaviour, and inferences about users' personality."	*Smart Offerings:* A customizable app for coaching behavioural changes for personality and social well-being.
				"Participants have to pick one change profile, which fits the most to their individual change goal."	*Value Integration:* Recommending changes based on the user's need.
				"An open-source platform for the design, delivery and evaluation of scalable smartphone-based interventions."	*Value Constellation:* Apps from an open-source platform that are user-customizable.
5	Čaić et al. (2019)	Social robots in elderly care services	A value-centric conceptualization of social robots	"Robots that can exhibit human-like minds, in addition to their human-like bodies"	*Smart Offerings:* Human-like behaviours robots
				Context-specific evaluations of 'Robot's value propositions' and 'Users' well-being'	*Value Integration:* Users can customize robot-human value matching.
				"This systematic impact assessment of each robotic component serves as input for developer."	*Value Constellation:* Social robot developed by service manager, developers, and users.

CONCLUSION

According to the findings of this study, research on self-service technology and services for the elderly has grown rapidly in recent years, particularly since 2018, in accordance with the megatrends of aging society. The majority of publications in 2021-2022 concern COVID-19 and the adoption of technologies for living independently. As self-service technology promotes doing things individually, it may increase to social isolation, which can result in mental health problems among the elderly. We also discovered that there are still limited studies on self-service businesses to improve social engagement, which contribute significantly to the well-being of the elderly. Consequently, it is a great research opportunity as well as an attractive business potential.

The Service Logic Innovation Framework developed by Brown et al. (2008) allows us to consider the aspect of services in terms of smart offerings, value integration, and value constellation with greater clarity. However, in designing a business model, other considerations are required as well. For instance, the business model might be a subscription business model, or individual purchase. Additionally, the responsibilities of users and payers, as well as the context of service usage also have an impact on the business's sustainability. This is a major challenge for emerging businesses.

DISCUSSION, LIMITATIONS AND FUTURE RESEARCH

Technology has grown in importance in the market. Customers now have more ways to use their services owing to self-service technologies. Understanding consumer needs and responding properly will be a significant business opportunity (Meuter et al., 2000). Developing a business for the success of innovative products and services in a competitive market often requires other considerations. Developing user-centric innovations should look towards exclusively technology-driven solutions and develop flexible technologies and services that demonstrate a sensitive understanding of the various users (Burrows et al., 2015). It can be concluded that user-centeredness is a key factor in the creation of successful service innovations. Self-service although it facilitates living alone, boosting social engagement will enhance the quality of life for the elderly, particularly mental health for a longer life. Another important factor in becoming a market leader and challenging to compete is the introduction of outstanding technology. Even if a firm is not a technology maker, pursuing collaboration to create value constellations or establish a new business model is a viable strategy for success. Giving priority to the consumer well-being will undoubtedly contribute to business sustainability.

Besides the age and gender that cause elderly people to have different needs, social factors such as social status, education and ethnicity all affect to the need for services and the ability to reach the target group (Patzelt et al., 2016). As well as various risk factors, people of the same age also have different needs, so the service is considered an individual matter. Risk factors affecting the health of elderly people include diet, smoking, sedentary lifestyle, stress, dyslipidaemia, diabetes, obesity, metabolic syndrome and hypertension (Jugdutt, 2010) which has not been mentioned in this study. There is also an issue of privacy loss from access to the situation of each individual (Miskelly, 2001), which ultimately depends on the policy and system design that will allow for risk avoidance.

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All welcome in socially sustainable service: Social inclusion of senior audiences in performing arts

As October 1st, 2022, marked the 21st International Day of Older People, we are once again reminded of our aging world and the equity challenges older populations continue to face around the globe (United Nations, 2022). According to 2022 World Population Prospects (UN DESA, 2022), the share of older persons in the society is increasing, which renders the social inclusion of the elderly – considered one of the most disadvantaged groups (UNESCO, 2022) – a growingly significant yet oft-neglected social sustainability issue.

Elderly wellbeing and social inclusion (Du, 2013; Galiana & Haseltine, 2019) as well as advancements in service provision to the elderly (Čaić, Odekerken-Schröder, & Mahr, 2018; Nápoles, Páez, Penelas, Pérez, Santacruz, & Pablos, 2020) are burgeoning research fields. However, majority of studies tend to focus on the health-related and social care dimensions at the expense of other elements of social inclusion (Gidley, Hampson, Wheeler, & Bereded-Samuel, 2010) such as engagement in leisure activities (Arslantaş, Adana, Ergin, Kayar, & Gülçin, 2015). Advancements in service provision to elderly continue to be mere amendments to existing service structures or other post-hoc processes, which, at worst, may be dysfunctional to the integration of elderly population in general public, leading to their further exclusion or isolation.

Purpose of the study

The aim of this study is to understand and offer solutions for physical and social challenges within the leisure sphere – specifically attendance in performing arts by senior audiences – from a social inclusion perspective. As opposed to an ad-hoc solution for elderly population that ultimately contributes to their social isolation, the social inclusion perspective utilized in this study envisions inclusion as a necessary mechanism for achieving social sustainability as a cohesive, integrated phenomenon (UNESCO, 2022). Senior attendance and accessibility in performance arts is, then, more than a physical issue enveloped by infra/super-structural elements, but involves all channels, venues, spaces, communication methods, attitudes, perceptions and general sense of belonging.

Methodology

In order for an in-depth and multidimensional understanding of the experience of senior audiences the study employed mixed methodology involving the perspectives of multiple parties, namely senior audiences, service providers, performing artists and general audience. The methodological techniques include i) semi-structured interviews with senior audiences, performing artists and service providers, ii) surveys with general audiences, iii) on-site observations, and iv) review of related documents from performing art institutions.

Originality/Value & Implications

Insight into the unique physical and social challenges faced by the senior attendees of performing arts provides actionable information and guidance for sustainable service management solutions.

This is a unique case study which addresses the existing lack of scholarly knowledge on accessible and socially inclusive service for senior individuals in achieving greater social sustainability in contemporary society. Implications of this study pertain to

Findings

This is an ongoing study. Approximately half of the interviews have been conducted so far. Additionally, the survey for the general audience has been launched whose responses constitute the quantitative part of our study. Once the full results of both the interviews and the surveys are received, they will be analyzed in conjunction with the review of official documents, regulations, and codes of the art venues. The findings of these analyses will be presented at the conference in full.

Research limitations

This study focuses on senior attendance to performing arts in a specific country culture. However, authors believe the implications can resonate with global audiences in this understudied area of socially sustainable service management.

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Service Management in the Beyond COVID-19 Era

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The COVID-19 pandemic has caused massive social upheaval around the world. Large-scale lockdowns at the national level have been implemented in most countries, and people were forced to stay at home and reduce social contact. Due to lockdown, social distancing, and telecommuting, digitalization progressed rapidly in various fields, and changed service customer experiences, consumer purchasing decisions and the market participants' behavior. The unprecedented pandemic has changed the world, changing people's minds, and emerging new business models and new competitors and new competition. Besides the chaos caused by COVID-19, regional conflicts, economic volatility, and supply chain disruptions have made the world 'the age of hyper uncertainty'. In the midst of uncertainty, the market does not grow, and the gap between the rich and the poor gets bigger, leading to the growth of a small number of well-off companies, and a large number of difficult companies. Companies that capture changes in the world quickly and accurately get the opportunity to realize higher sales than before, otherwise face big crisis in the market and can no longer survive.

Throughout the pandemic, service industry experienced the collapse of the existing strategies and new countermeasures are needed to cope with changes. So, it is essential to understand the nature of the changes caused by COVID-19 and to predict and prepare for a new normal era. Unless scholars and managers change perspectives, the theory will no longer be valid and companies will not be able to survive. However, many of these points have not yet been applied to paradigm shifts. Academia should not put new things on top of old cakes, but store, eat, and bake new cakes at the same time. Theories can have continuous validity based on reality only when new knowledge is summoned, and these theories can help the world in understanding new things. should navigate without anchoring at the port and challenge existing theories by allowing the latest phenomenon to be applied to the paradigm shift. Meanwhile, companies need to adapt and recover from change and grow economically, psychologically, and socially. Managers should analyze the latest market and consumer behavior to create an ecosystem where services can be sold and make sure to form it sustainable and resilient.

In order to derive service management strategies for the beyond COVID-19 era, we selected following keywords: Mental well-being, social distancing, digitalization, personalization, new normal resilience, glocalization, and social value. We analyzed the core features of the COVID-19 pandemic as fundamental psychological changes in consumer behavior, accelerated digitalization and hyper-connected society, hyper-personalization through sophisticated customer experience analysis, changes in the consumption value chain and the competitiveness of the end market, building secure resilience to reduce uncertainty, globalization due to supply chain changes, and the importance of social value.

Above all, the dynamics between sellers and buyers in the market have changed, the hegemony of power has shifted from sellers to buyers, and issues about buyers have become more important in service management. In the era of beyond COVID-19, the key is whether it is possible to understand from the perspective of customers and consumers and provide services suitable for buyers. Consumers are extremely sensitive. There is no eternal consumer. They continue to evolve, pursue individual interests, flock to rapidly changing businesses, and turn to services that do not grow and develop. It is essential to think about 'how to win customers and keep them for life'. According to the competition principle, service companies that satisfy customers survive, and if the service is bad and the customer is not satisfied, the company cannot survive. Service companies that have adapted quickly, focusing on fundamental changes in consumer behavior in markets where uncertainty is mounting, realize higher sales than before, while those that do not are in a major crisis in the market. Service management strategies must be found from the market place to create a differentiated competitive advantage in services. It is better to try the first mover than to be a late pursuer.

It should also be noted that during the pandemic, the world has become a Hyper-connected society. In a hyper-connected society, people and people, people and machines are connected. Furthermore, with the development of digital technology and AI, machines are connected to each other, and new communication strategies have emerged. It is necessary to change the perspective of how to view the market according to technological innovation. Due to rapid digitalization, it has become important for all service companies, including B2C and B2B, to directly communicate with end consumers as well as participants in the value chain. In particular, B2B services will evolve into a model of platform, not a network. In order for B2B services to initiate new changes in the market, it is difficult to find an answer in the existing market. In order to respond to the rapidly changing market, a customer-centered strategy called B2B2C is needed. Therefore, this paper seeks a strategy that enables service companies to strengthen customer relationships through real-time and interactive strengths and effectively interact with potential customers to strengthen corporate competitiveness away from short-sighted management. Accordingly, the seven keywords of beyond COVID-19 era were examined from the perspective of B2B, B2C, and B2B2C (Business to Business to Customer). After all, the competitiveness of the service can be found in the end market. Looking into customers' customers is the way to find new ideas for service management strategies that suit customers' wishes and needs.

This paper is the first to identify important keywords in service management in the era of beyond COVID-19 and introduce B2B2C aspects of the strategy. It analyzes changes in the service industry due to the COVID-19 pandemic and seeks strategies to increase competitiveness and build resilience. In addition, this paper contributes to the literature by expanding research in the fields of service management, customer experience, and new service development. From a management perspective, it presents insights for service companies to explore ways to lead the market and sustain growth by building resilience beyond the uncertainty of the beyond COVID-19 era.

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Seeking synergy in gastronomy innovation between industry and academia – an illustration within Culinary Arts Event Management

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ABSTRACT

This historical review offers a descriptive-informative overview of food as a component of tourism and travel, which has not been intensively researched from a tourist perspective until the 1980s. Travel destinations, tour operators and the broader food service industry have, since then, progressively assigned greater importance to F&B as ways to promote travel destinations. At the same time, researchers have increasingly studied the dynamics of gastro- or food tourism.

Specific intellectual culinary and cultural knowledge is required to present authentic food tourism experiences that reflect the food and beverage of a destination. Our research addresses the relevance of food offerings in a contemporary South African context and analyses the bridges – or lack thereof – between academia and the tourist industry.

The significant role of culinary innovation within the food service and the food manufacturing industries is becoming increasingly important. It is understood that culinary innovation in the food service environment, happens 'organically' or naturally, by chance. Various authors discuss the problems associated with new product innovation, such as high failure rates. Even though innovation is understood to be a critical aspect in terms of the long-term success of food service establishments, failure rates may occur as a result of poorly executed product lines, or because the new innovation was not correctly introduced to the consumer, or because consumers may harbour negative customer perceptions about new, innovative items on menus. Such failures are at the core of this research, illustrating a disassociation between new innovations and areas of research, the 'double edge of cuisine' in both research and practice. It is further possible that the 'unstructured' innovation happening in the restaurant environment occurs mostly without proper empirical evidence from research. Those who innovate in the food service industry, use absorptive and desorptive capacities to generate and market culinary innovations. Desorptive capacity is understood to be the safe transfer of knowledge from the sender, while absorptive capacity enables the acquisition and assimilation of external knowledge by the recipient. Given this understanding, even high-end food service establishments would be influenced by what goes on around them, reflecting their absorptive

capacities. It is in this regard that the authors of this research are postulating that such absorption should not only happen ‘organically’, but that such leaders or trend setters in the food service industries should be engaged in research, which should not happen in isolation. Much like the New Nordic Cuisine, South Africa could also use food heritage and gastro-nationalism as a drawcard for gastro-tourists, enticing them to come and experience the innovative use of local produce and heritage recipes. South African examples include Mondia Whitei steamed idombolo in the shape of Huā juǎn (Mandarin twisted roll), Spekboom (Portulacaria afra) “Caesar” salad, Carob (Ceratonia siliqua) macaron with melktert filling served with marula (Sclerocarya birrea) ice cream, African horned cucumber (Cucumis metuliferus) sauce and wild sage (Salvia dolomitica) crumble. Others innovations include Madumbe (Colocasia esculenta) gnocchi, cassava (Manihot esculenta) mash, cowpea (Vigna unguiculate) vetkoek/Amagwinya, stamvrug/Transvaal milkplum (Englerophytum magalismontanum) jus, and others.

Sustainable Value Co-Creation in Welfare Service Ecosystems - Transforming temporary collaboration projects into permanent resource integration

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ABSTRACT

The aim of this paper is to discuss the unexploited forces of user-orientation and shared responsibility to promote sustainable value co-creation during service innovation projects in welfare service ecosystems. The framework is based on the theoretical field of public service logic (PSL) and our thesis is that service innovation seriously requires a user-oriented approach, and that such an approach enables resource integration based on the service-user's needs and lifeworld. In our findings, we identify prerequisites and opportunities of collaborative service innovation projects in order to transform these projects into sustainable resource integration once they have ended.

INTRODUCTION

In the social welfare sector, collaboration and innovation have become the solution to most challenges, especially around complex issues and situations that need to be better managed. The basic reason for collaboration is that no single organization has the resources to tackle a given challenge and find the solution on its own (Mörndal 2023). Collaborative projects are generally conducted from an organizational perspective, an inside-out perspective (Osborne 2021; Grönroos 2019; Skålen et al. 2018). In such a perspective, new innovative solutions have a difficult time naturally transforming into something permanent, gaining a firm foothold, and continuing to develop beyond the project period due to the far-reaching specialisation of organizations and professions; a 'silo' problem (cf. Galbraith 2005; Gulati 2007; Huxham and Vangen 2010). The previous structural organization of resources therefore easily reappears when collaborative projects are terminated, which in turn results in collaborative projects providing only a temporary improvement to the everyday lives of people in need of welfare services (Eriksson 2019). This despite the implicit time aspect, according to which collaboration should be understood as something long-term and sustainable (Huxham and Vangen 2010; Mörndal 2023).

Developing new and innovative ways to solve welfare challenges through collaboration requires knowledge and learning about the user, i.e., user orientation (Grönroos 2021; Osborne 2021). Continuous knowledge and learning about what works, and gives effect to users, contributes to the creation of sustainability (Mörndal 2023). A traditional view of innovation is that it is a combination of new and existing resources. Ideas often arise regarding how to combine resources in a new or different way, but to be considered innovation in a traditional sense, an idea needs to be realised. In the theoretical areas of service research, such as service dominant logic, service logic, and public service logic (PSL), service innovation needs to lead to improvement for the user, otherwise the change will not be a service innovation (Grönroos 2021; Kristensson et al. 2014; Lusch and Vargo 2014; Osborne 2021; Skålén 2018). What is new therefore need to have a positive effect on the user. Service innovation rests on a different perspective on collaboration, an outside-in perspective, where the needs of the users (client, job seeker, patient etc.), rather than the organization, are at focus. In this perspective, a high degree of specialisation is a benefit to the social welfare sector, and neither organizational nor professional boundaries are central. What is central is how stakeholders and their resources can be integrated in an efficient and cohesive way for the user without regard to boundaries. Building relationships and knowledge to adapt and develop processes based on users' needs and situations is key here.

However, few studies of collaborative projects aim to find new innovative and sustainable welfare services based on an outside-in perspective. Previous studies have mainly emphasised service innovation based on how it happens in practice (see, e.g., Fuglsang 2010; Hennala and Melkas 2016; Rønning 2021; Saari, Lehtonen and Toivonen 2015; Skålén 2018). The theoretical framework of public service logic has primarily focused on abstract explanatory models and concepts to understand and explain public services (see, e.g., Chen et al. 2020; Osborne, Nasi and Powell 2021). For example, Skålén (2022) and Torfing (2019) consider it necessary for different approaches to meet and benefit from each other to advance our understanding of public service innovation. Inspired by this approach, this paper aims to use a PSL-based outside-in perspective, to identify and discuss what is essential for temporary collaborative service innovation projects to be transformed into permanent resource integration. We do so by monitoring, for two years, a welfare organization that is a financial collaborative association whose main task is to carry out collaborative projects to find new and innovative solutions to help individuals seeking employment.

THEORETICAL FRAMEWORK

In this paper, we focus on how service innovations can be made sustainable by drawing on perspectives from the theoretical field of public service logic (Osborne 2021). In practice, service innovations involve creating new services that provide value to their users, and are of interest to both public-sector organizations (who want to use the results) and researchers (who want to create knowledge and understand how a service innovation can contribute to value creation) (Skålen 2022). Research on service innovation in the public sector is often based on corresponding research in the private sector, especially service-dominant logic and service logic (Vargo and Lusch 2004, 2016; Grönroos 2019; Skålen 2018). These theories establish an outside-in perspective where the user's needs and situation, rather than the organization's, is the focus. To offer help to someone is to offer a service (Grönroos 2021), and a service requires user participation. From a service-logic perspective, only users themselves can create value, so value cannot be delivered or created by the organization. Rather than considering that organizations change users' lives, one should see the users as active co-creators of the service based on their own resources. Another factor highlighted by the outside-in perspective is that more stakeholders and resources often need to be integrated into value co-creation, as a lone stakeholder rarely has the whole solution.

The characteristics of the public service sector differ from the private sector, including the fact that rather than paying customers there are users of tax-funded services. These users range from voluntary to involuntary users of services (e.g., parents seeking childcare, pupils legally obligated to attend school and the involuntarily incarcerated). However, the mission of the social welfare involves more than creating the conditions for services that add value for individuals. It is also responsible for contributing value to society (Alford 2016; Alford and Greve 2017). A growing number of scholars have therefore highlighted the need to better understand what constitutes services in the public sector (Skålén 2022; Osborne et al. 2013; Osborne and Brown 2011), leading to the emergence of the theoretical field of public service logic (PSL) over the last decade (see e.g. Engen et al. 2021; Eriksson et al. 2020; Grönroos 2019; Osborne and Strokosch 2021; Osborne et al. 2013; Voorberg et al. 2015). In PSL, the main role of public service organizations (PSOs) is to organize service offerings to improve or help the citizen's and the service-user's ability and involvement to make it better than before – to create 'value' – in their lifeworlds (Grönroos 2019, p. 780; Høibjerg 2021, p. 37; Osborne 2018, p. 228). In PSL, value is a dual concept, where the individual's value creation, the improvement, need to relate to the societal value, the greater good of society. However, societal (collective) value may not always be compatible, or even desirable, from the perspective of the individual. Where individual and societal value are seen to clash, societal value is prioritised in the public sector.

With PSL as a theoretical framework for studying service innovations, it is made clear that service innovation have to lead to an improvement for both the individual and society (Grönroos 2021; Kristensson et al. 2014; Skålén 2018). Service innovation is thus about the outcome of a development process, not how it was realised (Gustafsson et al. 2020). The services that the user encounters therefore have to be designed to make it easier for the user to experience improvement, i.e., to create their own value (Grönroos 2022; Skålen 2018; Lusch and Vargo 2014). In service innovation, the user's perspective is at the centre - an outside-in perspective. Kristensson et al. (2014, p. 16) provide the following definition of service innovation:

> Service innovation refers to the new value experienced by a user (i.e., customer, patient, user, client, et al.). A service innovation thus refers to a new, or improved, value-creation process where the user is a key co-creator. For example, this could be a solution that makes everyday life easier for someone.

If the change does not lead to improvement for the user, the change is not a service innovation (Skålén 2018; Grönroos 2021). At the same time, a public service innovation has to contribute to a societal value, such as meeting the policy intentions of laws and regulations or achieving the public sector's need for efficient resource use and frugality.

Another key concept in PSL, in addition to value, is resource integration, which highlights the need to co-create value with multiple stakeholders within a service eco-system (Petrescu 2019). By mobilising and integrating resources in the form of employees, knowledge, technology, motivation, etc., you can enable users to value create. While resource integration can be seen as an enabler, the resource integration does not organise itself but requires some form of coordinator (Eriksson 2019), which can take such roles as coordinator, project manager or innovation manager. These roles are typically leadership roles that lack the mandate and delegation power of a manager, which has inspired studies of how collective leadership can be created to motivate more stakeholders in the service ecosystem to take responsibility for ensuring that resource integration endures and takes root in different parts of the ecosystem (Becker 2019; Danielsson and Westrup 2022a). In order to be verified, the service innovation needs to be disseminated, used and embedded within the organizations so that the benefits of the innovation can be understood (Fuglsang 2010). However, only limited research regarding how to enable the sustainability of innovations in the public sector is available. Similarly, there is also a limited understanding of how public service innovations can move from generic models of value co-creation to being creatively developed for each specific value co-creation based on a user's individual needs and circumstances (Skålen 2022).

METHOD AND EMPIRICAL MATERIAL

This study originates from two years of research into (temporary) collaborative projects governed by a collaborative association, which is also a local form of a legally-established financial association that exists around Sweden. The projects involve value co-creation with service-users and municipal organizations (social services, education), regional organizations (healthcare), and two national organizations (Sweden’s social insurance agency and public employment service). The collaborative association is tasked with coordinating rehabilitation efforts so that individuals outside the labour market achieve or improve their ability to engage in gainful employment. The organizations involved are at different levels of society - national, regional and municipal - and in order to coordinate their specialist resources, financial collaborative associations can be formed in which the organizations are also involved as partners. The collaborative association opens doors for developing new coordinated rehabilitation measures through its activities with both managers in the member organizations and a board with representatives from the five organizations. The association creates projects that are led by a project manager whom they themselves fund (usually a full-time employee). As long as projects exist within the association, it appears as a single agency. In this way, the collaborative association becomes an enabler through the projects it creates and finances, and the problem of silos disappears. However, in general, the association has hardly succeeded in creating permanent change through its projects due to the fact that processes rarely take root and become sustainable after the project period.

The empirical material consists of focus group interviews, observations of meetings, interviews and documents. The research material collected for this report includes transcribed meetings (see table below) as well as a body of text consisting of newsletters, minutes, terms of reference and final reports.

Table 1: Table of research material included in this study

Level	#	Minutes per meeting	Date
Operational assignment-leader meetings	8	120 (total: 960)	05/11/20, 03/12/20, 21/01/21, 18/03/21, 20/04/21, 03/06/21, 06/16/21, 28/04/22
Association management meetings	8	120 (total: 960)	05/11/20, 03/12/20, 21/01/21, 18/03/21, 20/04/21, 03/06/21, 14/10/21, 06/12/21
Closing presentations	1	120	21/04/21
Network meetings (of the operational project manager and collaborating stakeholders)	5	60-120 (total 360)	01/10/21, 03/11/21, 10/08/21, 06/12/21, 01/12/21
Management meetings, managers' network	1	60	22/01/21
Board meeting	1	30	29/01/21
Focus group interviews with managers	2	120 (total 240)	11/02/22, 18/03/22
Interviews with board members	5	45-60 (total 240)	21/06/22, 22/06/22

The methodological starting point of the project has been an interactive research approach aiming to enable increased knowledge about service-innovation implementation that is shared between practitioners and researchers (Aagaard Nielsen and Svensson 2006). Traditional research methods were not considered sufficient to address the everyday complexity at the heart of implementing service innovation. Rather, our approach is based on practice-based research, where researchers and practitioners meet at the same level to share knowledge and generate new common knowledge. The project has thus departed from the traditional research approach, where researchers research about, rather than with, practitioners.

FINDINGS & TENTATIVE ANALYSIS

The following section consists of results from our research study in which we tentatively analyse, with the help of the theoretical concepts from PSL, what is essential for the collaborative association's new innovative processes to become sustainable value co-creation processes. We wish to highlight several factors that are challenging with regards to working with a service-innovation approach from a user-centred perspective. What do the collaborative organization presently fail to do, according to the PSL literature, to make temporary processes into sustainable value co-creation processes that can be considered service innovations? The following section is divided into two themes: (1) Take the user's perspective and (2) Launch collective leadership. Both themes emerge as challenges for the collaborative association's processes when turning temporary projects into sustainable value co-creation.

Take the user's perspective

The collaborative association starts its projects based on a needs analysis. This needs analysis involves the association's management examining the needs of the user, based on prioritised target groups. The analysis is based on a small number of individual interviews regarding their perception of welfare support. Next, an idea-generation exercise is carried out by a number of professionals in the organization. Together, the needs analysis and professional idea generation form the basis for writing project descriptions to support the board's decisions regarding prioritisation and funding of projects. These project descriptions establish what should be done early on and include tasks for the new project manager. In other words, the association finds it difficult to involve those whom it serves (users) early in the process, beyond answering interview questions, in order to build knowledge around them. There is a strong belief that ideas and knowledge come from experts. The experts are seen to own both the problem and the solution.

When the collaborative association works from a service-innovation approach, the intervention have to start from the user and strive to reach the user's everyday life through in-depth insights into their day-to-day behaviour and challenges (Grönroos 2021, Danielsson and Westrup 2022b). This involves overcoming superficial perceptions of user needs and simple problems between organization and user. One has to dig deeper to identify the processes that are really important for user value creation, by mobilising and integrating the resources of the parties involved (including people, skills and methods). One positive is that the collaborative association begins new assignments by obtaining information about the needs of the target group in the needs analysis, but this is not the same as gaining in-depth insight regarding the target group's/user's real situation. This involves adopting the perspective of the user and not, as is so common, starting from a 'user perspective', which is the employees' view of what a user needs. The association needs to let the user in as a stakeholder, at the same time deepening its knowledge of the user's needs to identify which processes are really important. Furthermore, the association needs to ask whether the new rehabilitation programme has contributed to value for the user. In other words, can the new collaborative rehabilitation intervention be considered a service innovation?

To advance, project managers ought to be able to operationalise the concepts of value, value creation and resource integration within their respective assignments. In this study, this has proved challenging and unfamiliar, but, after testing one concept, the project managers have gradually moved on to the next. To able to express the value to be achieved (the improvement in the user's life), the project manager has to understand and describe how the user thinks, feels and behaves, as well as how they create their development and change process.

> I'm sitting here thinking with horrified delight of the complexity of what should be simple and natural. I probably make it much too complicated for myself. What a wonderfully stimulating challenge you have given me!

This concept of value challenges the collaborative association in general, and project managers do not feel that the board, managers or their home organizations are requesting descriptions of value. This creates problems on several levels, as it can be argued that, from an outside-in perspective, there is no effective resource integration without value. The association should also broaden the concept of value to include both individual and societal value. Both the individual value, i.e., what becomes better for the individual, and the societal value, i.e., what becomes better in society, have to be identified, captured and achieved in order for a public-service innovation to be said to have been realised. One of the project managers describes the need to work with others as follows:

> I think if we start from the individual's needs, it will be easier to build this kind of team. Of course, we have different organizational goals and perspectives, but on some level that's not what this team is about, really. It is about the individual and the individual's needs and how we can work together to help the individual. By combining our resources. I think that if we have that perspective, it will be easier to form a team.

This can be done, for example, by developing a new rehabilitation process in practice and capturing how an individual feels their life has improved. This requires capturing generic knowledge and understanding of what created an improvement and translating this into an innovative framework for a specific rehab process, as Skålen (2022) pointed out. If this rehab process then can be developed so that many more people can be offered a similar innovative rehab process, it can be said to contribute to a societal value, as the welfare organizations better understand the process, even if it should be further developed and adapted to each individual's needs. This is also the case because effective rehab processes are considered part of the development of a well-functioning society. In this way, the effects of each new collaborative rehabilitation intervention can be clarified and highlighted in a broader perspective, increasing knowledge about how to improve individual experiences and contribute to the development of the welfare sector.

Launch collective leadership

The funding of projects backed by the association creates a resource (full or part-time employment) that allows for a more effective integration of resources. Paradoxically, there is a risk that the moment funding ends, the project is scaled down or the new working method is abandoned. If this intervention continues to require the collaboration of several different organizations, questions immediately arise as to who will continue to organise this implemented collaboration and make it sustainable. There is an imminent risk that the previous 'silo'-like organization of resources will re-emerge (Eriksson 2019). It is therefore necessary to clarify, during the assignment, what organization will adopt the new working method and intervention: to whom does the project manager hand over the coordination of the new innovative rehab process? It is hardly reasonable for the change process to go further down in a single organization when shared target groups are involved. The theoretical framework describes how, for innovations in the public service sector to be considered permanent, they ought to lead to an improvement for the user, contribute to society in the form of resource efficiency, and be verified by being used and disseminated in the organization (Fuglsang 2010). One of the project managers describes this problem as follows:

> It is not enough that there are project descriptions; there must be time as well. There must be an interest in monitoring to ensure that it works and how it works. Who receives you on the other side is another matter. We have had many such processes and they always work very well, as long as the process is ongoing. Then, when they are going to be integrated into the organization, it's mostly garbage altogether.

Such sustainability work cannot be left to the end of the project if you wish to create motivation and commitment for further development of the rehab process. In other words, the process is not considered fully developed just because the project period is over. In a user-oriented perspective, the generic knowledge that has been created, as well as the framework for the innovative rehab process, needs to be capable of constant development in terms of individual needs and conditions, which in turn favours the generic knowledge regarding creation of service offerings. Thus, the same motivation and commitment that existed during the project has to be permitted to continue if the process is to be further developed. What would happen if the project managers initiate meetings with other professionals and users early in the project in order to get closer to the individual's everyday challenges and life? Should this increase the creating an understanding of how the rehabilitation process needs to be developed? An advantage suggested by project managers is that of meeting other actors, including in the following terms:

> It is probably our role to run processes or assignments that create the right pre-conditions. ...It's also very much about seeing people. Do we even have the right forum where they can meet? ...Well, it's not like people from the schools and social services meet spontaneously, for example. Unless there is something specific, I mean. It doesn't have to be so complicated when it is discussed. I think that, in most of our assignments, it remains our responsibility to think in those terms.

According to Galbraith (2005), the project manager has two explicit main tasks: to become an advocate for the user, and to build and manage an infrastructure that puts the user at the centre. In a larger, joint knowledge-gathering exercise, project managers can be helped to visualise relevant stakeholders and their resources, while at the same time monitoring what has already been tested and developed for the corresponding target group.

This means that projects may benefit from being written without clarity regarding how to organise the process. This may permit the project manager to work with users and professional stakeholders to gain knowledge while recognising each other's resources. In other words, the emphasis could be shifted towards generating and disseminating knowledge together initially, and away from pouncing on solutions at an early stage by detailing a method. Working together with the different actors may present the key. Such knowledge sharing provides different conditions for creating motivation and mobilising commitment and collective responsibility at an early stage of the assignment for actors beyond the project manager (Becker 2019). To integrate resources sustainably implies creating the conditions for collective leadership, where different actors can take responsibility and further develop together and in their respective organizations (Danielsson and Westrup 2022a). Furthermore, launching collective leadership may lead to the creation of motivation and commitment from actors for future coordination. It is important here to highlight the creativity expected by staff working from an outside-in perspective, as they cannot rely on manuals, project descriptions or their own expertise, but should creatively and together with different actors to co-create solutions based on each individual's needs and life (Grönroos 2021). The potential for sustainability is likely to be found in increased knowledge development that better coordinates the efforts of different organizations.

CONCLUSIONS

This study is based on a collaborative association that has adopted a service-innovation approach to create more sustainable rehabilitation processes together with several welfare actors. Opportunities arise when this collaborative association act as a single agency, where traditional organizational silos blur when a temporary project is conducted within the association, but then reappear when project funding ceases.

First, broaden the concept of value to include both individual and societal value, ensuring organizational learning and creating employee motivation by clarifying contributions to the good of society. Second, initial knowledge-sharing in projects could contribute towards a collective leadership where different actors are identified and can gain motivation and commitment to drive the processes in their organizations. This ensures that innovation processes can take root both within and between participating organizations. Third, incorporate the user as a participating actor with its own resources, in order to ensuring that the user's needs goes deeper than superficial questions. Because it is only if the new rehab process has an impact on the user's value-creation that it is a service innovation. The tentative overall conclusion is that using an outside-in perspective visualise these three prerequisites when transforming collaborative projects into sustainable value co-creation in the welfare sector.

Finding new ways of enabling sustainable coordinated processes in our welfare services affects not only this study, but all forms of organizational collaboration in the public sector. Studying how complex welfare services become sustainable also entails knowledge, either in whole or in part, potentially becoming valid in many other contexts in public service sector. The ability to put the user-oriented approach before the organizational perspective enables different areas of specialization to jointly contribute towards the user's own value creation and societal value without competing logics, values, operational goals, etc. However, our study has its limitations in that it is only a brief study in a Swedish context, and thus further research is needed.

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An examination of online consumer roles in co-creating value: an insight into online gaming communities.

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Block (2008) argues that society has begun to be increasingly isolated within institutes, communities and various aspects of life. In the last 20 years, as consumers shift towards the age of isolation and anxiety, there is no doubt that technological advancements continue to innovate markets in order to "improve" lifestyles. Regardless, the irony remains that whilst the world would celebrate the ideals that a smaller and more connected world was emerging, communities were beginning to lose its emotional, psychological and spiritual meaning. In that respect, it is critical to understand better how these communities thrive under such an environment.

One example of these thriving communities is the phenomenon of "sharing" (Rose, 2011) which often "blurs the boundaries between public and private" lives (Agger, 2012). This sense of community creates values for the users through dialogue including aspects of how to help visitors to navigate online communities. Alternatively, communities also aids consumers on social groups that can provide persuasive insights on products or services they're interested in consuming and can have a real influence over consumptive behaviour (Chan et al., 2019). In essence, community members can choose to opt in and encourage co-creation activities. For example, Kozinets (2002) identified 4 critical roles: Tourists (non-committed), Minglers (acceptance), Devotees (invested but non committed), and Insiders (heavily invested).

This suggests that consumers increasingly work alongside each other within their communities to tailor their services to meet their own demands. It can then be argued that value co-creation can be risky and difficult to manage (Czarnota, 2018). There are many factors that can influence the interactions including knowledge and a thorough understanding of the socio-cultural forces underpinning it.

Several examples of such active communities exist in the world of gaming. Consumers can choose to participate with engagement rather than feel they must engage. This is often because the processes are "fun" and "game-like". Chou (2019) explains that when games stop being fun, users leave to explore other games or fun activities, and therefore gaming firms need to ensure that online experiences are maintained to encourage users to remain.

This research looks at how gamification uses social media platforms as a vehicle to facilitate this sharing phenomenon. It aims to answer gaps in the literature to better understand how consumer roles within the online gaming community manifests itself, and how this might lead to building a theoretical framework of value co-creation to positively shape brand communities.

The research employs a qualitative approach using netnography (Kozinets, 2002) underpinned by an ethnographical position. It will comprise an explorative, cross-sectional, covert, systematic, reflective and observational research (Allen, 2008; Lehner-Mear, 2019) through a period of 3 to 6 months. The research aims are to explore the natural behaviours consumers use to engage within the communities and clarify better the motivating factors behind their behavioural attitudes. The data will be collected via several gaming brand communities and the data will be analysed using thematic coding (Vaughn and Turner, 2015). The analysis will then be supported by self-reflective notes (fundamental to contextualisation) and observation.

The research will enable a better understanding of theoretical online value co-creation and the behavioural aspects of users. In terms of the practical implications, it proposes how firms can shift consumer cultures within their online brand communities to be more favourable towards their corporate objectives.

Supercharging the service innovation process with data-driven analytics: A case study with YouTube content creators

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Service innovation relies on service providers establishing new ways for customers to create value, and new technology has created new methods, such as data-driven innovation, for advancing service propositions. However, the value of data needs to be explored. This study explores how "YouTubers" use data-driven innovation to create content and track their progress in the platform to create content.

Traditionally the concepts of innovation and creativity are seen as separate but related. Creativity is according to Amabile (1988) the production of novel and useful ideas. Whereas innovation is the implementation of creative ideas. This means that an individual can be creative but not innovative, that is they lack the ability to implement their creation. A meta-analysis by Sarooghi et al. (2015) revealed that experienced individuals were more innovative than a team. The reason for this, may be that individuals do not suffer process losses, such as losses due to coordination, conflicts, or communication. The meta-analysis showed that innovation was stronger correlated to larger firms, and innovative processes than innovative products, where it is speculated if it is easier to come up with improved ways of working or producing, than new products (Sarooghi et al., 2015). Creativity is often viewed as a personality trait - being something we either have or not. However, studies on creativity repeatedly show that creativity is something that occurs as an action between the person and the environment, not only inside the person (Glaveanu et al., 2013). Thus, creativity is a relational action that occurs in interdependence with both internal and external factors. It should be noted that there are many different definitions or aspects of creativity, where creative achievements, that is observable and socially recognized accomplishments, is one of them (Lebuda et al., 2021). Other definitions regard individuals' own perception of themselves as creative (e.g., self-ratings), their creative abilities (e.g., divergent thinking) or creative activities (e.g., drawing). In this study creativity is assessed as self-ratings.

A famous example on how a creative process can look similar but result in very different implementations, or innovations, is that of Netflix's "House of Cards" versus Amazon Prime's "Alpha House", where the former resulted in an award-winning series with an IMDb- rating of 8.7/10 and the latter an IMDb-rating of 3.7/10 (to date). Both these series were written on the basis of data-driven innovation. However, where Netflix used vast viewer data from both series and films, Amazon Prime limited their viewer data to pilot episodes from eight competing contributions (Wernicke, 2015). Wernicke, who is a scholar in computational genetics, pinpoints two main steps for data-driven innovation: first, analyzing data and all its components, and second, drawing conclusions from it and implementing these. According to him, data is only good for the actual analysis, the conclusion needs to be drawn by an expert. Thus, data quality is of importance for the analysis but the innovative aspect of creativity needs a human brain.

YouTube is one of the first video sharing platforms for amateurs, and part of the Google cooperation where data is at the core of its services. At YouTube, all content creators are given access to YouTube Creator Studio, a platform in which they can monitor their content and performance. An essential part of Creator Studio is the Analytics section that provides top-of-the-line data and insights, for example number of subscribers, watch time per video, click-through rate, and much more, with the aim to support the content creators' ability to grow their channels and reach their goals. User data is an important tool for content creators to grow their channel, however, there is a knowledge gap on how the content creators use available data in order to create new content, if at all.

This study interviewed 14 content creators about their use of data for content creation. The interviews were semi-structured and analyzed according to inductive a thematic analysis.

The analysis suggests that Content Creators rely on certain types of data to learn about the performance of their content and that they have different approaches to their creative process. The result yielded four main themes of the participants' descriptions of how they use data to create new videos. The first theme, *Interpretation,* were descriptions of how they interpreted and used the available data. The second and third themes, *Imitation* and *Innovation,* describe two ways to approach the creative process as either adapting to trends and benchmarking, or being creative and innovative. The last theme, *The platform*, regards descriptions of what the participants would like to add to YouTube and YouTube Analytics.

Conclusively, the human mind and brain is what makes data matter. This study shows that data-driven innovation plays an important role in service development but that the knowledge of a service developer plays a perhaps even more important role in this development.

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Customer-centric approach of innovation measurement in B2B: a framework development

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ABSTRACT

Customers interact with firms using multiple touchpoints often in complex ways – thereby challenging service firms to create favourable experiences for each customer (Berry, Cabone and Haekel 2002). As an instance, nowadays, B2B industries dealing with the crises of supply chain, energy crisis as subsequent of heightened uncertainty, global challenges and demanding of customers and calamitous environmental events (Cankurtaran, & Beverland, 2020; Lievens, & Blažević, 2021). These challenges are more demanding for global firms that aim to deliver seamless service across multiple channels and across countries (Verhoef, Kannan & Inman 2015). In 'new normal' situation, industrial firms (e.g., B2B SMEs) have to survive and potentially emerge stronger in the market with more complex and customized solutions for customers (Goffin, Beznosov & Seiler, 2021) Therefore, the customer perception of industrial service innovativeness is of interest for several reasons. First, there has been much attention given to how innovation is measured in terms of the internal activities that occur within a firm (e.g., R&D expenditures, number of patents). Secondly, available innovation measurements and scales have focused on either how nations or large companies perceive their innovation activities. Global Innovation Index, Bloomberg, firm's introduction strategy (Boonea et al., 2001), pioneer status (Niedrich and Swain, 2003), market leadership (Kamins and Alpert, 2004) and perceived firm innovativeness (PFI) (Kunz, Schmitt, & Meyer, 2011) are some significant examples. This means that there is scarcity of research on how the customer perceives the outcome. Finally, from consumer-centric perspective, service innovation broadly includes all kinds of company efforts and vale -co-creation that are seen as unique from the competition and as meaningful to the end-users as consumers (Kurtmollaiev, Lervik-Olsen & Andreassen, 2022); Pilawa et al., 2022), while there is a knowledge gap on industrial service innovation. The research area of customer experience is placing effort in understanding how industrial organizations more effectively can meet and serve the needs of their customers. However, in B2B industries the suppliers do not have access to or interact with the end-user of their services, and therefore from a customer-centric point of view, the buyer (customer) value the innovation which is beneficial for their business. The contemporary innovation management literature is overriding output, manufacturing, and goods, oriented and there is a dearth of comprehensive studies that address how customers perceive innovation activities

in all forms of service business companies. According to the recent literature, business customers perceive inadequate value in cooperating with their globalised supplier in the innovation channel. To the extent that, customer may see a more positive value when the innovation is a productise while, when innovation is contemplated in more generic terms customers' perception of supplier's innovation is limited (Steiner & Brandhoff, 2020). Therefore, one of the important points on the industrial innovation dimensions concerns the use of appropriate indicators for its measurement. This study tries to answer these research questions: What types of efforts do B2B companies put into innovation and perceived by their customer? which innovation dimension can be measured using a model that starts out from the perception of customers? How Swedish business customers judge the feature of innovation through incremental level of service innovation? In other words, based on the proposed model we can evaluate how inputs (e.g., inputs illustrate the scope, context, and structure of innovation) generate outputs (innovation that or evaluate outcomes themselves) in different B2B service industries. This study conducts multimethod approach to cut through innovation complexity in the streams of extant B2B service innovation literature, presents a consolidated guide to the service innovation management in Swedish business firms and propose a conceptual model to demonstrate the incremental process of customer perception of service of innovation in three level of expected service solution, advanced service solution and competitive solution. Drawing on a concept-driven approach, we combined operation management, marketing and service innovation literature to sketch emerging areas and in-depth insights into the customer perception of firm innovativeness. To build on our model, the conceptual review complements by individual and group qualitative interviews with different B2B companies in Sweden. Finally, by the application of data scrapping, we conduct a thematic review and semantic network analysis on comments and perceptions of industrial companies about innovation in LinkedIn. We reflect our finding on the theory of order-qualifier and order-winner (Hill, 2000) in service innovation context and conceptualized innovation efforts of companies in an incremental order: 1) basic innovation, 2) quality innovation and 3) sustainable innovation. Basic innovation is suppliers' innovation effort in solving problem and called innovative problem solving from supplier's standpoint. Through these four dimensions of 1) cost saving resources, 2) time-saving resources, 3) improved learning skill or knowledge resources 4) core competencies, we demonstrate the conceptual model on how Swedish customer perceive the improvement in resource and competence densification in supplier's company. The synthesis of our findings demonstrates how different types of innovation features were categorized in to incremental level of innovation and different resource dimension to explain the incremental level of perceived firm innovativeness. This hybrid review provides a road map that enlightens the current state of innovation communication in B2B, prevailing topics, and pathways for further research. Prototyping the measurement conceptualization and criteria with customers to partner companies and by launching the Industrial Innovation framework, we propose a measurement model for innovativeness that hopefully can yield the same results as national quality indexes have done over the years. Therefore, a better understanding of how companies can improve their innovation activities can be gained and this goes beyond current state-of-the-art research. This study will develop several strategic marketing implications, including service design and service optimization in industrial marketing.

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Strategic Marketing in times of the Service Revolution

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ABSTRACT

Judging from the technological progress and its rapid implementation in service organizations, we believe that our economies are at the dawn of a digital service revolution similar to the industrial revolution in manufacturing that started in the late 18th century. This service revolution is mainly based on the advancement of digital information technology especially big data, mobile, and network technology, which enables enhanced personalization and deeper service relationships with a better cost structure (Rust and Huang 2014; Wirtz et al., 2022). In recent years the revolution is strongly driven by artificial intelligence (AI), digitization, and service robots that have the power to transform the service sector and bring unprecedented improvements in customer experience, service quality, and productivity all at the same time (Wirtz et al. 2018). With cost reductions expected to be competed away in market economies, this digital service revolution has the potential to dramatically increase our standard of living by industrializing and automating services such as banking, insurance, logistics, healthcare, and education (Bock, Wolter, and Ferrell 2020; Huang and Rust 2018; Wirtz 2018).

This article examines the implications of the service revolution and its intelligent automation (IA) of service for firms and their strategies. For this, we examine the prior industrial revolutions and identify common factors and patterns of them (e.g., technological disruption, changed business models, changes in society and work life, and external effects). Beyond that, we also discuss the service revolution's unique characteristics that separate it from prior revolutions.

Given this background, we propose several assumptions of the development of the ongoing service revolution. That is, we argue that customer-induced uncertainty in service operations will be reduced, and scalability will lead to an increased concentration of service markets.

Taking this development into account, we derive multiple implications for service firms and back them with business cases. We show that intelligent automation will result in many service offerings being industrialized and productized. This will lead to the development of low-cost, high-quality mass markets, and a 'hand crafted' luxury segment and personal-delivered front-line service will no longer be a differentiation factor for most firms.

Further, because much of the technology required for intelligent automation (e.g., chatbot solutions, digital agents, smart SSTs, and service robots) will not be produced in-house, this limits the possibility of differentiating on technology and solutions is limited. Thus, scaling, branding, and distribution will become more important.

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From Survival to Sustainability: A Post-Covid Analysis on Service Supply Chain Adaptability in Emerging Economies

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ABSTRACT

This paper explores the impact of the pandemic on business and lifestyle norms, with a focus on the service supply chain in emerging economies. The study investigates emerging consumer trends such as social distancing, hygiene, and remote consumption, and their implications for new service operation models. The resource-based view and transaction cost economics theories are employed to identify common factors among businesses adopting these new models. The study emphasizes the role of digital transformation in facilitating these shifts and analyzes how the pandemic may bring about permanent changes in service operations. The objective is to identify factors contributing to a new post-pandemic normal and provide recommendations for businesses to transition from survival modes to long-term sustainability. The paper combines theoretical insights with practical perspectives to demonstrate the real-life impact of the recommendations. The methodology section introduces a pilot study as the foundation for the research, ensuring its practical relevance during these challenging times.

The Role of Corporate Digital Responsibility in AI-enabled Service Design

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ABSTRACT

Artificial intelligence (AI) will revolutionize all service industries and has the potential to bring unprecedented improvements to customer experience, service quality, and productivity. The processing power afforded by AI allows for the integration and scaling of real-time tracking of consumer metrics such as emotion, sentiment (Thomaz et al. 2020), behavioural routines (Cukier 2021), and facial features (Quach et al. 2022). AI systems learn about user preferences and individual consumers can receive personalized, optimized solutions provided by AI-generated insights. Given the scale and power of these advantages provided by AI-based offerings, service firms often receive disproportionate benefits from AI applications in comparison to their consumers, and often at the expense of consumers (Mihale-Wilson et al. 2022). As such, benefits reaped for service organizations are increasingly being met with ethical and moral challenges.

The algorithmic bias which discriminates against consumer markets or underrepresents minority groups; the capture of facial recognition data through service robots without consumer consent; analytics that aggregate behavioral data erroneously to coerce consumers to purchase service packages they do not need. The list of potential downsides and risks that need to be mitigated, be them intended or not, is far-reaching. In meeting these challenges of AI usage, we advance the concept of Corporate Digital Responsibility (CDR), which involves the principles underpinning a service firm's ethical, fair, and protective use of data and technology when engaging with customers within their digital service ecosystem" (Wirtz et al. 2022).

From a CDR in services lens, it is understood that without interventions made by service firms in the design of AI-enabled systems, consumers will incur growing privacy, ethical and fairness risks as these AI systems become increasingly pervasive, powerful and complex in nature.

This research identifies four key considerations that are shown to impact the CDR practices of service firms when designing AI-enabled service offerings, namely: transparency, the degree of consumer choice and autonomy, ethical and fair treatment of consumers and the degree of human control. The paper explores each of these AI-design considerations in full and in doing so, identifies that not all service environments share the same types of CDR concerns. Certain types of AI-based CDR concerns are only specific to particular categories of service environments. In defining how CDR concerns manifest or are induced across different service environments, we specify three distinct categories of AI-based service contexts in relation to relevant CDR concerns namely; AI-Mediated Traditional Service Contexts, Fully AI-Mediated Service Contexts and Non-Consumer-Oriented AI- Service Contexts.These classifications and understandings offer context specific insights and support for why CDR must be a consideration for service organizations in guiding responsible practice in response to these ethical tensions identified through advance AI-adoption in service.

Engaging Citizens in Sustainable Energy Transition - A Design Science Research approach

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Purpose of the study:

Climate change is challenging societies all over the globe (Ryghaug et al., 2018). Although there has been a growing interest in cities towards sustainability (Choque et al., 2018), they still represent 75% of worldwide energy consumption (United Nations, 2019), which makes them one of the largest contributors to climate change (Snow et al., 2016). For that reason, cities should, by necessity, strive sustainability (Nitoslawski et al., 2019). European Union considers that citizens should have a central role in energy transition (Wahlund & Palm, 2022), where citizen engagement also becomes a key matter for sustainable energy transition (Massey et al., 2018). Even though some citizens are aware of the impact of globalization and personal consumption (Spaargaren & Oosterveer, 2010), a dramatic behavior change is needed to foster sustainability (Steg et al., 2015). Leveraging citizen engagement can help in such change (Fischer et al., 2012) since an informed citizen can become part of environmental protection (Pina et al., 2017) and shape the transition to a sustainable future (Preston et al., 2020). Although such relevance, engaging citizens has been recognized as challenging since each city context has its characteristics. Citizens are not all in the same stage since there are different levels of engagement within the community (Arnstein, 1969). On the other hand, multiple engagement initiatives can be implemented. However, decision-makers may not know the best way to engage citizens. For different contexts, different strategies should be considered, just as for different levels of engagement, different initiatives should be implemented.

Originality/Value:

Since there is no "silver bullet" to engage citizens, this work is based on Design Science Research to help cities to develop tailored citizen engagement strategies depending on their context. Such an approach is grounded in three main steps: 1) Understand the local context of citizen engagement; 2) Co-create strategies for citizen engagement; 3) Develop a citizen engagement plan.

Methodology:

The current study was conducted in eight different European cities where a smart city EU project is being undertaken. Qualitative studies grounded on semi-structured interviews were developed with the eight city municipalities for step one to understand the local reality. Regarding the second step, a set of three different workshops, with a total of 58 participants, were developed to co-create strategies for citizen engagement with citizens, stakeholders, and decision-makers. Based on the initiatives developed throughout the different workshops and with a deeper understanding of citizen engagement based on the interviews, a citizen engagement plan was developed.

Research implications:

The main goal of the current study is to enable cities with different engagement backgrounds within their community to develop a plan suited and adapted to its reality, priorities, and necessities.

Findings:

Grounded on the results from the three-step method, this study proposes a set of twelve engagement typologies to engage citizens in sustainable energy transition: public events; one-way communication; partnership with local stakeholders; energy office; financial incentives; apps; participatory platforms; demonstration labs; cocreation workshops; innovation budget; sustainable heroes; energy communities.

Interplay between Servitization and Platforms: a Longitudinal Case Study

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Abstract

- **Purpose of the study**

The objective of this study is to empirically investigate the roles of platforms in a manufacturer's servitization journey, aiming to answer two research questions. First, how does servitization evolve? Second, how do platforms affect the transition between the stages of servitization?

- **Methodology**

The authors conducted an in-depth case study of a Chinese manufacturer (i.e. Haier) using a longitudinal design. Haier started to implement servitization in 2011 and viewed servitization as a core business strategy to compete and gain competitive advantages. The company began to implement IoT-based smart home solutions in 2019 and launched the brand "Three-Winged Bird" in 2020. As highlighted by the Chairman of Haier, the platform is a "framework for the rapid organization of resources". Haier has invested a great deal in developing digital platforms (i.e. COSMOplat) that enable it to reach its business partners and combine and reconfigure resources in the extended SCs to support its servitization operations. Hence, Haier provides a typical and exemplary case with which to explore the evolution of servitization and the interplay between platforms and servitization.

Three rounds of data collection were conducted between 2014 and 2020. The authors carried out 50 semi-structured interviews and 11 workshops to collect data from senior and middle managers of Haier and its business partners.

- **Findings**

The authors found that Haier's servitization journey includes three stages (i.e. product-oriented solution, integrated solution and smart connected solutions) that evolve in the target of the services and the digital components of the solutions. Haier has also developed three types of platforms (i.e. service platform, supply chain platformand platform ecosystem) to support the implementation of servitization. The empirical evidence reveals that platforms can address the complexities that emerged when Haier implements the different stages of servitization as well as enable Haier to transition from one stage of servitization to the next.

- **Research limitations/ Implications**

This study provides guidelines for managers on how to advance their servitization and use a platform approach to support their servitization journey. First, we suggest that a manufacturer implement servitization by providing consumers with product-oriented solutions that include loosely coupled products and extended services associated with these products, integrated solutions that include a bundle of seamlessly combined products and services, or smart connected solutions that include multiple integrated solutions. Managers should be aware that advancing their servitization journey requires them to transformthe targets of their services from consumers to consumers and business partners and then to business partners, and extend the digital component embodied in the solutions from extended services to the connection of products and services and then to the connections of multiple integrated solutions. Second, we suggest that managers use a platform approach to implement servitization. Platforms should co-evolve with servitization. We suggest that a manufacturer build service platforms that connect functional departments with third-party service providers and consumers to support the delivery of product-oriented solutions. Such a manufacturer would need to build an SC platform that integrates different service platforms and connects SC partners, third-party service providers and consumers to support the delivery of integrated solutions. This manufacturer would also need to build a platform ecosystem that integrates industry-specific SC platforms and connects SC partners and third-party service providers in different industries and with consumers for the purpose of supporting the delivery of smart connected solutions.

This study has three main limitations. First, we conducted a longitudinal case study of a Chinese manufacturer. Future studies could generalize and validate the findings in other contexts. Confirmatory case studies and surveys could be conducted to test the results. Second, we focused on the impacts of platforms on servitization. The implementation of servitization could also be driven by the business and institutional environments, such as competitors'strategy, government policies and competition intensity. Future studies could investigate how environmental contexts influence the implementation and transition of servitization. Third, this study did not explicitly investigate the impacts of servitization on firms' operational and financial performance. Future studies could examine how different stages of servitization affect performance outcomes.

- **Originality/ value**

This study contributes to the servitization literature in two ways. First, it provides empirical evidence that a manufacturer's servitization journey includes three stages and that it can advance servitization by changing the target of the service from consumers to business partners and improving the digital components embodied in the solution.We also reveal that implementing servitization may enhance complexities in service provision, SCM and ecosystem management. The results thus enhance the current understanding of the stages of servitization

Second, this study provides empirical evidence on the interplay between platforms and servitization and how the platform approach enables the transition of servitization. We find that a platform needs to co-evolve with servitization by expanding its boundaries. Moreover, platforms not only support the implementation of servitization by addressing complexities but also enable the transition to the next stages of servitization. The findings thus provide insights into the mechanisms through which platforms drive the transition of servitization, which deepens the current understanding of the servitization transition process at the network level.

- **Keywords**

Servitization, Platform, Digitalization, Longitudinal case study

A Service Ecosystem Perspective of Supply Chain Management

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Abstract

This study explores how to transition to SC service ecosystems from traditional SCs by adopting a longitudinal case study approach. We identify two stages of the SC service ecosystem (i.e., a modular SC service ecosystem and a regenerative SC service ecosystem). We find that compared with a modular SC service ecosystem, a regenerative SC service ecosystem can address environmental challenges more collaboratively, adaptively and proactively by regenerating new SCs. We also identify that the platformization of SC functions is a key way to transition from a traditional SC to a modular SC service ecosystem and that the platformization for industries is a key way to transition from a modular SC service ecosystem to a regenerative SC service ecosystem. This study contributes to the service ecosystem and SC management literature by providing a holistic picture of the SC service ecosystem and deepening our understanding of trends in SC management.

Keywords – SC service ecosystem, Regenerative supply chain, Platform, Transitions

1. Introduction

Supply chains (SCs) are increasingly evolving into SC service ecosystems (Ketchen et al., 2014; Hofmann et al., 2019). SC service ecosystems not only help firms cope with uncertain and complex environments and increase SC resilience but also generate value that is larger than the combined value that each of the players could contribute individually or generate a value level that cannot be achieved by a firm and its immediate SC (Ketchen et al., 2014; Hofmann et al., 2019; Riquelme-Medina et al., 2022). For example, Zara usually needs two weeks to complete the process from the design to the delivery of clothes[1]. Shein has reduced this process to as little as three days[2]. Shein is enabled by an SC service ecosystem bringing together fabric clusters and contract factory clusters in China's Pearl River Delta region, which is also one of the country's most mature regions for light industry. Many fabric merchants and garment factories in the SC service ecosystem share common local business networks; they compete with each other in their existing markets while collaborating to share resources and codeveloping new technologies or new markets.

Although the term SC service ecosystem has received increasing attention in practice and many firms have achieved remarkable success by adopting SC service ecosystems, theoretical work on SC service ecosystems has lagged. SC service ecosystem research is still in its infancy, and the understanding of the SC service ecosystem in both the SC management

(SCM) literature and the service literature are scattered among different views and research domains, such as servitization and service-dominant logic (S-D logic) (e.g., Lusch, 2011; Mollenkopf et al., 2020), new product development and innovation (e.g., Wagner, 2021), and strategic sourcing (e.g., Ketchen et al., 2014). We know little about the characteristics of SC service ecosystems and how to transform a traditional SC into an SC service ecosystem.

The objective of this study is to empirically investigate how a traditional SC can be transformed into an SC service ecosystem. We conduct a longitudinal case study of a typical Chinese manufacturer that has gradually advanced its SCM from a traditional SC to an SC service ecosystem. Based on the case study, we develop an SC service ecosystem advancement model including two SC service ecosystem stages and two transitions to the stages. This model identifies features of each SC service ecosystem stage and transition and provides a contextualized and fine-grained understanding of how to carry out SCM activities in the service ecosystem era. This study, therefore, enhances the current understanding of the state of the art in SCM by empirically linking SC service ecosystem stages and answering the call for more research on the service ecosystem view in SCM (Wagner, 2021; Wong, 2021; Ferdows et al., 2022).

2. Literature review

2.1 The evolution of SCM

Enabled by disruptive technologies such as the Internet of Things (IoT), Industry 4.0, big data analytics, and artificial intelligence (AI), SCM is evolving at a faster pace than at any point in history (Vyas, 2016). After a phase of the explosive accumulation of phenomenon-driven research on the SCM transitions, two streams of literature have gradually formed. One is the digitalization of SCM(e.g., Calatayud et al., 2019). The other is related to servitization (e.g., Brax and Visintin, 2017; Resta et al., 2017). It is also notable that both streams emphasize service ecosystem thinking in relation to SCM. For instance, Hofmann et al. (2019) pointed out that as SCs become increasingly digitalized by adopting the Industry 4.0 approach, they will increasingly evolve into SC service ecosystems. Meanwhile, based on the S-D logic (Vargo and Lusch, 2004), some scholars argue that the traditional highly structured and rigid SCs are transforming into service ecosystems that are comprised of primarily weak ties for value cocreation (Lusch, 2011; Mollenkopf et al., 2020), and "SCM is moving into a 'super' role" (Lusch, 2011 p. 14). Therefore, the importance of S-D logic, industry 4.0 and service ecosystem thinking has been generally recognized in the SCM literature. Despite this, few SCM evolution models use an service ecosystem perspective to analyse the impacts of these trends on SCM. Scholars' understanding of how to conceptualize the SC service ecosystem as new evolutionary stages is still fragmented.

2.2 Ecosystem thinking in SCM

The term ecosystem is generally used to describe a setting within which members are interdependent, as the environment presents common adaptive challenges (O'Neill et al., 1986). A service ecosystem is a spontaneously sensing and responding spatial and temporal structure of largely loosely coupled value proposing social and economic actors interacting through institutions and technology, to: (1) coproduce service offerings, (2) exchange service offerings and (3) cocreate value (Lusch, 2011). The concept of service ecosystems in SCM settings is progressively essential yet under-researched (Wagner, 2021). SCM scholars have highlighted the importance and urgency of broadening the SC base for innovation and responding to environmental turbulence. For instance, Ferdows et al. (2022) illustrated how to use a platform to capitalize on the expertise and resources of an service ecosystem, respond quickly to disruptions, and achieve efficiencies in a wide range of activities. Mollenkopf et al. (2020) and Wong (2021) argued that the focus on SCM outcomes should shift from traditional economic performance towards social and environmental sustainability.

Despite this surge of interest, SC service ecosystems are still poorly understood, especially in terms of how to transform a traditional SC into an SC service ecosystem. Letaifa (2014) argued that the shift from SC logic (firm value creation) to ecosystem logic (ecosystemic value cocreation) can be difficult and challenging. Furthermore, it is also unclear whether and how an SC service ecosystem will evolve by itself.

3. Methodology

We use a longitudinal case study approach to explore the transition to SC service ecosystems. This method allows us to qualitatively capture the features of the continuous, dynamic, and complex process of the SCM evolution (Weigel and Hadwich, 2018).

3.1 Case selection

Given the principle of theoretical sampling (Yin, 2009), we selected Haier, a Chinese manufacturer, to conduct the case study. Haier had developed SC capabilities to produce high-quality products at a low cost during the 1990s. It adopted a multi-brand strategy during the 2000s to compete with world-class household brands such as Whirlpool, LG, and Electrolux. Then, around the 2010s, Haier explored the servitization strategy and established a service network to provide smart home solutions. In 2019, this company began exploring IoT-based smart home solutions and launched a solution brand ("Three-Winged Bird") a year later. Haier also commercialized its SC capabilities to provide services to business customers.

In addition, Haier has invested a lot of resources in developing digital platforms that enable it to reach its business partners and reconfigure the resources in its SC service ecosystems (Ferdows et al., 2022). Hence, Haier provides a typical and exemplary case with which to explore the evolution of SCM using an service ecosystem perspective.

3.2 Data collection

This study used semi-structured interviews and participant observation to collect data. The primary method was in-depth interviews with Haier's managers over the past seven years (2014–2020). The research team also conducted several semi-structured interviews with Haier's SC partners. Additional data were collected by participating in various workshops jointly organized by Haier. From 2014 to 2020, the research centre that the authors were affiliated with held several industry–research collaborative workshops on the topics of SC innovation, digital SCs, and transformation in SCM. In addition, essential secondary data such as third-party reports were also collected.

3. Data analysis

We first developed thick descriptions of Haier's SCM evolution. We then used a three-step process to code and analyse the data (Gioia et al., 2013). We started with a first-order analysis to identify how informants understood Haier's process of developing and advancing SC service ecosystems. The first-order analysis focused on labelling informant-centric terms and codes. Then, we focused on making theoretical interpretations of the first-order informant-centric concepts and developed researcher-centric themes and codes. After these iterations, theoretically similar first-order concepts were grouped, and second-order themes emerged. By conducting both the first- and second-order analyses, the research team achieved a better understanding of how Haier's SC service ecosystem evolved. Based on this understanding, the research team distilled the second-order themes into aggregate dimensions. The second-order themes and aggregate dimensions derived guided our model development.

4. Findings

4.1 Platformization of SC functions (2011-2016)

Haier started its servitization transformation in 2011. The vice president of Haier noted that *"We should change the air conditioning products into smart heating and cooling solutions, the refrigerator products into smart food refrigeration solutions…. Our value proposition is to give users a better lifestyle to choose from, not just a physical product*". To support this transformation, Haier adopted a platform approach to reframing its SC system. Zhang, Ruimin, the chairman of Hair, stated that the *"platform is a framework for rapid organization of resources".* We find that Haier's platformization of SC functions focused mainly on the following three aspects.

***(1) Developing platforms for SC functions*.** To attract and connect external resources, Haier changed each function of its SC (i.e., R&D, procurement, logistics, marketing, and after-sales service) into an open resource platform vertically inviting external partners to provide complementary products/services. For instance, Haier updated the R&D department into a technology exchange platform, which supports a variety of formal and informal interactions between external experts, pioneering users, and other stakeholders to solve a wide range of technology challenges. Haier also developed a platform for collecting user ideas and engaging in interactive design. Users can participate in the new product conception process and interact with solution designers. Following the same logic, Haier changed the procurement department into a procurement platform, the logistics department into a logistics platform, the after-sales department into a smart home service crowdsourcing platform.

(2) Connecting SC function platforms in parallel. To link customers with members of different SC functions and enable interactions among them, Haier transformed the resource exchange between different SC partners from an "upstream suppliers-company-downstream distributors" chain structure (a linear SC in which all information had to be conveyed via Haier) to a parallel-connected structure (a many-to-one SC structure). As a result, all participants in each SC function can be directly accountable to customers (a policy Haier describes as "zero distance to customers"). For instance, suppliers of the procurement platform are encouraged to consult with the interactive design platform to ascertain customers' potential needs, and third-party designers of the interactive design platform are encouraged to confer with the technology exchange platform to communicate with technical experts and jointly develop new industrial design solutions.

(3) Assigning leadership. Haier found that although its redesigned SC system enabled by digital platforms can bring together the right group of potential designers, suppliers, customers and experts to solve a problem, digital platforms alone are not enough to encourage this diverse group to initiate and maintain contact. Therefore, Haier redesigned its organizational structure, putting over 8,000 employees into approximately 2,000 microenterprises. These entrepreneurial units are responsible for interpreting user needs and selecting and coordinating internal and external resources to fulfil these needs and better serve Haier's customers. These microenterprises are subject to "market rules"—that is, they must find good ideas and projects and "sell" them to obtain the resources they need.

4.2 A modular SC service ecosystem (2016)

By 2016, Haier had established a modular SC service ecosystem and transformed itself into a smart home solution provider. Specifically, the SC ecosystem has a modular architecture with three interactive modules: *Cooperative Innovation and Design Module*, *Production*

Resources Integration Module, and *Delivery and Service Management Module*. Each consists of several submodules, which can be expanded incrementally and independently.

The "*Cooperative Innovation and Design Module*" enables experts, designers, and end users to collaborate in designing new products or components. It provides three functions: (1) connecting experts/technology providers and designers in solving technical problems, (2) connecting designers and end users in designing and developing new products, and (3) enabling entrepreneurial innovations by providing related resources. The "*Production Resources Integration Module*" facilitates procurement and coordinates the flow of orders and materials in the production of the final product. It provides three functions: (1) component/subassembly procurement, (2) final assembly manufacturing, and (3) development/procurement of software embedded in the final product. The "*Delivery and Service Management Module*" integrates different participants in distribution, logistics, and after-sales services. It provides two functions: (1) connecting third-party logistics providers (e.g., drivers and last mile service providers), retailers (online/offline stores), and Haier's consumers for product sales and distribution; and (2) connecting third-party service providers and end users during the product lifecycle to enhance user experience and provide user feedback to R&D.

The modular SC service ecosystem helps Haier manage internal and external resources quickly and flexibly and enables multiple parties to cocreate value and leverage innovation, transactions, production, and services at an service ecosystem level. For instance, our data indicate that Haier and ecosystem partners jointly provide sleeping air solutions according to the needs of specific users (older people, children or adults with different sleep preferences), creating a comfortable space that automatically monitors sleep health and actively adjusts sleep air. These air conditioning products combine hardware, software, sensors, data storage, and microprocessors and they can automatically remove dust to prevent the breeding of bacteria inside the air conditioner to ensure the safety of the air supply. These air conditioners can also "wash air". Once CO_2 or PM2.5 exceeds the standard, the air conditioner will automatically turn on the purification mode, and the whole house air can be purified in 15 minutes.

4.3 Platformization for industries (2017–2020)

At the end of 2016, Haier began a new round of SC transition, i.e., helping enterprises in other industries to platformize their SCs and connect these SCs together to form a cross-industry platform network. Haier found that IoT technologies were increasingly enabling smart home solutions to expand industry boundaries (e.g., the realization of the smart kitchen scenario requires not only smart appliances but also the integration of smart cooking and smart agriculture). Therefore, to provide “scenario-based” solutions jointly with partners from other industries, Haier once again reshaped its SCs to connect and integrate with partners in different industries. We find that Haier's platformization for industries focuses mainly on the following three aspects.

(1) Replicating the parallel-connected platform system to other industries**.** To connect to resources in other industries, Haier replicated the technical architecture and governance mechanism of its parallel-connected platform system to other industries and linked them with each other. What Haier needs to connect is not independent and dispersive external resources but the SCs of other industries. Therefore, Haier unified the structure of SCs of other industries through platform replication so that these cross-industry resources can be coordinated and integrated efficiently. As the director of Haier’s intelligent SC department indicated, *“After platform replication, these SCs(of different industries) will have ‘a common language’ or ‘the same genes’”.* By the end of 2020, Haier had helped companies in over 20 industries, including ceramics, mobile homes, clothing, and agriculture, platformize their SCs.

(2) Changing the structure from many-to-one to many-to-many*.* In this cross-industry platform network, Haier focused on creating a many-to-many structure. We find that the modular SC ecosystem was essentially a many-to-one network, i.e., the supply side consists of a number of loosely coupled participants that collaborate to support the realization of smart home value propositions, while the demand side includes only Haier. With such a many-to-one structure, no partner other than Haier can absorb the excess capacity or slack resources produced by the SC service ecosystem. Therefore, in this round of SC transition, Haier emphasized a many-to-many network structure, i.e., the demand side is not limited to Haier and the home appliance industry but users and enterprises of many other industries. For example, when an enterprise in the clothing industry needs to develop new fashion solutions, the third party that serves Haier can also serve the clothing enterprise.

(3) Devolving leadership**.** Haier no longer plays a dominant role in coordinating, managing or controlling the SC service ecosystem. Instead, suppliers and other partners are the ones initiating cooperation, and as such, there is no rigid, hierarchical structure. Every partner acts independently and uses the cross-industry platform network for generating ideas and obtaining guidance. Although Haier owns and operates the cross-industry platform network, it does not control the interactions among the partners, who have considerable freedom to self-initiate and self-drive their projects. Companies can join the network after a simple registration process, but their credentials are informally assessed by the other members of the network.

4.4 A regenerative SC service ecosystem (2020)

Haier had established a regenerative SC service ecosystem and linked SCs across multiple industries to provide cross-industry "scenario-based" integrated solutions. For instance, by connecting home water supply systems and electric appliances, such as water purifiers, water heaters, bath crocks, flush toilets, and even home plant irrigation systems, Haier and more than 300 companies from 11 industries jointly provide smart water solutions covering 7 scenarios, such as cooking, bathing, toiletry, toilets, daily chemicals, drinking water and heating.

Our data indicate that the regenerative SC ecosystem links members that are active in different roles and tiers in the SCs of different industries. Members can initiate collaborations, identify support, find the right partners, and form value cocreation solutions in a self-driven manner. For instance, when the supply changes, such as in the SC disruption due to the COVID-19 pandemic, members can find alternative suppliers in the ecosystem. When the demand changes, members can also reorganize resources through this ecosystem to shift production. In addition, some "new species" can be developed and produced quickly as a result. For instance, during the first half of 2020, several members, including one furniture manufacturer, three building materials suppliers, and some equipment providers for fresh-air and sterilization systems, jointly developed a mobile isolation ward for COVID-19 patients.

Our data also show that in the SC regeneration process, members of the regenerative SC ecosystem are becoming increasingly self-motivated. For instance, Compaks, an assembler of mobile homes for international brands, was originally a customer of Haier air conditioning. Later, Haier redesigned the home appliances in the mobile home scenario in collaboration with Compaks, which helped Compaks upgrade its SC system. Compaks also actively participated in the SC resource reconfiguration initiatives proposed by other members. In the "mobile isolation ward" project, for example, Compaks acted as a hardware supplier. Based on its knowledge of the mobile home industry, Compaks acted as an initiator and an integrator of a new SC for developing and producing walkthrough screening devices in response to the COVID-19 pandemic.

5. An SC service ecosystem evolution model

5.1 The two stages of an SC service ecosystem

The modular SC service ecosystem is an initial stage of an SC service ecosystem in which members are attached to the focal firm as modules and are organized and deployed by the focal firm to jointly form a competitive SC system. Our findings show that the roles of participants are fixed, and the relationship in the service ecosystem is stable; i.e., there is only one integrator in the ecosystem, and the other participants play only a passive role in assisting with the development and delivery of Haier's smart home solutions. The performance of the

SC ecosystem also depends largely on Haier. The regenerative SC service ecosystem is an advanced stage of an SC service ecosystem, which can regenerate extended SCs in addition to existing SCs as conditions change or as new opportunities arise. Ecosystem members can dynamically form different SC relationships in a self-driving manner according to their demand and supply.

The regenerative SC service ecosystem differs from the modular SC service ecosystem in terms of ecosystem structure, scope, relationship, and performance measure. First, the regenerative SC service ecosystem exhibits a self-driving and decentralized approach to organizing and managing ecosystem resources. Members with different resources and capabilities can form different SC relationships and network configurations according to their own needs to respond to new market opportunities or challenges (Ferdows et al., 2022). Second, the relationship among members of the regenerative SC ecosystem is dynamic. Ecosystem members may play multiple roles in different newly regenerated SCs; that is, they may play the role of the customer in one SC, the role of the supplier in the other SC, and the role of initiator and co-integrator in yet another newly regenerated SC. Third, the regenerative SC ecosystem expands across multiple industries. The scope of collaboration is not limited to the SC network of Haier and the home appliance industry but extends to the cross-industry where loosely coupled companies can form “a larger macrostructure that can be more fluid, agile and adaptable” (Lusch, 2011, p.15). Fourth, in the regenerative SC service ecosystem, members can form an SC quickly to address a common issue, which can relate to economic, social and/or environmental performance (Neumann et al., 2011). Thus, the regenerative SC service ecosystem allows members to collectively address environmental and social challenges, such as social well-being enhancement, and energy consumption reduction, and focus on sustainable development.

5.2 Two transitions for advancing the SC ecosystem

This study also finds that platformization of SC functions and platformization for industries drive the advancement of the SC service ecosystem. These two transitions reveal that key enablers of SC service ecosystem evolution include platform application, SC structure redesign, and SC leadership transfer.

First, we find that the platform approach plays an important role in deconstructing SCs and forming new SCs. Most of the existing studies related to both platforms and ecosystems tend to treat the “platform ecosystem” as a whole, such as that of Apple and Google (Gawer and Cusumano, 2014). However, by adopting an SCM evolution perspective, our research clarifies the role of the platform in the evolution of an SC service ecosystem. We argue that different types of platformization drive SC service ecosystems towards different stages.

Second, we find that the transitions involve SC structure redesign. Specifically, the platformization of SC functions can achieve a many-to-one structure, while the platformization for industries can achieve a many-to-may structure. SCM scholars have recognized that value is not added gradually and sequentially, i.e., value chain logic, but is (re)invented by means of reconfiguring the roles and relationships of network actors (e.g., Corsaro et al., 2012; Field et al., 2018; Gummesson, 2004; 2008; Best et al., 2018). However, there is limited evidence on how to stimulate the reconfiguration of the roles of and relationships among network actors. Our findings show that a many-to-many network structure in which the resources of multiple suppliers can be shared with multiple customers is a precondition for stimulating actors' dynamic SC roles to form different network configurations.

Third, our case findings indicate that the transfer of SC leadership is also an enabler for SC ecosystem evolution and it encourages members to self-initiate and self-direct to form teams. E-commerce platforms such as Amazon and Alibaba ultimately do not depend on human intervention to be effective because buyers and sellers on these platforms have well-defined roles and engage in simple, standardized transactions (Gawer, 2009; Ferdows et al., 2022). However, our case study shows that an SC service ecosystem, even enabled by digital platforms, depends on human interaction. Dealing with unforeseen disruptions in multitier SCs and identifying and seizing opportunities require the exchange of implicit and tacit knowledge, often through an iterative process among partners over some time. O'Mahony and Karp (2022) argued that distributed leadership emerged only once the ecosystem is collectively governed. Only by devolving leadership can distributed leadership be stimulated, and participants are encouraged to act as resource integrators to exchange tacit knowledge. The SC ecosystem evolution model is presented in Figure 1.

Figure 1 An SC service ecosystem evolution model

6. Implications

Our study makes two theoretical contributions. First, the study proposes an SC service ecosystem evolution model. The model identifies two stages of an SC ecosystem's advancement and the two transition processes that can lead to these stages. It thus enhances the theoretical foundations of SC servoce ecosystem research (Mollenkopf et al., 2020; Wong, 2021; Wagner, 2021). Second, this study identifies the "regenerative SC service ecosystem". We argue that the essence of a regenerative SC ecosystem entails proactively addressing market challenges and uncertainties by continuously regenerating SCs and emerging "new species". This study has significant practical implications. This study will help managers understand why and how engagement in SC service ecosystems can enable companies to cope with market uncertainties and challenges. This study will also help companies refine their ecosystem strategy and offer ways to develop modular and regenerative SC service ecosystems.

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