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Examined by: Su Mi Dahlgard-Park

Supervised by: Anette Svingstedt



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The Value of Experience: Virtual Reality as a Form of Barrier-Free Tourism

By

Laudicéia da Silva Åkesson

Tanvir Ahmed

Campus Helsingborg

Lund University

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Abstract: Virtual reality (VR) has dominated technology headlines in recent years with its ability to immerse users in a virtual world. This technology is changing the tourism industry dramatically. Previously, VR has been used mainly as a marketing tool to promote services and tourist destinations. But nowadays, VR is almost an essential technology, used in many tourism organizations to provide customized services and add value to tourism experiences. VR enables people to travel and visit the most remote areas on the planet from the comfort of their homes. There is an indication that VR contributes to creating a more resilient tourism model. Therefore, this study aims to investigate how value is perceived in VR travel and how the perceived value can promote barrier-free tourism. This paper contributes to the existent literature on consumer value theory in virtual reality experience. Although, several existing literatures focuses on how VR creates an innovative way of tourism, very few academic studies analyze the customer perceived value during the virtual travel experience.

Research questions:

RQ 1. How is value perceived in VR travel?

RQ 2: How does the VR experience promote barrier-free tourism?

Methodology: This research project was carried out as a qualitative study. To collect data, 16 semi-structured interviews were conducted to investigate participants' perceived Value in VR travel experience and promotion of barrier-free tourism through perceived value in this setting. Participants had the experience in a VR headset later on describe their opinions and perspectives.

Results: Virtual reality travel may never replace traditional travel because travelers cannot experience real sensations like smell, taste, and touch in a VR setting. However, VR technology has shown enough potential in contributing to overcoming some existing travel barriers on a smaller scale. Sometimes traditional travel is not possible due to economic, geopolitical, physical, and psychological barriers. Consequently, it is important to perceive Value in VR travel, which promotes barrier-free tourism. Therefore, this study suggests that virtual travel allows users to perceive many value types, specifically: efficiency, excellence, aesthetics, play, ethics, and status value. This result contributes to the consumer value theory to understand consumer behavior better in a VR setting.

Keywords: Virtual Reality, Barrier-free tourism, value, and Consumer Behavior

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Chapter 1: Introduction

The tourism industry is constantly innovating to adapt online-based products and services to satisfy consumer demand. Multidimensional use of technologies and internet-based services enabled airlines, hotels, restaurants, and museums to cater to the needs of 21st-century travelers. According to Nunez San Juan (2017), the internet and virtual reality became a widely known phenomenon that has grown more popular and dominated the tourism sector. As a result, Virtual Reality (VR) has become a vital tool in the tourism sector, especially establishing marketing strategy for tourism stakeholders. Perry Hobson and Williams (1995) discuss that the use of VR to promote tourism destinations is a revolution because it significantly improves the communication between the service provider and customer.

According to Cheong (1995), the tourism industry was one of the most beneficial sectors to adopt VR technology. Areas such as marketing, planning, accessibility, and management are some of the Virtual Reality already proved to be a valuable tool(Guttentag, 2010). For example, in marketing, VR revolutionized the way tourism promotes and sells the destination. Renowned tour operator Thomas Cook Group used VR as a marketing tool to attract more customers and sell touristic destinations. When choosing a destination, the company provides a taste of travel, allowing users to try a headset VR to visit the Egyptian pyramids, take a helicopter tour in Manhattan, or even enjoy a view trip on Rhodes Island. After a few months of the campaign, the company's revenue was boosted by 190 percent (Parker, 2015). Planning and managing a trip are also easier now, since both travelers and tourism stakeholders are accustomed to this technology as a promotional tool where customers can have a better idea about the destination beforehand. As Pestek and Sarvan (2020) discuss, travelers have more interactive information in an online setting during the decision making stage of hotel room booking or finding a more convenient restaurant. According to Mohamed and Naby (2017), VR shows to possess a unique testing capacity. This richer interactive information allows the user to immerse in the realm of VR, which directly affects the customer's purchase decision. As a result, customers can receive more personalized products, resulting in more satisfaction with their purchases. Barnes (2016) explains that there is a hotel like the Chain Marriot, where customers can visit the hotel facilities in a virtual tour before choosing the fitting room. The result of the VR experience seems to make customers more satisfied with their final decision.

Scholars such as (Disztinger, Schlögl, & Groth, 2017; Heldal 2007) discuss that the more tourism industry becomes digitalized, the more changes in consumer behavior will be visible. Travelers no longer seek to buy an ordinary service. Instead, consumers seek specific features in services which bring experience and value beforehand (Prebensen, Chen, & Uysal, 2014). Virtual reality directly affects consumer behavior by adding value to the experiences. Thus, virtual reality contributes to customers' learning and personalized service; travelers can immerse themselves in a virtual world and experience "try before buy" before deciding to purchase a service (Cheong, 1995).

In this digital era, scholars claim that Virtual reality is already part of the tourism industry And it is expected that VR will be even more common to complement tourism services and products in the future. This brings debate among scholars to discuss if Virtual Reality will be a substitute for traditional travel (Disztinger et al., 2017; Pantano & Corvello, 2014; Schiopu, Hornoiu, Padurean, & Nica, 2021). Scholars claim that VR is an excellent alternative to traveling. The technology is popular because it allows users to enjoy a different world without moving out from the comfort of their home(Vishwakarma, Mukherjee, & Datta, 2020; Williams & Hobson, 1995). Moreover, there are almost unlimited virtual experience accessible to customers. According to Kang (2020), this alternative way to travel is convenient and generates better economic benefits. Although, scholars such as Gössling, Scott, & Hall (2020) and Schiopu et al. (2021) promote the idea that VR is a great tool for creating a new travel model offering alternative barrier-free tourism. They never proposed VR as a replacement of traditional form of physical traveling. In addition, according to Guttentag (2010) there is no evidence that VR will replace traditional physical travel in near future, as to completely mimic the sensory feeling of the real world is almost impossible.

Several existing literatures outlines valuable insights about adopting VR technologies contribution to promote barrier free movement. An example of that is how VR can bring the possibility for elderly people to travel (Srifar, 2018). In addition, VR is shown to give some kind of satisfaction to those who cannot travel due to physical disability (Williams & Hobson, 1995) or bring benefits to travelers who suffer from psychological stress and anxiety (O. Lee & Oh, 2007).In addition, Ford (2001) also claims that VR can be a solution for physically challenged people to overcome the barriers to access touristic heritage.

1.1 Research Problematization

As Virtual reality becomes a more mainstream technology in the tourism sector, it is important to understand how this technology impacts their lives from the consumer's perspective. While there are plenty of literatures focusing on the impact VR has on the tourism sector. For example, how VR has been used in marketing (Barnes, 2016; Nunez San Juan, 2017), travel planning and management (Disztinger et al., 2017), and the consequences on the tourism destination (Ab Aziz & Siang, 2014; Kang, 2020; Pestek & Sarvan, 2020). Nevertheless, there is a considerable gap in academic studies analyzing how the development of immersive interactions through Virtual Reality experience adds value to consumers experiencing tourism. Therefore, investigating how consumers' behavior is affected during VR travel experiences leads to a better understanding of their experience and the value they attribute to them. In addition, exploring the role of perceived value in VR contributes to promoting barrier-free tourism.

The sciences behind consumer behavior theories are especially important for marketing because they investigate how people decide to purchase (Holbrook, 1999). The intention of investigating this factor is to understand how consumers choose, use, and dispose of products and services (Gallarza, Gil-Saura, & Holbrook, 2011). On the other hand, the term Value is also a concept well studied and linked to consumer behavior. According to Vespestad, Lindberg, and Mossberg (2019), the term is related to evaluating a product or service based on the perception of what a consumer received and is given. Scholars seem to agree that Value does not exist in the product or service consumed but rather ingrained in the experience itself (Prebensen et al., 2014). Therefore, the study of adding and creating value in online services to gain customer satisfaction has created significant interest for service-based business stakeholders (Flint, Woodruff, & Gardial, 2002). Understanding how consumers perceive value during virtual reality in tourism is significantly essential due to its linkage to customer satisfaction and loyalty (Parasuraman & Grewal, 2000). The purchase intention changes depending on the consumer's perceived value and ability to achieve its desired functionality (Morar, 2013). Considering this, the authors have chosen to investigate customer behavior on the perception of value in virtual travel that can be attributed to barrier-free tourism experience.

1.2 Research Aim and Research Questions:

This study intends to investigate how the consumer value theory developed by (Holbrook, 1999) supports identifying value during a VR travel experience. Specifically, how consumers perceive Value as a form of barrier-free tourism. Therefore, the following research questions have been formulated:

RQ 1: How is value perceived in VR travel?

RQ 2: How does the VR experience promote barrier-free tourism?

This study supports the existing literatures on consumer value theory focusing on the perception of virtual reality for tourism purposes. The consumer value theory is deeply developed in marketing and service management but focuses less on the value perception used in VR travel experience. By doing so, this research describes how virtual reality experience can promote alternative barrier-free tourism. Thus, Virtual reality is slowly but surely creating a position as a tool to reduce the limitation of travel in our society (Gössling et al., 2020) and contributing to design a more resilient tourism model(Schiopu et al., 2021).

1.3 Thesis Structure

Following the present introduction, this paper first introduced chapter 2, the existing research on virtual reality background, pointing primarily to how this technology has been used in different fields such as military, education, medicine, and the tourism industry. Next, it will discuss aspects of the technology impact on the tourism sector and what scholars believe VR will bring to the future. Then in chapter 3, the researchers will present the theoretical framework of the consumer value theory with eight typologies of value developed by (Holbrook, 1999). The following chapter 4, the investigation methodology will be introduced. This section will explain the investigative steps taken by authors this study including the research design, the semi-structured interview, and how the authors collected the data. Here, the authors will also discuss the interview setting and the ethical considerations. Finally, in chapter 5, the results of the semi-structured interviews are presented, summarized, and interpreted. And the research question will be answered and discussed according to the findings.

Chapter 2: Theoretical Background

This chapter first presents the background of virtual reality and describes how this technology is playing an essential role in the tourism industry. Then, this section will provide explanatory information on virtual reality, especially how this technology is innovating the way the destination management organizations (DMOS) approach marketing, planning, and managing tourism services. The next chapter will then introduce the literature review on value consumer behaviour theory; this theoretical framework will be later used to analyse and answer the aim of this paper.

2.1 Terminology: Virtual Reality

Although it is unclear when the term first appeared in literature, Lanier (1992), an American philosopher, appears to be the first scholar to develop the terminology in academia. Mohamed and Naby (2017) explain that the term ‘Virtual Reality’ has been important in studies of e-servicescape, especially in the game’s community, for years. Even so, the term by Lanier is well accepted in the literature. He is considered the pioneer in virtual reality because, in 1985, he became a partner in first company to sell VR glasses and gloves to the public. Lanier described virtual reality as using computerized technology to create a relationship between a physical world and our sensory organs. Cruz-Neira (1993) also points out that the term VR can always be connected by referring to a multi-sensorial experience. Specially, when users can interact and immerse themselves in 3D images through a screen. Furthermore, Mazuryk and Gervautz (1996) argue that the term can appear in various forms of definitions. But in a nutshell, Virtual Reality can be defined as an interactive and immersive space created for users to access a simulation of the real world.

2.2 A Brief History of Virtual Reality

It is unclear when VR technology was created. Still, sometime in the 1950s, Sutherland (1965) introduced the first idea of simulating the real world through a screen. His goal was to create a virtual space to appear real, sound real, feel real, and respond realistically to the viewer's movements. Sutherland's idea was just the beginning to push future researchers to develop and experiment with virtual reality technology in different fields. Those have been predominantly used in military, education, games, film etc. Nevertheless, in this segment of thesis, we will mention some of the crucial highlights.

Morton Heilig (1962) created the first type of multimedia device in the form of an interactive theatre experience named "Sensorama Simulator." It was one of the first multi-sensory simulators. The machine projected sounds, smells, air through a fan to blow air, a motion chair, and images in 3D. Morton planned to create a different way for theatre spectators to watch a function using their five senses (hearing, smell, sight, touch, and taste). For example, the users could sit on a rotating chair in the room, which enabled them to face a screen while a machine displayed a short film in 3D images in a wide-angle view. In that way, the chair offered the spectator to have the body tilting while they could hear the stereo sound, aromas could be smelled, and wind could be felt from a fan blowing air towards the user's direction. Later on, Ivan Sutherland (1965) and one of his students, Bob Sproull, invented the first VR head-mounted display (HMD) system in 1965 (Mazuryk & Gervautz, 1996). This device gave its users the ability to adjust the view inside a simulated 3D environment which was revolutionary in that era. This invention was a significant jump on the development in the history of VR gadget. However, the device's main challenge was that its weight was so heavy that it had to be suspended in the ceiling.

Another important field that developed the technology VR was military projects. For example, in 1984, The National Aeronautics and Space Administration (NASA) launched the Virtual Visual Environment Display (VIVED). This technology used VR as a simulator to train astronauts to be ready to perform well in zero gravity (Fisher, 2001). Moreover, the US Air Force introduced the first advanced flight simulator in 1982. The Visually Coupled Airborne Systems Simulator (VCASS) is a system that allows pilots to train to fly and control in diverse sensitive situations (Furness, Fischer, Purdy, & Beach, 1992).

During the 80s, the company VPL research was the first to produce accessible VR devices for the public. In 1985, they launched DATEGLOVE (an electronic glove to interact with humans' hands and computers). Then in 1988, EyePhone HMD, and in 1989 the DATASUIT (a full-body suit with a sensor) was developed for users to interact with computers using the movement of legs, arms, and trunk. However, virtual reality devices were not accessible to the public. The reason was that the device was too costly to be popular. Later, around 1991, scientists at the University of Illinois in Chicago created the automatic virtual environment titled CAVE. It was a big step in the development of VR. From a simple darkroom, that used various projectors to display images on the wall, the user now could walk on a platform and wear special glasses to see and touch images in 3d floating on air (Bryson & Levit, 1992).

A few decades later, especially during the 2000s, the development of VR proliferated. Vincent (2007) claims that the establishment and flourishing of Google helped this technology to advance exponentially. In 2017, Google launched Street View. Back then, most people started to get used to exploring the world using the software to see 360-degree images. In addition, during this period, various companies invest more in headset devices. For example, Facebook launched a campaign with almost 2.5 million dollars to develop and fund the famous prototype headset “Oculus Rift” (Luckey, 2009). Since then, the VR headset started to become more affordable and accessible to the mass public.

2.3 Application and Implication of VR In Tourism Industry

Virtual tourism and Virtual reality have many different forms and present themselves in diverse degrees of technological capacity. There are many virtual reality applications available in the market. For instance (Mazuryk & Gervautz, 1996) have already discussed that researchers developed VR applications to visit important Cathedrals like St. Peter Basilica in the Vatican which can be used by tourists who visit sacred places without going physically. Moreover, Nunez San Juan (2017) discusses that the possibilities for VR technology in tourism are almost unlimited. There are applications that allow walking in national parks, watching animal safaris, exploring hotel facilities, etc. Furthermore, VR simulator entertainment systems have become a standard amenity in theme parks, such as Dreamworld or even Cyber Speedway in Las Vegas (Pestek & Sarvan, 2020). It is already possible to access hundreds of tourism experiences using virtual reality. All that is needed is a connection to the internet and a device designed to make someone feel more immersed in the environment (Kim Lian Chan, 2009).

The idea exists that VR can only be viewed on a VR headset (Perry Hobson & Williams, 1995), but this is far from reality. In fact, Guttentag (2010) argues that different software takes you to experience any type of virtual experience. Some include phones, tv, computers, interactive gloves, or videos launched on platforms such as YouTube, Instagram, Facebook, and many more.

As VR technology continues to develop, Guttentag (2010) believes that the future of the tourism industry will increase in the number of applications and digital devices. It is expected that travellers and tourist consumers will continue adapting to become more familiar with VR technology. These findings support the idea that VR can bring immersive value to tourism and

elevate the tourism experience. Moreover, according to Srifar (2018), developing VR applications can be a valuable alternative to increase the possibilities of expanding tourism activities online and redefining the e-servicescape for tourism stakeholders. For example, VR technologies is greatly helpful for people with disabilities, older adults, and blue-collar workers with limited money and time for leisure. Although, VR can't fully substitute traditional form of traveling, VR will allow people who have some obstacles or barriers to travel physically to experience the world from their home. Furthermore, Schioppa et al. (2021) point out that VR is a valuable tool to physically reduce the need for travel which will positively impact the reduction of CO₂ emissions in the air and promote sustainable tourism.

2.3.1 A Common Device for Virtual Travel

The way we live, work, and consume products and services has changed dramatically throughout the past half-century. However, Pestek and Sarvan (2020) discuss that the more digitized we become, the more VR technologies will evolve and be available to the public. Moreover, new VR applications and devices appear on the market almost every day. There are so many choices, from more sophisticated to those covering simple spectators for all tastes and prices (Nayyar, Mahapatra, Le, & Suseendran, 2018). Although the market offers a wide range of devices, the authors decided to focus on the VR head-mounted display to analyse this study. According to (Nayyar et al., 2018), an important feature of enjoying virtual travel is to choose a flexible and comfortable headset. As Schioppa et al. (2021) suggest, VR head-mounted display (HMD) is a common gadget because it provides a realistic virtual travel experience. Thus, VR devices are getting more accessible, and giant companies such as Google and Facebook are investing in creating their own VR devices. The result is a significant reduction in the cost, and consumers have more access to purchase VR devices (Vishwakarma et al., 2020). Another reason for this gadget being so popular is that the device gives freedom to the user who moves their head to watch 360° images. So, this movement can be tracked and give the users a similar experience as they would have in real life.

For instance, Oculus is a Facebook brand that produces different versions of Headset VR (oculus rift, go, and Samsung Gear VR). Those are in the top list of best VR glasses competing with SONY, HTC, and Valve. All of them provide access to many applications where travellers can immerse themselves in a virtual environment to visit museums, and art galleries, buy a

guided tour in Dubai, Rio de Janeiro, or scuba diving into the Atlantic Ocean in an interactive way (Beimler, Bruder, & Steinicke, 2013).

2.3.2 Using VR In Marketing and Promotion

Virtual reality has been part of the travel and tourism industry for quite a while. The use of VR technology is one of the principal keys to destination management Organizations (DMOs), tour operators, and tourism attractions. According to Guttentag (2010), this technology has been used mainly as a marketing tool to improve and promote tourism destinations.

Not long ago, promoting a tourism destination was mainly through brochures, magazines, and guidebooks. Although Berger et al. (2007) argue that this traditional way of advertising tourist attractions is still valid, Cheong (1995) explains that this marketing method limits travellers from creating high expectations during purchase. Thus, the development of technologies such as VR and the internet allows the tourism industry to expand its marketing approach broadly.

The internet, computer, and mobile phone technology are vital tools for travellers to access interactive information regarding tourist destinations. According to Pantano and Corvello (2014), displaying information online with photos, videos, and images in 3D dimensions is a must because they provide a deep sense of knowledge about unfamiliar touristic services across the world. Therefore, it is not unusual to see many tourism organizations investing in VR technology to have advantages against their competitors. The service provider that promotes their services on the web and online platforms provides vast information so that customers can choose better services and products they desire. As Nunez San Juan (2017) explains, VR helps customers personalize the desired service and create the possibility to "try before buying." In addition, the use of VR as a marketing strategy results in a better understanding and high satisfaction between a service provider and consumer (Kang, 2020).

For instance, one touristic company that invested early in VR to promote their services was the British international tour operator, Thomas Cook group. In 2014, the company launched a virtual reality campaign, "Look before you book." The campaign provided consumers with a virtual experience before choosing and booking a tour package holiday. The campaign was successful because travelers could use a Samsung Gear VR HMD for virtual trial holidays in some destinations. Although VR applications targeted for the tourism field were still in development by this time, the customer could choose a virtual experience to visit New York

City, Rhodes Island, and some spots on Cyprus island. After a few months, this innovative marketing approach boosted the company's revenue by 190 percent more than the previous years (Nunez San Juan, 2017). Another company example that took advantage of VR was Marriot Hotels. In 2015, this chain hotel group launched a campaign offering virtual reality to promote honeymoon packages in Hawaii. The customers were able to walk around the room, explore the hotel facilities, and get an overview of the hotel's surroundings (Barnes, 2016). The world's online travel company Expedia also took the same marketing approach to promote their services. The customers could interact with the room, open doors, or step out to the balcony to see the view. Cheong (1995) describes, virtual tour experience increases customers' awareness to make better decisions and initiate travel arrangements. Therefore, Williams and Hobson (1995) claim that there is no doubt that one of the most positive side effects of virtual reality in the tourism industry is the possibility to promote brands and tourism destinations interactively.

2.3.3 VR Support of The Tourism Organizations in Planning and Management

VR is an excellent tool for tourism stakeholders to develop a tourism destination. According to Cheong (1995), before a tourism destination became notorious, touristic planners had to study meticulously many physical areas of the destination together with the services facilities such as hotels, restaurants, museums, etc. This process can be long and laborious. On the other hand, this process can be more straightforward using VR technology. Cheong (1995) explains that VR allows tourism planners to reduce the possible difficulties during the development. It helps to resolve and identify potential design flaws, risks, negative environmental impact, and other issues before and during the construction.

From the traveler's point of view, VR can be helpful to improve the way travelers plan and book touristic activities in many ways; from booking a simple flight to deciding the right hotel to discovering unvisited destinations efficient use of VR technology can create a great impact. According to Nunez San Juan (2017), planning travel through virtual reality is in many ways positive because customers can experience before buying, and therefore reduce considerable risk of dissatisfaction in making the wrong decision before their reservation.

2.3.4 Accessibility Through VR

Accessibility for travelers is a frequent topic discussed by scholars regarding how VR can be advantageous for users (Kang, 2020; Nunez San Juan, 2017; Srifar, 2018). Yet, VR can bring a sense of freedom and flexibility, and this is because it is convenient to decide what time to wake up and enjoy a new adventure or have the flexibility to determine when and which museum or a tourist destination to visit. Perry Hobson and Williams (1995) believe that a potential aspect is that traveling through VR can cost less in comparison to traveling physically. And although Vishwakarma et al. (2020) discuss that not everybody has access to VR technology or even access to the internet, acquiring a VR device is cheaper than going on holiday physically. The price of booking ticket flights, hotel services, and paying for different tourist attractions results in much more expensive than investing in a VR headset.

The tradition ways of travelling may not be accessible for many people and destinations (Srifar, 2018), due to time limitations, weather conditions, political situations, or even physical disabilities. VR offers accessibility for all people that would like to experience adventures like diving in an ocean, flying above Paris, walking in the desert, or exploring space. Therefore, traveling virtually is an alternative that broadens the tourist market and makes the offer more accessible for all.

2.4 VR and The Future of Tourism

Virtual reality is changing the tourism industry drastically. The fact that VR could be a threat to the tourism industry and replace traditional travel has been in discussion for a few years now (Schiopu et al., 2021). Even though Kang (2020) argues that it is no longer necessary to spend hours on a plane and a large amount of money to visit any tourist destination. On the contrary, Guttentag (2010) believes that there is no evidence that virtual reality anytime soon will be able to substitute traditional travel. Nevertheless, more and more studies point out that digital innovations like virtual reality can be a solution for barrier-free tourism (Schiopu et al., 2021). VR is becoming a vital resource to reduce people's movement to travel physically. In terms of providing a traveling experience, VR can offer experiences above the standard capabilities of an individual in the comfort of their homes (Loureiro, Guerreiro, & Ali, 2020). For instance, Srifar (2018) discusses that VR seems an excellent alternative for older people. Many people are unable to travel, and VR can be advantageous to particular groups that suffer from anxiety or those with some physical motor incapacity (O. Lee & Oh, 2007). Yet, there are concerns

regarding what negative impacts VR can bring to users. This technology is not yet accessible to all, especially those with economic disadvantages. There is also the concern of possible side effects on the users' physical health. For example, Srifar (2018) argues that elderly people can experience some discomfort during VR experiments. However, a study points out that most users complain of discomfort provoking, dizziness, nausea, and headache. Mazuryk and Gervautz (1996) claim that among the people who complain correspond, only 5% complain of moderate discomfort, and 2% experience severe discomfort.

It is expected that VR will continue to grow in popularity. In the near-future tourism industry will be implanting even more VR technology in addition to the physical tourism experience. Scholars such as (Pestek & Sarvan, 2020; Schiopu et al., 2021; Vishwakarma et al., 2020) discuss that virtual reality is already part of our reality. The technology is almost essential for tourism companies to promote and create unique brand engagement in their products to consumers (Nunez San Juan, 2017). Moreover, Vishwakarma et al. (2020) argue that the benefit of experiencing an immersive tourism experience is beyond any other virtual way and mass media. Therefore, it will be common to see virtual reality frequently used in touristic services such as hotels, theme parks, museums, and many more.

To conclude, as we have seen, VR has extensively been researched concerning destination marketing, servicescape, barrier-free tourism, sustainable tourism, and current use in consideration of future impacts in the tourism industry. However, there has not yet been researches focused on how tourist perceives the value of experiencing VR technology in tourism. This is relevant because understanding how VR experience brings value to users helps us find directions for new possibilities to construct alternative ways to satisfy travel even if they do not need to travel physically. To answer this question, the theory on consumer value helps understand how value can be categorized and analysed to respond to the aim of this study.

Chapter 3: Theoretical Framework

Traveling allows people to escape from their daily routine. Vacation creates the opportunity to experience new things and contributes to well-being (Fritz & Sonnentag, 2006). However, people need to manage time, the required money for the trip, and plan for travel. This complex decision-making process initially starts with identifying a problem known as a desire for travel (Decrop, 2006). A travel business requires a thorough understanding of consumer behaviour to attain success. Existing academic literatures and theories about consumer value provide us with a strong understanding of consumer behaviour. That helps tourism businesses find novel ways to create and add value to their existing products. Thus, experience-based tourism products and their relationship with the value of experience are attracting the attention of researchers due to their use and economic benefits (Prebensen, Chen, & Uysal, 2018). Moreover, key marketers have already identified the popularity of VR tourism experience; the authors understood the significance of preparing an academic study exploring three interesting topics: “Value, VR Tourism Experience, and barrier-free tourism”. Furthermore, it is a proven fact that “Repurchase Intention” significantly depends on the consumers' perceived value (Parasuraman & Grewal, 2000). Therefore, creating better "Perceived Value" will lead to better customer retention. In this way, "Consumer value theory" helps the academicians understand the consumers' purchase behaviour and the aftereffects. Therefore, the authors considered "Consumer value theory" an effective tool to explore and understand the process where value can be perceived in the VR tourism experience.

Considering the relevance of finding the motivation for virtual travel or understanding the process of perceiving value during a virtual trip, this paper introduces the consumer value theory developed by Morris B. Holbrook to understand these issues. The authors of this paper favour typology proposed by Holbrook since he has been considered among scholars for years as a pioneer in the multidimensionally structured concepts most comprehensively (Jackson et al., 2006). The theoretical framework enlightens our understanding of values in VR tourism experience as a form of barrier-free tourism. In the following chapter, a summary of the theory used in this paper will be presented.

3.1 Consumer Value Theory

The concept of "consumer value" is significantly related to how consumers make the purchase decision and the list of preferences that create an image for a specific tangible product or service attribute. It dictates how consumers make the purchase decision and the list of preferences that create an image for a specific tangible product or service (Holbrook, 1999) . The conceptualization of Consumer value is broader than the field of "economics" or "philosophy" in the business field. Therefore, the concept of "Value" could be found assimilated into different knowledge branches. However, even after numerous research on consumer behaviour and core marketing, the ambiguity of the concept of customer value remained uncracked (Karababa & Kjeldgaard, 2014). Nevertheless, this challenge does not belittle the unquestionable importance of the numerous researchers' quest to understand the concept of "Customer Value" (Gallarza et al., 2011). Moreover, vagueness in the concept has created an opportunity for the researchers instigating empirical investigative research to develop new approaches to find clarity on the dimensions of value-based concepts (S. C. Chen & Quester, 2006).

Understanding the value creation process concept requires an in-depth investigation of consumer value frameworks and typologies (Sánchez-Fernández, Iniesta-Bonillo, & Holbrook, 2009). Though there are varied definitions of consumer value, researchers have found consistency among the approaches dealing with value discussions (Smith & Colgate, 2007). The definition by Morris Holbrook is well-considered among scholars. He is one of the pioneers in value construction working in this field. His work was revolutionary and developed the core element of consumer consumption and behaviour (Gallarza & Saura, 2006). Moreover, the academicians are still pondering over the dimensions of value in the service industry; some models are too simple, some ignore the multidimensionality, and some put unnecessary attention to economic benefits. Considering all these before-mentioned facts, the authors of this study found the Holbrook's typology, a holistic concept with integrated components from all aspects and dimensions, making it the most suitable one for this study (Heinonen, 2006; Sánchez-Fernández et al., 2009).

3.2 The Nature of Value

As consumers are becoming more and more aware, they are desiring additional value from the existing services and products. As a result, the relevance of "consumer value" as a critical strategic tool has become apparent (Steenkamp & Geyskens, 2006). However, Holbrook (1999) defines consumer value as an "interactive relativistic preference experience". So, to understand the main essence of value, Holbrook identified three main traits of consumer value (Mieli, 2017). Firstly, value can be observed in its comparativeness: If someone compares two items from a similar classification, the difference in value between these two items can be identified. For example, a VR user can identify the difference in value in different experience-based tourism experiences available on the internet as they belong to the same category. Secondly, according to Holbrook, value tends to be very personalized. The concept or idea of value entirely depends on the person's perspective and the context (Tasci, 2016). The reason behind it is that everyone has different perspectives and judgments. Therefore, the value of any product or service will depend on personal choice, preference, and opinion. For example, from the same nature-based VR experience, one can find spiritual value, but others can perceive aesthetic value depending on the user's perception. Finally, the last characteristic of value is that it is significantly contingent on the situation. This means the object's value can be different depending on the context and situation. For example, this means older people with physical motion difficulties might appreciate VR in tourism experiences more than young travelers. It is more likely for the young to travel than the older adult (Mieli, 2017).

3.3 Typology of Consumer Value

According to the revolutionary Service-Dominant Logic (SDL), value comes into existence after the product or service is being used (Grönroos, 2008; Vargo & Lusch, 2004). Moreover, Prebensen et al. (2014) claim that the consumers or the users do not find the absolute value directly from the product. Instead, they experience the whole process and form an understanding of "value" in the related experience (Prebensen et al., 2014). So, it is fundamental for academicians to understand how consumer value is embedded in the experience. Thus, the "value" concept became this fascinating idea of interaction between objects, subjects, and the consumption experience (Heinonen, 2006).

After defining the core concept of consumer value, Holbrook described six principal characteristics and then connected eight types of value (Mieli, 2017). However, (Holbrook,

1999) categorized those six characteristics into three juxtaposed concepts. Here the authors will provide a brief idea about those concepts:

Intrinsic - Extrinsic:

Extrinsic concept of value refers to the appropriate usability of something. For example, the value of a drill machine derives from the capability of that machine to create a hole. However, a drill machine for household use will have less extrinsic value for an engineer of NASA as that drill is not sophisticated enough for him. Whereas in the case of the intrinsic concept of value, the consumption is derived from the object's functionality relating to it. The value is significantly connected with the consumption experience. For example, going for a sauna bath is not only for bathing; one enjoys the whole experience by lying down in that environment.

Self-Oriented - Other Oriented:

Self-oriented value concept can be observed when the process of consumption directly affects the subject or the consumer. For instance, on a cold night, a warm jacket has value to a person partly because he/she can stay warm wearing it. On the other hand, Other-oriented value concepts can be observed at different levels. For example, one can find value on a very macro-level (E.g., divine connection with God or spiritual feeling) to a medium level (E.g., respect from community/national level appreciation) to a very personalized micro-level (E.g., admiration from Partner/Friends and family) (Mieli, 2017).

Active - Reactive:

Reactive concept of value can be observed when any outside tangible or intangible force manipulates the object; on the contrary, in the case of "Active" characteristics of value, the subject himself is involved in the altercation process (Holbrook, 1999).

These six principal characteristics mentioned above can be linked with eight value types (efficiency, excellence, play, aesthetics, status, esteem, ethics, and spirituality). Each of the value types belongs to three of these principal characteristics.

		Extrinsic	Intrinsic
Self-Oriented	Active	Efficiency	Play
	Reactive	Excellence	Aesthetics
Other-oriented	Active	Status	Ethics
	Reactive	Esteem	Spirituality

Table 1: Holbrook's (1999) Typology of consumer value (adapted by the authors)

Each of the eight value types will be discussed in this section of this master's thesis to understand Holbrook's typology better and be used as a tool in the present study.

Efficiency (Convenience):

Efficiency is an extrinsic, self-oriented, and active value. Many compare the O/I or Output to Input ratio to determine efficiency (Diesing, 1962). This value can be associated with the term "convenience," which consists of an individual actively using an object or consuming an experience to achieve a particular purpose. For example, toothpaste to brush teeth or keys for opening a lock. However, a sense of "added psycho temporal value" usually encourages buyers to choose a product over other alternative choices available in the market (Mieli, 2017). For example, using a good refrigerator allows us to store or preserve raw meat for a long time. Unlike our ancestors, we can efficiently consume perishable goods.

Excellence (Quality):

This value is extrinsic, reactive, and self-oriented. Excellence value refers to an individual appreciating an object for its qualities, utility, or performance. For example, if a device, product, or service achieves its predetermined goal while maintaining the desired functionality, they are usually highly appreciated (Zeithaml, 1988; Zeithaml, Parasuraman, Berry, & Berry,

1990). For example, a leather shoe is generally more appreciated due to its durability, functionality, and comfort than a synthetic shoe. These are the aspects of that leather shoe that someone would reactively appreciate and create the image of quality, leading to excellence value.

Status (Success, Image, impression):

This type of value is extrinsic, active, and other-oriented. In many cases, Consumers selectively choose some experience or product to create a symbolic persona in the eyes of their associates. In other words, they want to transmit a particular type of superior image of themselves to showcase their success; designer clothes and luxury accessories communicate a symbol of success and status in the eyes of others (Nozick, 1981). For example, elites in the society throw extravagant parties regularly and invite each other in the name of socialization. Usually, the socialites engage in a cold psychological war of showing off affluence in these sophisticated parties. Holbrook describes this value as "Political" in nature as this value usually influences others.

Esteem (Reputation, Possessions):

This value is extrinsic, reactive, and other-oriented. Esteem is significantly related to the Status type of value. According to Richins (1992), the sense of self-esteem and materialism combinedly creates a positive self-identity. However, the esteem value is not associated with a shallow or short-lasting image of success like "status." Instead, it considers society's appreciation or high regard for the consumption or ownership of possessions. For example, having a rare art piece or historical artifact creates a far richer satisfaction on a different level. Many aristocrats possess these expensive artifacts not for their aesthetic aspects or spiritual elements but rather for upgrading their social status to an elite class community with a higher standard of self-respect that implies an enhanced standard of living (Holbrook, 1999) .

Play (Fun):

Play shows Intrinsic, Self-oriented, and active characteristics. This value type derives from having fun or having the joy of doing something out of the box, consuming a service, product, or experience mainly for personal enjoyment. Moreover, this value is also considered situational due to individual perceptions or differences in the activity (Berlyne, 1969). For

example, if a tourist participates in skydiving, the act has a playful value; however, if a soldier in the army uses a parachute to penetrate enemy territory, he is fulfilling his duty to his motherland.

Aesthetics (Beauty):

This type of beauty is intrinsic, reactive, and self-oriented. Aesthetics value relates to how people appreciate the beauty of a product or experience without any other practical reason (Holbrook & Zirlin, 1985). According to Eckman and Wagner (1994), when people enjoy music, painting, dance, and poetry, they experience the aesthetic value of these fine arts in their purest form. Nevertheless, sometimes this value goes from aesthetic to convenience when the same object in question is appreciated for its use. For example, if a very sophisticated supercar is more appreciated by its owner for the ability to take a person from workplace to home in a short time, then it is safe to say that the car does not have aesthetic value; instead, it has efficiency value (convenience) for the owner.

Ethics (Virtue):

Ethics is an intrinsic, active, and other-oriented value. Ethics values involve performing or doing an act for others' sake- with concern for their reaction and impact on them (Holbrook, 1999). To describe this type of value, we can use words like virtue, justice, and morality. Ethics value stands for every 'right' action supported by social norms and morals, for example, taking part in volunteer campaigns to help the less fortunate or donating blood to save lives. The participants do not expect to be gaining any direct gains from these activities; instead, they will receive the satisfaction of saving lives or creating a better future for the next generation.

Spirituality (Faith and Sacredness):

Spiritual value is the reactive counterpart of ethics value. A person's religious beliefs or faith plays an active role in this type of value creation. The desire to get accepted by something divine or superior being helps them feel such a religious or magical experience during or at the end of the experience (Mukerjee, 1964). Spiritual value is intrinsic, reactive, and other-oriented in characteristics.

Chapter 4: Methodology

This master's thesis investigates a social phenomenon, the value dimensions involved in tourism-based virtual reality experience as a form of barrier-free tourism. Thus, this study analyses how value is perceived in Virtual Reality and the affiliated actors that contribute to the Virtual-Reality based tourism experience as a form of barrier-free tourism. Identifying these factors enabled the authors to respond to identify the research gap and problematization for this thesis.

RQ 1: How is value perceived in VR travel?

RQ 2: How does the VR experience promote barrier-free tourism?

Therefore, the following sections will present all methods and the steps taken during the paper to gather information and understand how the authors conclude the research question.

4.1 Research Approach

In social sciences determining the proper method supports future research to validate or replicate the study. There is no right or wrong method in social science investigation. But each method has its disadvantages and advantages, and each paper's authors carefully consider which one would be their best choice taking into account for the research problem and topics (Dale & Mason, 2011). A qualitative approach was considered appropriate for this study due to the nature of exploring the consumer perspective of value (Silverman, 2013).

According to Bryman (2016), the qualitative method in research is appropriate when researchers investigate social behaviour, thoughts, experience, and perspective on how people describe the world. Unlike the quantitative approach, a qualitative study does not aim to collect numerical data. Instead, the qualitative approach intends to create an entire and detailed explanation of the investigation. Therefore, a qualitative approach is adopted in this master's thesis as it suits the aim of the research as the author intends to explore the value attached to the VR tourism experience as a form of barrier-free tourism (Silverman, 2013). Moreover, the authors of this study chose the constructivist ontological position as the philosophical approach to follow.

Theories and empirical studies were collected by authors and later analysed. This approach explores how individuals understand the world to create their version of reality. The knowledge this master's thesis analyses, are assumed to be created by its social actors. By choosing this approach, the authors can understand the concept of social reality (Belgrave & Charmaz, 2014).

After careful consideration, the authors identified the field of interest and the aim of the study. A research Gap and research question were identified after studying relevant scientific literatures and gathering sufficient knowledge (Bryman, 2016; Silverman, 2013). The field assessment was conducted to define the area of interest and the existing investigations related to the topic.

Regarding this study's literature review selection process, the authors' criteria were to find relevant academic papers on google scholar, the ResearchGate website, and the Lund University database. Academic papers referencing virtual reality in tourism, Value in VR, Value in tourism experience, consumer behaviour, and innovation were shortlisted for careful consideration. The exploratory studies aim to explore new phenomenon-related behaviour and test the feasibility of existing research. After going through relevant existing papers, this study's authors could understand that an exploratory study is quite suitable for new experiments with Virtual Reality devices. Later, the shortlisted papers were ranked and prioritized according to their contents' relevance to the topic of this paper. The authors highlighted and took notes from them to construct the literature review. Examples of some relevant exploratory research: VR experiments for older adults (Fiocco et al., 2021; Srifar, 2018), VR as a tool to support physical disability in the motion motor difficulties (Perry Hobson & Williams, 1995), VR for accessible tourism experiences (Darcy & Dickson, 2009), VR for people with paralysis (Ford, 2001), Consumer reaction to the VR shopping mall (K. C. Lee & Chung, 2008), Tourist experiences of VR in a rural destination (Pantelidis, tom Diek, Jung, & Miller, 2018), Virtual reality influences travel intentions (Skard, Knudsen, Sjøstad, & Thorbjørnsen, 2021) and many more. Furthermore, the content of this paper builds on existing intellectual knowledge (Flick, 2014) from the perspective of value in tourism and Virtual Reality technology applications in tourism experience to explain the new knowledge collected from existing empirical academic studies and collected data. Moreover, as the author needs a specific paradigm to support and guide this investigation process, this approach is perfect for this study. As a result, the authors could scientifically observe the subject during the process of construction (Silverman, 2019). For this reason, primarily, the authors considered several theories to find the best fit for this study.

However, amongst the existing studies regarding consumer value, the authors selected Holbrook's typology of consumer value. His model of value is broad and fits the best to address the research problem. In addition, Holbrook's typology of consumer value framework is widely accepted as the most comprehensive approach that captures more potential sources of value than other existing approaches (Heinonen, 2006; Sánchez-Fernández et al., 2009). Subsequently, this approach allowed the study's findings to be grounded on the participants' perceptions and later on interpreted by the paper's authors. In addition, like most qualitative research, this study also decided to stay open to 'nuances' in the collected data instead of directly applying "concepts from the existing literature" (Creswell & Poth, 2016). In addition, semi-structured interviews were chosen as a method for the data collection to explore the subjective understanding of people's behaviour after experiencing VR on a small scale. The chosen respondents answered a predetermined list of guided semi-structured questions to interpret later.

However, the authors acknowledge the fact that people can interpret the same topic differently; thus, if not considered carefully, researchers' interpretations can influence the data collection process and interpretation. For this reason, the authors decided to consider the overall holistic knowledge collected through semi-structured interviews and the perspectives of the existing empirical studies on the relevant topics from an interpretive epistemological approach (Flick, 2009). This approach helps the researchers understand how reality is assembled rather than only learning it from subjects and questioning the construction of reality from that perspective. In this way, biasness was minimized as much as possible throughout the thesis, built on the existing understanding of the researchers and participants' experience of VR tourism as an alternative form of barrier-free tourism (Bryman, 2016; Silverman, 2019).

4.2 Research Design

An abductive approach has been applied to analyse and present the findings of this master thesis, interlinking between theory and research. Initially, the authors were thinking of choosing a purely deductive approach, considering proposing a hypothesis and later on analysing the data supporting their hypothesis. Following this approach might have led the authors to choose a quantitative method. Nevertheless, after reviewing similar academic literatures and theories, the authors identified that this approach would hinder exploring or discovering new concepts. Moreover, the existing theories needed more flexibility to be used as a framework that will answer the research question of this paper (Mieli, 2017). Thus, the

authors concluded that their research aim would not be achieved deductively. As a result, while following an abductive approach, this study's empirical data were examined in combination with the existing theory while being neither pure deductive nor inductive (Bryman & Cramer, 2012).

4.2.1 Data Collection and Semi-Structured Interview

The collection of data is one of the most critical parts of the research because, at this stage, the researchers draw hypotheses and conclusions that contribute to the research field (Bryman, 2016). In this study, the data collected was possible through 16 semi-structured interviews with a virtual reality experience. Because this study aims to explore human behavior, perspective, and opinion, the appropriate data collecting method the authors chose is the semi-structured interview (Galletta, 2013).

The interview is a suitable method to collect data in a qualitative study because it allows two or more people to exchange information through several questions and answers (Arksey & Knight, 1999). Moreover, according to (May, 2011), this method is advantageous for collecting fundamental data about people's opinions, experiences, attitudes, values, feelings, and desires in social sciences. In this case, the semi-structured interview was appropriate due to the flexibility to combine both the structured and unstructured questions. Furthermore, this approach allowed the authors to have a more fluid conversation with the interviewees and adapt the follow-up questions to become more personalized. For example, when the interview started, each participant could share their opinions, and new questions that had not previously arose, making each person's story unique (Bryman, 2016).

All participants were invited to an introductory interview; firstly, an introduction of the topic was presented, and then the authors explained the purpose and rights of each participant. All participants have the right to be anonymous or refuse to continue the interview for any reason. They also have the guarantee that the data in this study has only an academic purpose. Secondly, after initiating a conversation with ice-breaker questions to get to know the participant and their motivation for travel, the authors invited the participants to experience VR. All participants had the chance to choose a virtual reality tourism experience according to their preferences. Finally, after the VR experience, the interview continued with questions regarding the experience, for example, questions regarding the places they visited, their first

impression, discomfort during the experience, ideas of the future with VR, and so on. Although all interviews had different questions as the authors followed semi-structured interview setting, a detailed list of guide questions has been provided in the appendices section of this paper (Kallio, Pietilä, Johnson, & Kangasniemi, 2016). Moreover, each interview had a different duration of time; some participants were willing to talk more than others. The difference in the hours of the virtual experience was also distinct. Some participants enjoyed virtual reality so much that some of them wanted to try a different experience. Others were satisfied with a single virtual experience. The duration of the virtual experience varies depending on the type of application. For example, several participants experienced animal Safari in Africa and Indonesia. This experience rounded about 15 to 25 minutes. Theme Park experiences used to be shorter. Usually, a guide takes the user on a roller coaster ride, which takes up to 10 minutes. Virtual experience diving in the ocean or visiting touristic sides could reach a maximum of 25 minutes. This made the duration of the interviews and experience vary between one up to two hours. The device used for the VR experience was the OCULUS quest2, with the exception of two interviews where participants experimented with VR at the VR studio in Helsingborg.

The experience in the entertainment VR studio of the market was focused on entertainment. The experience was based on the application of "Richie's Plank experience" is a psychological experience that allows the user to enjoy the feeling of going up an elevator and jumping from a Plank on the last floor of a high building in the VR world. This experience takes around 5 to 10 minutes. And experience of visiting amusement parks or tourists spots virtually was longer in nature (around 30 minutes) because of the participants request to enjoy more time exploring the virtual world. We also must consider that the VR studio in Helsingborg, used a different VR device for one participant. The rest of the participants experienced with OCULUS quest 2 Headset. OCULUS quest 2 device, was perfect because the only requirement for use was the need for an internet connection and a small open space. In that way, the authors did the interview and VR experience in different environments. The OCULUS quest 2 is a simple device but enough to provide an excellent experience. The brand offers an extensive selection of applications, especially for tourism; some of the applications were free of charge, while others had a token subscription fee. Therefore, the authors had to purchase some applications related to tourism experience for the participants. Some of the applications used in the experiment are WANDER, National Geographic, Rio 360°, Ecosphere, YouTube, and Space Explores.

Several types of questions were formulated as guidance for the interview. Some questions were formulated following the guide, while others differ from participant to participant due to the different interests of the participants. However, the questions started for almost all participants in the same way; questions about their Name, Birthplace, Occupation, Motivation for travelling and Reason for travelling. Then they were questioned about their perception of travel virtually and the type of program they would like to use for their VR travel experience. Later on, the rest of the questions focused mainly on the participants' feeling about the VR experience and opinions on how VR could be used in tourism. Hence, the authors were flexible to open questions which felt interesting and relevant during the interview. However, all questions focused on the topic of virtual reality and tourism. In addition, the authors were careful not to influence on any opinion in the answers. For instance, some questions could lead the participant to say that VR could be an alternative to travel, but the authors made sure that these questions did not lead to that understanding since this is not the purpose of this investigation. Furthermore, the questions were simple, allowing the participants to introduce any different ideas and opinions.

4.2.2 Interview Settings

The interviews were conducted in different environments such as a library in campus Helsingborg of LUND University, VR Studio Helsingborg, and a private home. Before the interview started, the authors informed the participants that the interview would be recorded and asked permission for it. The device OCULUS quest 2 has the special characteristic that you do not need to connect with a special computer or cable making this device comfortable for the users with its mobility. The only requirement was a safe space to avoid a physical accident during the experience and a connection to the internet. This was a great option because it gave more freedom to the participant's needs and availability. One exception was made for only one interview that has been conducted online through the Skype application, and two more were done after the participants had experienced VR in the VR studio center in Helsingborg. The interview made on Skype was because the OCULUS quest2 allows users to connect and find friends online on a Facebook account. It is possible to reach out to a friend that has the same device and is interested in being part of this academic study. The online interview was a bit more challenging because the interaction with the participant was slightly more distant. However, this interview was carried out without major complications.

Moreover, the language used by the interviewees was adapted according to the need of the participants. Most of them were fluent English speakers, but others from different nationalities faced difficulties in expressing themselves in English. Therefore, the authors took special attention to personalize the questions in the most comfortable languages of the participants, which were Portuguese, Spanish, and English.

Each participant had a different expectation and was curious to experiment with different kinds of virtual experiences. The environment set was usually a secluded space (room) always prepared in such a way that, objects or furniture that wouldn't interrupt the experience. As well, the OCULUS quest2 lets the users prepare a circle line of safety. So, the participants could be standing or experiencing the VR experience sitting on the chair/sofa. Regarding the different experiences, many chose the one they liked the most, as we mentioned in the data collection section. Still, for example, one participant explained that since her childhood, she was fascinated with space. And she would like to travel virtually to the space to feel the experience. Another participant expressed fear of wild animals. The VR gave the alternative to bring the experience of exploring the Jungle in the Amazon rain forest and staying face to face with the most dangerous snakes. One participant was 60 years old and desired to dive in the ocean since she didn't believe she could do it in real life. So, we offered a diving experience in the ocean to get close to corals and maritime life. But most of the participants were interested in visiting animal Safaris in Africa, the Amazon rain forest, well-known tourist cities such as Rio de Janeiro, the Machu Picchu, Tokyo city, or visiting religious places like Jerusalem and Rome.

4.2.3 Sampling and Population

In social sciences, a research population refers to an entire group of people whom the authors want to draw a conclusion about (Alvi, 2016). In social sciences, with a single investigation, it is impossible to study the whole population, that is why it is important to select a sample to represent the group (Bryman, 2016). To choose the right population for this research, it was important to select the demographic people more precisely to gather a representative sample. In this study, the authors approached the study with purposive sampling, which means that the participants were not chosen randomly. Still, it was more explicitly selected because those could be relevant to the topic of this study (Silverman, 2013).

As the nature of this study is to explore the value virtual reality brings for users during Virtual experience. The authors contacted their friends and the friends of friends who could be interested in participating in this research. Thus, people were selected because they are well known for being travel lovers. The criteria for selecting participants were especially people interested in technology and open to trying virtual experiences. In addition, the average age of the participants was between 20 to 60 and came from different nationalities. The selection of people from different nationalities brought a broader opinion regarding their culture and understanding of values. Therefore, the selected group was chosen as the target group for this study. The table below is compiled to showcase information of the participants.

	Name	Nationality	Age	Gender	Occupation	Type of VR Experience	Data of Interview
1	Isaura	Portugal	59	F	Personal assistant	Dive in the Ocean	19/05/2021
2	Silva	Spain	33	F	Logistic operator	Theme Park/Safari/Visit Rio/Museums and Antarctic experience/Machu Pichu	15/06/2021
3	Caroline	Brazil	22	F	Student	Monkey and Elephant Safari	19/05/2021
4	Harry	Sweden	33	M	Wind technician	Theme Park/ Visit Christ Redeem Rio/Riche's Planck/ Visit Museum	15/06/2021
5	Bin	China	37	M	Personal Coach	Visit Jungle in South America and Safari in Indonesian	26/05/2021
6	Olex	Ukraine	32	M	Game Developer	Monkey Safari/ Visit Tokyo	28/05/2021
7	Oxana	Russian	31	F	MSC. Student	Dive Ocean/Theme Park/Africa Safari/ Visit	27/05/2021
8	Elisabeth	Greek	23	F	E-commerce	Dive in Ocean	27/05/2021

9	Dink	Ethiopia	31	M	Logistic Operator	Tour visit in Rome and Jerusalem	06/07/2021
10	Rafael	Bolivia	30	M	Head Chef	Safari in Indonesia/Antarctic/Himalayan tour	01/06/2021
11	Dea	Greek	25	F	Adm. Retail	Travel to the space/Diving with sharks in the Ocean	01/07/2021
12	Isabela	England	24	F	HR	Safari In Borneo/ Visit Kenia Masai tribe	08/06/2021
13	Darja	Russia	25	F	Consulting coordinator	Theme Park/Animal Safari	01/06/2021
14	Denise	Sweden	29	F	Master Student	Elephants Safari in Asian/ Visit A Masai tribe in Kenia	09/06/2021
15	Josim	Bangladesh	29	M	Chef	Visit Japan night club/Beach in Bali to relax/ Indonesia Jungle	16/05/2021
16	Maria	Brazil	33	F	Dietitian	Visit Museums/ Animal Safari Africa	20/08/2021

Table 2: Participants' Information (By the authors)

4.3 Data Analysis and Transcription

Analyzing the data and transcribing interviews are fundamental for the authors to interpret the data collected and understand the result to achieve the research goal. This analysis was based on steps suggested by grounded theory. The analysis was divided into three parts: recording the interview, transcribing, and coding. The Grounded theory is a well-known methodology used in qualitative social sciences research, where researchers collect and analyze the data to derive the theory (Hodkinson, 2016). Therefore, the following steps will be explained in detail as follow the section:

First, Interviews were recorded with a smartphone app (Voice Recorder); in that way, all the details and information for this study were digitally recorded. The advantage of recording is that it was possible to listen to the interviews as many times as needed to be later transcribed.

During the interviews, the authors also took note of some relevant topics, comments, or opinions that could help in this investigation.

Secondly, each interview was listened to several times and transcribed in a separate document. This step was done with the support of the software that uses speech-to-text technology (basically, the recorded voice was synthesized and converted from an audio file to a word document file automatically with the written script inside). It is essential to mention that in this process, even though this software helps to reduce considerably the time consumed to do this job, the authors had to stop the recording many times to type manually and correct some misspelling of words and structure of sentences. Moreover, in some interviews, this software was not helpful due to pronunciation that was harder to be recognized by this ‘Speech to text’ prototype software.

Finally, the authors read the interview many times to start labeling or coding phases and significant comments that could be recognized as any value according to the Holbrook typology of consumer value described in this study. In this last part, coding was a process of underlining relevant sentences such as: What did the participants feel during the VR trip? What was essential for them to do? Whether they consider VR as an alternative way to travel, and so on. These sentences were labeled in different categories in an excel table. For example, each phase or sentence could be interpreted and linked with different value types; In case of Ethical value, participants described the importance of the environment for them, In case of spiritual value, they focus on experience related to some religious significance. In addition, the authors interpreted that play value was perceived if participants expressed that they had fun during the virtual trip, etc. This process allowed us to identify many different values and address the aim of this study.

4.4 Ethical Considerations

All human interventions in social sciences research involves the research having access to information not available in the public domain. Hence, it is vital to carry out the ethical consideration in the study. According to Bryman (2016), in social research, considering ethical points is essential to prevent harm to the participants. Especially when the research approach to collect data is an interview, it is necessary to understand that participants are more vulnerable because they open their thoughts, judgment, and express their feelings. Therefore, before conducting the semi-structured interview, all the participants were informed of the purpose of this research, their right to be anonymous, and their freedom to express their opinion without

being judged. The authors also made sure that the participation in the experiment was voluntary; the participants could stop the interview and VR experience any time they felt like it (Bryman, 2016; May, 2011; Silverman, 2013). Moreover, they were also informed of the right not to answer questions they feel uncomfortable. The authors also took the precautions to announce the participants that some studies on VR usage showed some concerns that people who experienced VR could feel dizziness due to eye sensitivity (Mazuryk & Gervautz, 1996; Srifar, 2018). Therefore, it is significant for the safety of all participants that at any point of this experience, if they feel and decide to stop the experience, that is no reason for embarrassment but a right they have. Finally, each participant was also asked for their consent to have the interview recorded and knowledgeable that the collecting data would be used only for academic purposes (Kallio et al., 2016).

Chapter 5: Analysis of Results

This chapter presents the result of the interpretation and analysis of 16 semi-structured interviews. The analysis segment of the master's thesis will create several subheadings to investigate and interpret the data collected in this study. As discussed previously in the “Theoretical Framework,” the consumer value theory is employed in this study because it demonstrates the importance of consumer behaviour and what motivates people to guide their decisions. Furthermore, understanding the value types perceived in the VR tourism experience, will provide the researchers a clear knowledge about the value creation process in virtual reality setting as a form of barrier-free tourism (Sánchez-Fernández et al., 2009).

5.1 Evidence of VR Travel Experience Generating Value

According to Vespestad et al. (2019), value can be perceived when a sort of functional or economic exchange exists. The authors of this paper could find evidence of value being generated during the VR travel experience while interpreting the transcripts. The participants in this study perceived different values during virtual reality usage in tourism. Each mind interprets the world differently. Thus, during the interview, the participants perceived different values from similar VR Travel Experiences. In addition, in many cases, individual participants felt several types of values during one single VR travel experience. These values will be described and interpreted with the framework developed by (Holbrook, 1999) value typologies.

The perceived values in this study either belonged to the self-oriented concept of characteristic; **Efficiency, Excellence, Play, and Aesthetics** value types or other-oriented concepts of characteristic **Ethics, Spirituality, and Status** value types. The only value that the participants could not perceive was **Esteem Value**. The **Esteem Value** type is a subjective value. As Richins (1992) discusses, this value is very often related to the instances when people feel good and appreciate the product's attributes. In this research, the participants did not express any opinion or comment that the authors could relate with or interpret as **Esteem Value**.

The analysis segment will be split into three parts with observed traits; Firstly, **Efficiency Value** and **Ethical Value** values are closely related in VR travel experience. Secondly, If **Excellence value** and **Aesthetics value** is achieved in VR travel experience, the travellers will perceive **Play Value**". And lastly, "Value in VR travel experience influences future travel decisions". The authors investigation of the semi structured interview will be discussed below:

5.1.1 Efficiency and Ethical Values Are Closely Related:

A critical concern of the tourism industry is the challenge of making the sector more sustainable and adopting more ethically sustainable practices in the operations. The tourism industry stakeholders are taking initiatives to assimilate Sustainable Development Goals (Schiopu et al., 2021). Making people aware of sustainability in tourism is the first step to achieving this goal. This initiative seems to be achieved successfully to some extent. For instance, most of the participants of this study knew about the damage to the environment caused by the tourism industry. Some participants were excited to try VR to find out how easy they could travel with the convenience of VR and recognized that travel virtually contributes to more sustainable tourism. As Schiopu et al. (2021) believe, the external pressures from the authorities and increasing awareness among the tourists impact tourism organizations to become more interested in innovating and implementing technologies like VR to create a new tourism structure. Around the world, countless touristic sites and objects are being digitally scanned in 3D to be accessed via virtual reality. However, Guttentag (2010) explains that some places and objects are still not available to the public. There are hundreds of touristic activities that can be explored. For example, it is possible to see Michelangelo's statues of David (Callieri et al., 2004) or the statues of the entire army of soldiers and horses of Terra Cotta from China buried for more than 2000 years and many more (Zheng & Zhang, 1999). Guttentag (2010) argues

that implanting VR technology is a valuable alternative because this helps to avoid degradation from the impact of erosion in the touristy setting. As well as it offers a blueprint for restoring historical treasures. Moreover, the site or object can continue to be appreciated by the public.

In this analysis, many participants are very much involved and invested in making the world better. This inbuilt sense of justice, choosing the right path between moral and immoral. Which eventually leads to perceived **Ethical Value (Holbrook, 1999)**. From the comments of the participants Elizabeth and Josim, it was found that both expressed concerns about contributing to the damage of the environment. This concern can be interpreted with ethical value. However, both liked traveling to destinations in the traditional way. They showed to be aware of the problematization and expressed how VR could have the advantage of reducing mass tourism in the certain touristic destination.

“I cannot afford to choose an expensive destination. Cities like Paris, London, and New York are expensive...Plus, I study and work in the tourism field, so I know how badly we are polluting the environment... VR tourism is cheap, and you don't have such pollution” (Josim).

“I care a lot about the environment, and I always think before I start doing anything (When I travel, sometimes). I worry that I am contributing to damaging the planet earth. So at least here (Travel virtually) you can go in these places, and you will not leave any trash around or dumping anything bad in the sea” (Elisabeth).

The participants, Elizabeth and Josim showed special attention to how traveling virtually is a sustainable and convenient solution to travel as VR is far more convenient and economical than traditional tourism activities (Guttentag, 2010). There are varied constrain in physical tourism activities. A traveler needs to overcome many obstacles before making physical travel decisions. For example, travelers must arrange money for the trip, manage vacation time, deal with long hours of flights, plan everything, and face many other constraints. For these participants, the VR tourism experience felt like they were conveniently participating in something that would bring greater good. This deduction leads us to interpret that Elisabeth and Josim perceived both **Ethical Value and Efficiency Value** from their virtual reality travel experience. Several participants acknowledged the perception of **Efficiency Value** in the interview. Similarly, the authors of this paper interpreted that Denise and Silva perceived the same trait of **Ethical Value and Efficiency Value**. Both participants express how travel

virtually can be economical and, at the same time, can be a solution to reduce the negative impact on the ecosystem and environment.

“I hear how bad it is for the environment (mass tourism) ... in places like Antarctica that I would love to visit, but then, it is too expensive, and probably I would not be able to afford a trip there... I don't support mass tourism because this will destroy the ecosystem... But VR is different! I think VR will play a vital role here” (Silva).

“VR is a cheaper way to go around... Not everybody can go to Tanzania or Kenya, and this also can be good for the environment...so this is a fantastic way to decrease CO₂ and an opportunity to save the earth plus enjoy traveling!” (Denise).

There are concerns about mass tourism in some tourist destinations because visitors can provoke a series of damage to the fragile site. For example, mass tourism in a secluded environment such as Antarctica can bring diseases, increase erosion, and disturb the environment. According to Guttentag (2010) initiatives to promote mass tourism in such endangered places will open the door to unsustainable practices and eventually destroy these vulnerable destinations. One of the participants, Silva mentioned in the earlier segment of her interview about her interest about visiting Antarctica physically, the expense of the trip and the adverse effect on the environment discouraged her to make the decision to travel there. The **Efficiency Value** can be perceived in this study when participants connected the VR experience with convenience. In other words, when people avoid wastage of money, time, and resources. Travel virtually shows to be convenient because it reduces the cost of travel compared to traditional physical travel. Denise also mentioned in her comment that traveling to a destination like Africa can be a challenge for many people. And VR provides the capacity to offer an experience that cannot be accessible to people with economic constraints as well as the convenience of preventing Carbon dioxide emissions in the air (Kang, 2020). In addition, Lenzen et al. (2018) claim that tourism activities have high carbon emissions. Increasing demand for tourism products demotivates tourism stakeholders to change their outdated practices into a sustainable one. In conclusion, after analyzing and interpreting the participants' transcripts, it is clear to the authors that **Efficiency Value and Ethical values** are significantly related to the participants during the VR tourism experience.

5.1.2 Excellence and Aesthetic value generate Play value in VR Experience:

A common expression during the interviews was how much fun the participants had during the virtual trip. The expression of enjoyment can connect with the perception of **Play value**. The participants perceived joyful experiences, either from real, like immersive feelings, or from perceiving the aesthetic visual simulated in the VR program. For example, Isaura is 59 years old, and she commented on the desire to dive into the ocean to see corals and the fishes. But she felt that this experience was not for people of her age anymore. Before the interview, we asked what she thought about VR, and her answer was that it could be something similar to watching a video on YouTube. However, researchers have been examining how VR can bring satisfaction to elderly people (Srifar, 2018) and improve their quality of life and well-being for older people (Fiocco et al., 2021). We offer Isaura a VR Experience where she could dive into the ocean in Indonesia and see maritime life very close. She expressed admiration for the technology. She enjoyed it very much because she could appreciate imitating real like colorful fish and beautiful corals. In her opinion, this experience in real life can be complicated due to her age.

“My experience was diving in the ocean... VR is impressive!! It feels like I was there, but I was not actually (laughs). I feel that TV is not like that. Here I felt more natural. When I was there in the sea, I thought I was there in the ocean. So beautiful!” (Isaura).

Isaura perceived different values in the same experience, aesthetic, play, and excellence value. According to Zeithaml et al. (1990), the excellence value is perceived when an individual recognizes appreciation of an object's quality. In this case, Isaura commented on how she felt like being transported to the virtual world, which indicated VR Technology functioned the way it was built. Moreover, expressing how beautiful it was to watch the ocean life in her VR experience, the **Aesthetic Value** was perceived as a form of art (Eckman & Wagner, 1994). On another note, Berlyne (1969) discuss that **Play Value** is perceived when the individual experience joy during the consumption of a service or experience. So, play value can also be interpreted from her comment, as she expressed how much joy she felt in her diving experience. Furthermore, from Holbrook's (1999) typology of consumer values, the characteristics of **Play Value** are Intrinsic, Self-oriented, and active. Participant Rafael also considered his VR travel experience as joyous, different, fun, and out-of-the-box.

“Owooo!! the first thing, I was amazed by the video quality! It felt so real! And the sceneries were beautiful! oh man! I was so happy!!” (Rafael).

According to Zeithaml (1988), people appreciate an experience or product more if they can accomplish the predetermined quality or performance. In this example, Rafael commented that he perceived the **Excellence Value** and **Aesthetics Value** all together when he expressed how great his experience was.

The modern VR travel programs are competent to mimic real worlds that can provide their users with an otherworldly experience. For instance, when participants travel to explore nature or the ocean, they express how beautiful the landscape or nature is. The existing beauty (**Aesthetics Value**) of their VR Travel experience without any other practical reason (Eckman & Wagner, 1994). In the comments, the participants Maria and Dink perceived the **Aesthetic Value** as they recognized how the VR experience was the beauty to let them see the landscape and the surroundings. For instance, Bin took a virtual tour to explore the rainforest in Ecuador, and he commented how he enjoyed exploring nature and observing the beauty of wild animals. In the same way, Maria was amazed by the nature and the surround of her Animal Safari experience in Africa. Here are the comments.

“I mean, VR is so real!!!When the video started, I was like ok, what is coming now? But it was so beautiful, the sounds of nature and the monkey, the birds. You moved your head, and you could see behind your back the trees and the green around...” (Maria).

“I went to visit a rain forest...I felt that experience is quite nice to see things in this VR experience. You see this jungle. it is quite a real feeling. Yes, I felt that you are not there 100% there, but on a certain scale, you have an immersive feeling in this environment. I always like to see those awesome wild animals” (Bin).

Bin and Maria were delighted after experiencing VR technologies natural ability to allow its users to partially escape reality. The ability to provide immersive experience through VR headset proves virtual travel experience providers have achieved a certain level of quality, which means users can perceive **Excellence Value** and real like beautiful audio-visuals (indicates towards **Aesthetics Value**). Researchers have been trying to measure the level of

immersiveness people feel in the virtual reality setting and the extent of their difference from the real world (Kim Lian Chan, 2009).

Some participants interconnect the **Play Value** and **Excellence Value**. For instance, Harry and Oxana, both participants, visited a theme park and enjoyed a roller coaster ride experience. Here, the participants perceived play value because the VR applications could successfully entertain the participants with excellence in quality. They said that the experience was so realistic that when the activity started, they decided to stand up to feel the feeling of movement better. It was interesting to see how immersed they were. They laughed a lot during the experience. We needed to stand behind them to protect them from falling behind as sometimes they were losing balance during the movement of ups and downs in coordination with the movement of the roller coaster.

“(Laughs) This was really fun. I could not control my legs; I felt real that I was falling. It was scary, but, in my subconscious, I knew it was not real, but still, I could not control my legs!” (Harry).

“Owoo I don't know why I never try VR before... This is really amazing! OMG, I want to try more experiences...I tried Disney world and the theme park... (VR). Tourism can be very ambitious because you see those place that exists, so it is impressive...” (Oxana).

In the interview, both Harry and Oxana stated they were overjoyed. According to the participants VR mimicked the real world properly, which means VR achieved the expected quality and, as a result, the users perceived **Excellence value**. And their activity was fun and playful, which means they perceived **Play Value**. The authors could detect **Play Value** from two more participants. Our participant, Olexandre experienced a virtual tour of a Safari in Indonesia in an sanctuary full of monkeys, and Carol decided to take an animal Safari in an elephant sanctuary. The activity gave him a sense of excitement and a fun time to stay so close to these animals and see how they live.

“It felt real. I was standing and almost touching these monkeys. The monkey was just right here, and they looked at me. It feels like I really went there... Before, I never knew VR could function this way...” (Olexandre).

“It was super cool, especially in the beginning. I felt the elephant coming towards me... it was scary, but at the same time, it was owooo! What an experience!” (Carol).

In summary, this study found the participants of this thesis paper perceived **Play Value** as the VR experiences also had embedded **Excellence Value and Aesthetic Value**.

5.1.3 Value in Travel Virtually Influences Future Travel Decisions

VR technology has become an essential medium for influencing consumers and a prominent tool for core marketers. Tourism stakeholders also joined the trend, and by using the power of visualization and immersion ability of VR, they are providing simulated tourism experiences (Kang, 2020). According to Lo and Cheng (2020), the more efficiently tourism stakeholders can increase the quality of VR technology (ability to visualization and immersion), the more it can positively influence the users' purchase initiation or likelihood of buying. After experiencing the VR, the participant Bin praised the quality of the VR experience. As he is interested in seeing wild animals, he was experiencing a virtual trip in a Jungle, and during the activity, he encountered Snakes. He was impressed by the fact that the experience was so realistic and how the quality of the video made him feel immersed in the environment, which can be deducted as **Excellence Value**.

“O man, the snake!!! When the camera moved so quickly, you felt a little bit scared... compared with the tv, you fell more kind of involved with the scene. You feel real like there. You can feel scared of those snakes, ushi, you know. That will come and beat you (Laughs)” (Bin).

Another participant, Silva, chose to visit Machu Picchu Mountain. She had already been to Machu Picchu Mountain physically. But she decided to take the experience virtually to compare how different the experience could be. After her VR experience, she explained that visiting the same place virtually was a very pleasant experience. One interesting point was when she brought to our attention that during her physical travels, the only thing she could see the ruins but had to imagine the structures and the state of the civilization there hundreds of years back. Plus she had to pay a hefty sums of additional money for tour guide service to hear the guided explanation about the historical setting of Mayan civilization. However, in her opinion during a traveling experience with VR, the travellers will get the opportunity to travel

back to the past and see the graphical interpretation of what that same place looked like back in the days as well get much more information to understand the historical site. Here it is clear that Silva perceived both **Excellence Value and Aesthetic Value** in her VR experience. Moreover, in her comment, she was surprised that visiting the same place virtually could be so interesting, creating a superior sense of satisfaction.

“Owoo, this was nice, to go back in the past and see how the Machu Picchu was really when the Mayans were there...When you go into real life, you have to have the imagination to see the ruins and imagine how was look like. But here it was easy to see the video showing how looked like before” (Silva).

While Silva enjoyed revisiting the same tourist destination, the participant Dea expressed a totally opposite opinion about the relation between physical travel and Virtual travel. In her virtual experience participant Dea, unlike Silvia, expressed that after the VR experience, she lost interest in revisiting the same place physically. The scholar Perry Hobson and Williams (1995) discuss that one of the VR effects that could directly impact travellers would be the discouragement of people from traveling physically. This is exactly what happened with Dea. She was so satisfied with the immersive quality of the travel (**Excellence Value**) experience, she felt like she had already visited the place. And therefore, in her opinion, there is no need to travel to the same place physically.

“After VR, you might not feel interested anymore to visit the same place physically. It is like you might feel like I have been there, so Why would I go an expensive trip to go there again?” (Dea).

According to Lo and Cheng (2020), tourism services and product purchase decisions are mostly driven by the expectation of achieving relaxation, fun, and excitement. To achieve this pre-fixed perceived value of users, providing high-quality audio-visual data to the user's sensory system is not enough anymore. **Tactical sensations** like vibration, replicating the sense of touch, or even in some cases, smell have been developed on a limited scale already and are now being used in many Virtual Reality devices (Guttentag, 2010). From analysing the semi-structured interview of Darja and Olexandre, the authors could interpret that in their opinion the experience provided by VR headset is already almost real and have high hopes for the bright future of virtual reality.

“Well, they said that is it possible that VR will open much more doors for you to explore nature. I might never get that experience in real life...It would be interesting to try VR technology with gloves and if you can feel the sensation in your skin, owoo! If I get that kind of VR experience, for sure I would consider replacing (physical) travel” (Darja).

“That will be nice to see in the future how VR will develop the resolution and quality in the videos...For sure, I would like to watch VR from time to time to visit similar experiences to compare and see” (Olexandre).

Both of them were looking for something new to enjoy, and these participants enjoyed the novelty of this technology which was interpreted as **Play Value** (Holbrook, 1999). Furthermore, they are hopeful about the future of VR travel to be even more realistic (immersive). This indicates their desire for additional excellence value from the developers of virtual reality travel experiences.

The only participant in this research who expressed a special interest in traveling to religious sites was Dink. He considered visiting to places mentioned in the bible as his religious duty. His faith and beliefs are his primary motivation for travelling. So, in the VR experience, he chose to visit two religious cities: Rome and Jerusalem. In Jerusalem, he could get a virtual tour of sacred places such as the calvary where Jesus was crucified and take a walking tour of Jerusalem's old town. He also got an audio-guided tour explaining the importance of the western wall for Muslims and Jews. After his VR experience, he pointed out how realistic the experience was and how this tour led him to believe he was experiencing something spiritually divine. The **spiritual value** is perceived when experience derives from a religious person's connection and feeling of being close to the divine power (Mukerjee, 1964). Therefore, Dink explained how important it was for him to visit this religious site because he could relate to the bible's history.

“As a Christian, I felt both of these two cities are important for my religious beliefs. In VR I felt I went there. I felt like I have been there personally. I think this totally changed my perspective. I know VR is different from visiting this place in person but still, I like the tour guide explaining these turn points, like where Jesus passed. Even in Rome, in the St. Peter,

they explained the history. This is a positive aspect (the travel using VR) you can get everything” (Dink).

Lastly, in this study, the **Status Value** was also perceived by one participant. According to Holbrook’s **consumer value** typology, the **Status Value** is extrinsic, active, and other-oriented. Usually, this value refers to the acquisition of a product or service, express worth. In this example, Josim is a participant who migrated from Bangladesh to Sweden. And he explains that VR technology is not easily accessible in his country. After several experiences in VR, he was proud to have this opportunity to experience VR. He mentioned how he would tell his friends about it. He explained that it was not common for the people among his friends and family. Buying or accessing VR devices can be expensive and getting access to technology like that symbolizes exclusive activity usually enjoyed by the elites. The unique experience of VR and feeling of exclusiveness led him to perceive **Status Values** from VR travel experience.

“For three or four seconds, I felt a little bit of adrenaline rush, it’s something different, that’s why I think I will probably buy a VR headset very soon!! ... This was a special experience that I will cherish for a long time. I am definitely going to brag about it to my Bangladeshi friends... I think none of them actually tried VR tourism because there is only a VR game centre available in the capital city! ooh! They are going to be so much jealous!!” (Josim).

5.2 Value in VR As Alternative Tool For Barrier-Free Tourism

Traveling and the activity related to tourism are a part of bringing joy and increasing well-being. In addition, it creates opportunities to explore the unknown and socialize with our friends and family (Cheong, 1995). There are times when traveling in the traditional way is not possible for some tourists due to travel barriers and restrictions. Sometimes barriers are linked to limited time, financial issues, fears, security concerns, and physical impossibilities (Fu & Timothy, 2021).

According to Schiopu et al. (2021), an example of a travel barrier was the pandemic that started in 2019. The situation is a warning to the tourism sector to consider more digital solutions to bring alternative travel models. For instance, during the pandemic, the world came to a standstill, almost all tourism destinations went under lockdown, and restrictions were implemented for social distancing to reduce the movement of people (World Travel and Tourism Council (WTTC), 2020). According to Loureiro et al. (2020), VR appears to gain

exponential popularity during this time. She believes that VR contributes to reduce our carbon footprint by limiting travelers' movement. Thus, VR tourism, provides an alternative way to experience travel from the comfort of our homes. In this study, the participants contributed to the idea that VR indeed can be a great solution to overcome barriers such as physical, economic, fears, political, and social-political. Therefore, we explore the opinions and perspectives of the participants to understand the barriers they faced in traditional tourism and investigate whether the VR travel experience could bring an alternative to them.

- **Physical Barrier**

A physical barrier occurs when an individual is unable to move from one place to another. Several prominent researchers have conducted their investigation on the physical barriers of traditional tourism activities. This situation can occur due to age (Srifar, 2018), physical disability in the motion motor (Perry Hobson & Williams, 1995), suffering from intellectual disorder and many more. In this context, this study presents some physical barriers that participants confronted or suggested their opinion about VR travel can be used.

For example, participant Rafael loves participating in adventure activities during his travels. He is a self-proclaimed adrenaline junkie. He mentioned in the interview his dreams of going to the Himalayans to climb Mount Everest. However, his concern was that he did not feel strong and fit enough to travel there. While he did not feel ready for the expedition to climb Everest, we offered the virtual experience of exploring the Himalayas villages and Mount Everest. After the experiment, he commented that his desire to explore this fascinating place in the world has increased.

"I would like to go to the Himalayan, climbing there, but with my physical condition, I think I would not even arrive at the first control point." (After the VR experience) ... I want even more to go to the Himalayan. When you think about it, you know that there will be a mountain and climbing. But now, with Virtual reality, you can see this village where you can stop with the native people... I would love to go to visit physically" (Rafael).

The information he gained through the VR travel increased his awareness of the destination, and the experience was fun and exciting (Holbrook, 1999). The play value perceived from the VR travel experience motivated him to overcome the idea of a physical barrier. On the contrary, Elizabeth likes to travel, but she commented on how stressed she feels about planning

and organizing any trip. She feels dizzy during flights, which explains her trait of avoiding destinations with long-distance. Her physical barrier to travel makes her to mostly choose destinations that can be conveniently traveled via road, train or ships.

“My experience was diving in the ocean...I don't know; this was really nice. I think I will never do this in real life. I think this can be nice to try a place like that because I enjoy if you don't have time, or you can do because money, this is actually an alternative” (Elisabeth).

After the VR travel experience, Elisabeth was convinced that she could explore many tourist destinations without the discomfort of taking many hours of flights while in the convenience of being at home and saving the cost of physically availing the activities. Here the **Play Value and Efficiency Value** was perceived by the participant during his VR travel experience.

Another common physical barrier occurs for people with motion motor disabilities (Perry Hobson & Williams, 1995). Many tourism destinations are still developing accessibility for people in need. But Maria recognized that VR could bring an alternative and provide accessibility to break this barrier. She mentioned that one of her family members with physical disability would be greatly benefited from the programs offering virtual experience, and allow him to have the feeling of overcoming his physical incapacity to move.

“I know my uncle; he always asks me what the places look like, but he cannot travel because he is in a wheelchair, and it is not easy, you know.... Brazil does not even so much support for those people. So, it can be hard for him to move and leave his home. VR is such a blessing for them” (Maria).

- **Security Barrier:**

The Security Barrier is another significant barrier to travel. Tourists step out of their comfort zone during traditional traveling activities and trust the tourism industry stakeholder to take necessary security measures. However, political unrest, lack of supervision, economic instability, and overall moral decay of social values and norms lead to illegal, antisocial, and criminal activities (Toohey & Taylor, 2008; Yang, Sharif, & Khoo-Lattimore, 2015). Negative comments of bad reviews on social platforms (Pantano & Corvello, 2014), travelers' vlogs, and previous unpleasant experiences prevent travelers from traveling and participating in tourism-related activities in those geographical locations (Cheong, 1995). One of the participants of this

study, Oxana traveled to Turkey twice. However, on both occasions, she had a bad experience on several occasions during service encounters and decided not to revisit Turkey. Here, she decided as a consumer upon evaluating her perceived destination image from personal experience (C.-F. Chen & Tsai, 2007).

“I actually changed my mind to go to Turkey at some point when I went twice there with my mum, but both times I had such a bad experience with the quality of everything. Once I got a good hotel and the people were very nice. but I don’t trust to go there anymore” (Oxana).

On the contrary, users do not have to think about security barriers during VR travels as the interaction with the VR application is straight and simple (Pestek & Sarvan, 2020). Moreover, Dea and Denise, these two participants, mentioned the security barrier during their semi-structured interview. For Dea, she did not feel secure traveling alone outside of Europe. She even remarked that the barrier of not knowing legal procedures in a foreign land influenced her decision of only traveling inside Europe.

“For me, it is very important that a destination has security. It is the first thing I think about it. Maybe that is why I don't travel to countries outside of Europe. It is a big thing for me. I feel like... OMG I am alone. There is no European rules or system that can protect me. And I don't know my rights as well. so, if something happens to me in another country. I don't know what I can do” (Dea).

In Denise's case, she mentioned how she was fascinated by Arab culture. For example, Morocco, it is a destination that she would love to go to. However, the authors asked her why she never went, and she commented that she thought traveling there would not be a wise decision as Morocco was not perceived as a secure country for solo female travelers. Some of her friends and online reviews have shown that some regions of Morocco are unsafe, especially for women to travel by themselves. So, here e-servicescape platforms are co-creating the perceived value of a destination and reduce a travel barrier existing in traditional physical traveling experience.

“I realized that going there as a woman might not be the wisest thing to do... I saw many reviews saying a lot of negative things and of course things that you can do, but you never know” (Denise).

Interestingly the authors could also notice that the participants who raised the issue of the security barrier in physical travel were all women. And rightfully so, as women travelers are statistically more targeted by criminals and scammers in many countries (Khoo & Yang, 2018). However, she was thrilled after the VR experience because she did not have to think about security while choosing destinations in VR. The authors inferred Oxana, Dea and Denise who have perceived **Efficiency Value** as VR conveniently eliminated security barriers for them.

- **Economic Barrier:**

Travelling and tourism activities can be expensive and not affordable for many travelers. VR provides a simple yet great solution for them to enjoy tourism on a grander scale. Vishwakarma et al. (2020) argue that access to the internet or the availability of virtual reality technology cannot reach many people in developing countries. Nevertheless, considering transportation, accommodation, food, and the expense of tickets needed for traditional physical tourism, VR travel expenses are almost non-existent (Perry Hobson & Williams, 1995). As here, The users do not have any expenses except the one time fixed investments to buy a VR device and small subscription fees. The authors of this study interpreted **Efficiency Value** and **Excellence Value** from the comment of Silva.

“You know, this can be a great alternative So many times, I could not afford to visit certain museums. It is so different when you visit, and you have a free guide tour. This is great. Visit the nicest museum for free. I am sure there are some exhibitions that we don't have access to online, But the great thing here it is that you have your own time. I hate to go to the museum, and then I cannot be there watching an art for a long time because of the waiting line... So here is very nice because you can actually zoom and see more details (The art or paint)” (Silva).

For Silva, museum ticket price, fixed visitation time, and the waiting line to observe renowned art pieces were noteworthy constraints for physical traveling to the museums of her choice. On the contrary, during VR Travel, she mentioned that she could access free entrance to many museums avoiding waiting lines, have the ability to visit at her convenient time, and get the chance of observing the unique feature of the artifacts closely fascinated her. In this case, **Efficiency value** and **Excellence value** in VR technology worked well together and lifted the economic barrier as an alternative solution to physical travel. Josim was another participant who was a self-proclaimed budget traveler. Even though he wanted to travel to the most popular

destinations and experience expensive touristic activities, his economic situation did not allow him to do that. During the interview, Josim pointed out several constraints he had faced during physical travel. The booking and planning stages were stressful for him as he tried to find better deals to save money on accommodations and flights. As he got hour base payment from his part-time job, taking leave from work for traveling meant a loss of income. So, from his perspective, he was losing money (income) to spend money (expense on destinations). Here is his comment:

“I am not paying a large amount of money on (VR) trips. It is no stressful bookings, vigorous planning for trips and lose 3/4 days of nonpaid vacation. I will travel at my convenient time in my couch without spending money for transport and accommodation ... but I cannot afford it, or I don't have the chance to visit many places in this lifetime. In that prospect, I kind of like the experience in VR. It made the impossible possible for me” (Josim).

These travel constraints are really influential factors for modern-day travelers and influence travelers' booking intentions and travel choices (Fu & Timothy, 2021). Josim appreciated VR experience even more as a cheaper and easy solution to solve his economic barrier. Thus, the authors interpreted that, for Josim VR traveling experience created **Efficiency value** as he thinks his economic barrier to travel in traditional travel need not to be considered in VR travel experience.

- **The Companionship of Family and Friends:**

People love to travel with friends and family while exploring the world, and solo trips are not preferred by most travelers (Cheong, 1995). But traveling as a group sometimes creates extra hassle of choosing a suitable time and place for the whole group because of their difference in preferences. For example, "Maria," one of the study participants who previously loved to go on long trips, now had to compromise for her family. She explained that she often had to alter their travel plan or find cheaper destinations because, economically, it would be difficult for her and for her husband. Also, Khoo and Yang (2018) argue that many have to think about their children while making travel decisions as parents. As VR can be used from the comfort zone of the user's home, the cost-effectiveness of traveling the world is superior in VR to physical travel (Kang, 2020). When she tried VR, the authors asked which destination she would like to visit the most, and she said a destination that could be hard to access by budget

travelers. This means she wanted to experience the destinations she could not afford in the real world.

“Here, it is easy! You paid for the device one time, and then you have to pay to use a specific application... But imagine how much money you can save on VR Travel... it usually costs a lot of money to travel to the other side of the planet” (Maria).

The VR OCULUS quest2 headset is offering many travel-related applications for free, only a handful of them charge a nominal subscription fee to access them. Even so, for Maria the convenience of using VR for traveling in the comfort of her own home is extraordinary. The possibility of low-budget travel and enjoying the thrill of hundreds of experiences at a convenient time created **Efficiency value** for her that intrigued her (Loureiro et al., 2020).

- **Health And Age Barrier:**

Tourism activities enable a person to learn and experience something new by providing them an escape from their daily routine. Studies have proved that partaking in tourism activities increases positive effects on health, overall wellbeing, and better quality of life (C.-C. Chen & Petrick, 2013). Unfortunately, in the traditional tourism practice, people with health issues, a person with disabilities, and senior citizens have to face many challenges. These barriers demotivate individuals with health issues to travel less (Fiocco et al., 2021). A participant in the study, Isaura pointed out that the technicality of VR technology might create an entry barrier for the new users, especially for senior citizens.

“I don't know for older people if it could be a good alternative. For me, VR is nice because in my age, I know it is too late for activities that I wished to do when I was young... Maybe if you set everything ready for them. Because you have to have a basic understanding of how this works, right? Like the first part when you introduced me and taught me how to select the experience. This can be a bit tricky for people that are not used to the technology” (Isaura).

Although Isaura was concerned that the technicality of VR technology might create a barrier for VR. But, she thinks with proper assistance, VR can overcome its own constraints and bring superior solutions to regular travel constraints. According to her suggestion, there needs to be a supervisory setup where a caregiver will explain the process and give the elder a small

briefing and training on operating VR (Fiocco et al., 2021). Similar initiatives should be taken for the people with paralysis (Ford, 2001).

Silva also commented that certain destinations would require the tourist to be prepared to face physical preparation for extreme condition of tourist destinations. For example, High altitude of mountain areas, extreme humidity of subtropical region, heatwave of desert, tidal waves etc. She explained she felt difficulty to move around in high altitude. In her opinion, going to a destination of high altitude could generate a barrier for people who cannot adapt the lack of oxygen in high altitude. During her interview she explained her experience in Machu Picchu and how VR can provide an alternative to overcome this matter.

“In VR you don't feel the altitude sickness... I went in Machu Picchu in person, and I felt so horrible because you need some days to acclimatize. But, in VR travel, it was very nice because you could go in those important point” (Silva).

- **Government Imposed Travel Restrictions**

COVID-19 pandemic raised a series of issues and challenges for the tourism industry (Gössling et al., 2020). The pandemic was one of the most commented reasons that participants felt restricted or the presence of a barrier to travel during the interviews. Several participants expressed their frustration and desire to get to normal life again. According to participants, travel is meaningful because they feel the need to escape from their routine, meet friends or simply explore the unknown. During the pandemic, many had to face psychological and physical constraints like getting stuck in a foreign land and getting financially drained (Canet-Juric et al., 2020). Darja, for example, explained that she felt overwhelmed when the pandemic hit Europe. She was so upset because she could not visit her mother in Spain. Although the VR experience does not replace the need for socialization, in her opinion, she believed that VR provides an alternative solution to enjoy exploring the world during pandemic times.

“If travel is banned, yes it will be sad. And VR would be a choice instead of traveling physically, but I would try more VR just to explore. Still, you have to get out of your home to breathe some different air” (Darja).

Darja also raised a question about the possibility of long-term travel restrictions. And she was not alone! Another participant in this study, Isabella had a similar concern. We are still not safe after imposing restricted travel and social distancing for almost two years. New variants of Covid-19 are still spreading, and the vaccination program is not showing much hope yet. People are still living in fear, becoming restless with this prolonged travel restriction. In parallel, software developers and programmers involved in VR based travel experience, have continuously created noteworthy content. Moreover, significant technological progress based on a better understanding of the user/consumer experience enabled VR applications to achieve popularity (Shen, Xu, Sotiriadis, & Wang, 2022). During a semi-structured interview, Isabella explained her perception of “Barriers” in traditional physical tourism. As it was not safe to travel during a pandemic and social distancing was imposed due to Covid-19.

“Well, let’s just say, I would like to go to Brazil or to Africa, but with new variants coming out from these regions every week, it feels so dangerous... I would love to go to Venezuela, Iraq, or Iran, for example, I know it is so beautiful, but probably I will never go to these places in my lifetime...” (Isabella).

Isabella not only talks about the travel restrictions due to pandemic but also talks about the travel restriction due to political conflict (Venezuela), war (Iraq), or restricted visa access (Iran). No matter how beautiful nature is or unique the destinations are, these restrictions or barriers deter traditional physical travel (Toohey & Taylor, 2008; Yang et al., 2015).

- **Psychological Barrier:**

According to Dolničar and Dickson (2004), the concept of overcoming psychological barriers is central to tourist behavior. Usually, tourism stakeholders aim to portray a safe and sound image in front of the mass travelers (except for adventure tourism activities). For example, fear is one of the psychological barriers because it impacts a person’s behavior and sometimes physically impairs him/her. However, getting rid of psychological fear entirely is still not possible. For example, Darja suffered from a psychological barrier to travel as she has a fear of flying. During the interview, she discussed how much she loved to travel, but many times taking long flight hours was a big obstacle for her. Sometimes it even made her stay at home to avoid the fear she felt during flights. She mentioned that her fear related to the medical term “aerophobia”, which is a fear of traveling by air.

“I get scared during flight, yes, I know, it like aerophobia, some internal panic... when I don't have control of this plane, I feel that this plane can crash, O Gosh! I always hate it” (Darja).

Darja was a good example that VR could be an alternative to overcome this fear barrier. After her VR travel experience, she was particularly happy to see how VR could take her in a tourism destination far from her home without the need to embrace long haul flights and physical stress.

“Holy Shit!! yes this was so so cool...I was amazed and very excited; I mean you see the animals so close, looking forward to you. Also, the thing that you feel super real...VR open much more door for you to explore. This is definitely an alternative to me and explores places like I want to go to” (Darja).

In Sum, this section presents how people perceived different values during VR experiences in tourism. Using VR for travel does not show an alternative to substitute the desire to travel physically. However, VR shows great satisfaction for most of the participants who have this technology as an option to experience travel in times of crisis such as a pandemic, or barriers such as fear, economic or availability to travel.

Chapter 6: Discussion and Conclusion

This last chapter of this study presents a summary of the semi-structured interview results. Following the segment, this study presents the recommendations for future research, limitations, and the final conclusions. Furthermore, the results presented allow the authors to understand and examine the findings, answer the research questions, and analyse the findings with the presented existing literature and theory.

Primarily, in this thesis, the participants had mixed expectations before enjoying VR-based tourism activities with VR headsets. Some thought the VR experience would be similar to watching a 3D movie or watching HD programs in 4K TV, and some expected it to be just a new kind of YouTube or google street view like technology. But, as soon as they finished their VR Tourism experience, they did not hesitate to show their admiration for VR technology. They were happy with their experience and fully cooperated with the semi-structured interview. Each and every one of the participants couldn't hide their excitement. And, later this study could find that Virtual Reality travel experience undoubtedly exceeded their expectations, and

the participants perceived several types of value. The results suggest that the formulated questions are indeed important.

As the intention behind this study was to investigate perceived value, in VR tourism activities and to examine the role of VR being a promoter of barrier-free tourism. It is important to mention that this study shows that physical travel continues to be essential and the most preferred way to travel. Even if there are new technologies such as Virtual Reality (VR) as an alternative form of travel that allow people to disconnect from the routine. But still the contemporary technologies are far behind to replace or replicate the same feeling that traditional travel can provide. Even though virtual reality developers have been creating new ways to experience realistic tourism, but still many major aspects of physical travel are yet to achieve by VR technologies. For instance, the desire of socialization with the host community, the taste of local cuisine, and the feeling of physical contact with tactile sensations. However, this master's thesis explored the answers to the research questions in accordance with Holbrook's (1999) definition of value typology. The authors could interpret that, participants of this study perceived seven types of values out of eight, except for the Esteem Value. None of the participants provided any comment that can be interpreted or related to this value.

The findings of this study also show that one person can even perceive multiple values during a single VR travel experience. Most of the participants expressed that they liked the level of convenience VR travel applications offer, which indicates they perceived "Efficiency value". With just a VR headset and stable internet connection, users can efficiently travel anytime-anywhere. Although accessing VR devices requires an investment, and sometimes previous training in the operation is necessary for better navigation, VR is more convenient in comparison to physical trips. In short, traditional physical travel requires much more effort from traveling virtually. The cost, the planning process, and the stress that can be felt after and during the trip. Therefore, VR offers an opportunity to remove travel costs, transportation hassles, safety risks, language barriers, and visa requirements. Even for extreme tourism activities and super expensive experiences, the participants don't have to limit themselves. In addition, most of the participants express that VR is a valuable tool to break down those constraints that create barriers, which ultimately restrict travellers from taking part in traditional tourism activities.

The second most perceived value is the "**Play Value**". The participants chose the VR tourism experience of their choice, while most of them experienced being in a very comfortable homely environment. The freedom of choosing VR applications and a comfortable place for experiencing VR allowed the participants to enjoy the experience to the fullest. Almost all of

them expressed their excitement and expressed their joy during the interview. From their comment, the authors deduced that the participants perceived the **Play Value** on those occasions.

Some participants expressed uncomfortable feelings about the unsustainable business practices conducted in the tourism business and appreciated VR travel as a sustainable solution. The results are the perception of “**Ethical Value**” for those participants. In addition, the participants who selected nature-based VR experiences praised the beauty portrayed in the visuals of destinations which almost felt real, creating “**Aesthetic Value**” for the users. As the purpose of VR travel was to provide the traveller an experience of almost real travel, the participants perceived “**Excellence Value**” at times when the audio-visual functions successfully provided them the extraordinary feeling of mimicking the real world. Moreover, the participants perceived “**Spiritual Value**” as they felt a closeness to the superior power while traveling to religiously significant destinations. Furthermore, the “**Status Value**” is perceived when they assume bragging about the memory of VR travel experience to friends will showcase their belonging to the elite society.

Moreover, this master’s thesis uses the consumer value theory developed by Holbrook (1999) in conjunction with existing literatures to add credibility. This paper contributes to the development of literature in several other fields. For example, value tourist expectations in VR (Vespestad et al., 2019), Consumer value in services (Sánchez-Fernández et al., 2009), Creating Experience Value in Tourism (Prebensen et al., 2018), travel intention in Virtual Reality (Skard et al., 2021), and examining accessible tourism experiences in VR (Darcy & Dickson, 2009), etc. In addition, this paper complements existing literatures on consumer value typology (Holbrook, 1999) and applies it to perceived value in VR tourism experience and the role of VR as a tool to promote barrier-free tourism.

The study also presents some limitations. This master’s thesis adopted the Holbrook consumer value theory to analyse the value categories. As during preliminary background search, the authors found his theory most suitable for the aim of this study. However, the result of this study does not intend to generalize values. Other value theories could be valid for investigating the aim. In addition, the sampling strategy focuses on participants who expressed beforehand appreciation for travel physically, and all participants selected living in a geographic setting with easy access to technology. Thus, the results might differ significantly if further studies are conducted with the participation of a sample from financially and technologically under-

developed segment of society. Moreover, the type of VR device used in this study limited the participants' senses during the experiment. As, each day new VR technologies are being developed, new devices could offer a better audio-visual experience and perhaps be more realistic, affecting the participant's opinion. For example, there are dedicated VR zone and entertainment centres offering virtual reality experiences. Despite of the centres' focus on offering entertainment of games to the customer, there is the possibility to experience VR for travel purposes. Usually, these centres offer customers to experience the latest version of VR devices with updated technology available for consumers. In addition, they combine VR headsets with other elements that can significantly affect the perception and the feeling of immersiveness of the user. For instance, the combination of a Headset with specialized sensory gloves that can mimic the sense of touch. Also, special artificial environment can be set to prepare the users to experience and feel a sensorial sense of cold, and hot air, smell aromas, gets water sprayed on, and have more freedom to walk during the experience. This unique setup would considerably change the participants' perspectives, and therefore, different values could be recognized in that instance.

Suggestions for future research, observed by the authors will be mentioned in this segment.

Firstly, investigation on perceptions of values could change if the study is conducted on different segregated groups. For example, selecting different samples by age, economic situation, education, religion, gender, culture, and nationalities greatly influences how they perceive value. Thus, segregating participant categories with a more extensive diversified data set can give a different overview of value perspectives. Secondly, an interesting point is to replica this research in the future to see how virtual reality develops and how this affects users' opinions and behaviour. Thirdly, in future studies can take different approach where researchers can investigate to explore negative side effect of using virtual reality for travelling and whether VR technology can somehow create novel kind of barrier. As several participants mentioned that they felt discomfort and dizziness to some extent during the virtual reality experience, thus scientific research on how VR can be developed to adopt human senses and provide enriched experience with greater value. Lastly, as this study examined the collected data considering consumer value theory developed by Holbrook, only one theoretical approach in the understating of Consumer Behaviour has been used here. Other value theories and methodological approaches could result in very different results.

This study contributes to the understanding of the relationship between the perception of value and virtual reality in tourism experience. Furthermore, it is shown that value is an important component to be added to the experience to improve and promote barrier-free tourism.

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Appendices

Our testimony doing this research,

before we started doing this research, we were curious to understand better how we could experience better VR in tourism. Both of us have very limited experience with VR tech; I Laudiceia had experiences based on games and attractions in Theme Park. Tanvir also thought that this was so new tech and was surprised by how developed this tech was. The more we started searching the topic, the more interested we became in going deep and exploring the virtual world better. One point that woke up our curiosity was because the pandemic we read about many times on the internet virtually took over during this pandemic.

We found in Helsingborg a center of entertainment offering a virtual reality experience for a reasonable price for private and businesses. The company was opened in 2016 and has been successful in the market. Apparently, it is one of the first in this category in Europe and Sweden to offer a broad virtual reality activity to the public. So, we leave the link for anyone interested in: <http://www.vrstudion.se/>. Then we decided to try before writing an investigation in this subject.

I Could not be more right!!! Visiting the studio astonished me because I had so much fun. I knew about virtual reality, and my expectations were superseded because it was so real. I tried different virtual activities, and I cried, I laughed, and I also lost control of my body during an adventure activity. All this feeling was just because I felt so immersed in the environment. After my experience, I wanted to investigate how people experience VR and give a similar experience to those participants who maybe did not have the opportunity to try it.

I could not believe how the technology developed so much in so short a time. Everything surprised me, the quality of images, sounds, and the accessories used to make you feel more real in your experience, like a fan blowing cold or hot air, a special plank on the floor to walk on to feel precisely as in the immersive experience, etc. I decided to buy a headset Oculus to better understand my research. It is possible to find plenty of VR models in the market, and there exist several brands and enough distinct features available to cover the need of many. After long research, I decided to buy the OCULUS Quest2. I found this model appropriate for this study since you can connect anywhere with Wi-Fi and enjoy your VR gadget.

I explained to the participants that the interview would slip into two parts during the interview. One theoretical and practical... This project was absolutely fun, and I had a wonderful time. I had a great time with the participants. Most of the participants had never had experience with VR before, and most were astonished by the experience. I observed how they laughed,

expressed joy, and tried to catch animals or objects during the experiment. In the end, this academic work is mainly positive because I could achieve my aim and understand better this technology, even though we still have a long way to develop more and make it more accessible. So, thank Lund university for providing me with the space to dig more into the virtual world.

Interview guide

Do you like to travel? Have you ever tried to travel virtually?

Today it is possible to travel all over the world just by sitting on a comfortable sofa; technology allows our society to experience barrier-free tourism. There is so much to explore with virtual reality, from exploring space to diving into the deepest ocean. Since this tech has been growing in popularity as an alternative way to travel, there is so much to explore and understand.

As a master's degree student from Lund University, my partner Tanvir and I are carrying out research about how we can understand the values during a virtual trip experience. So, if you love to travel and would like to be part of this experiment to support my academic study, I would like to invite you for an interview.

The interview consists of two parts; first, we will start with some questions so that I can personalize the interview. Then I would like to invite you to experience a Virtual trip on Oculus quest2. Depending on your tourism interest, I will try to find and adapt and experience more closely with your preferences. The virtual experience is estimated to take approx. 20 minutes. After that, we will continue with some more questions to get to know your experience.

Remember that all the Information used here will be used only for academic purposes. As for voluntary participation, you have the right to be anonymous if you desire as well; you have the right to discontinue the interview or the experience anytime you feel like it.

Thank you very much for your participation!

Laudicéia Da Silva Åkesson and Tanvir

Master's in-service management specialization, Tourism. Lund University

INTERVIEW QUESTIONNAIRE

Break ice Questions:

- a) What is your name, and how old are you?
- b) Where are you come from?
- c) What is your current occupation?

Virtual tourism knowledge:

- a) How often do you usually travel during a year?
- b) What is your main motivation to travel usually?
- c) What is your main motivation to choose a destination?
- d) Do you know what type of tourist you are? For example, are you more interested in going on vacation to visit friends? Explore nature? Culture? Etc? Tell me about it?
- e) Have you ever tried traveling virtually with VR oculus?

If the answer is YES:

- a) What type of virtual trip have you tried? Tell me more about it?
- b) Can you share more about your experience?
- c) What made you try a virtual trip?
- d) Why did you try virtual travel, and where did you go?
- e) In your opinion, what are the differences between travel virtual and physical? And what positive and negative aspects do you think you can experiment with traveling virtually?
- f) What do you like the most on a virtual trip? And what do you like the less?
- g) Did you have to pay anything?

If the answer is NO:

- a) Do you think you can enjoy a virtual reality trip?
- b) What do you expect on a virtual trip?
- c) Which place would you be interested in visiting? And why?

I invite you to have a short virtual trip through the VR headset OCULUS quest2. During this experience, you will travel virtually to the destination of your choice, and after that, we will continue the interview.

Have a nice trip!

After the experience.

- a) Did you enjoy your virtual trip? Tell me about your experience?
- b) Did you feel it was realistic enough?
- c) Did you have any discomfort during your virtual trip?
- d) How do you describe your virtual experience?
- e) What could be different? Or what could improve?
- f) What is the positive aspect of being able to travel online? And the negative aspect?
- g) What surprised you the most?
- h) After your virtual experience, do you think you physically increased or decreased the desire to visit this destination/attraction?
- i) Did this experience meet your expectations?
- j) Would you recommend people to travel virtually? Why?
- k) Do you think Virtual tourism could be beneficial for you or others? In which way?
- l) Would you like to share any additional comments regarding your virtual experience?