"Corporate Digital Responsibility"

A Study on Managerial Challenges for AI integration in Business.

by

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Abstract

Digitalization is changing the conventional face of business, posing ethical questions with regards to how businesses create, collect, use, and store data as part of their everyday business activities. Moreover, because of the pervasiveness of data technologies and unpredictability of their effects on society at large, the complex network of stakeholders affected by data handling is increasing exponentially. In this regard, Corporate Social Responsibility (CSR) models and approaches constitute a reference point for businesses to integrate ethical principles across corporate action. However, the spectrum of corporate responsibility seems to be lacking a strong foundation for the formulation of ethical business behaviour in a digital context. A recent study (Lobschat et al., 2019) conceptualized a Corporate Digital Responsibility framework, highlighting all the stakeholders and interfaces between them, and initiating the discussion on digital responsibility of businesses. The purpose of this thesis is to explore corporate responsibility in the digital context. Based on a multimethod approach, the researchers conducted a literature review of CSR approaches to digitalization and AI, and semi-structured interviews with AI experts and managers. The findings of this thesis show where CSR and CDR approaches differ and intersect in the digital context, address the concept of agency of technological artifacts and elaborate on the managerial challenges for the integration of AI. First, four outlooks on the connection between CSR and digital responsibility are presented. Second, the agency of digital artifacts is refused, however the implication of their "actions" on other stakeholders are further explored. Lastly, the managerial challenges to the integration of AI, based on the chosen research criteria, are given and discussed. This thesis presents a new framework to tackle the managerial challenges related to the integration of AI in decision-making processes across corporations. The researchers advance the discussion around the agency of digital artifacts and underline the importance of an ethical approach to digitalization.

Key words: AI, Digitalization, Decision-making, Corporate Social Responsibility, Corporate Digital Responsibility, Business Ethics, Digital Ethics.

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Abbreviations

AI	Artificial Intelligence
CDR	Corporate Digital Responsibility
CSR	Corporate Social Responsibility
CSV	Creating Shared Value
GDPR	General Data Protection Regulation
IoT	Internet of Things
PMH	Problem of Many Hands
RQ	Research Question
Tech	Technology

Terminology

Algorithm	Is a term that defines the code that constitutes the software. It was used to refer back to AI technologies in the broad sense.
Participant	Experts and Managers who were interviewed by the researchers.
Researchers	The research team (Hassan Hamadi & Claudia Manzo) conducting this thesis.
Software	Is a term that defines the program used by computers. It was used to refer back to AI technologies in the broad sense.
Technological Artifacts	Is a term that defines all digital programs, machines, and operations conducted on a computerized basis. It was used to refer back to AI technologies in the broad sense.

1   Introduction

"Throughout human history, we have been dependent on machines to survive. Fate, it seems, is not without a sense of irony."

(The Matrix, 1999)
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1.1   Background

Digitalization is happening all around, and it is drastically changing socio-economic and political systems globally. The first tangible signs of the Third Industrial Revolution, also known as *digital revolution*, have been unfolding since the early 1960s, with the introduction of semiconductors, mainframes, personal computers, and the Internet. However, an inflection point has now been reached in society (Schwab, 2016). As Brynjolfsson and McAfee (2014, p.37) explain, humanity is now experiencing a unique set of circumstances which they define as *The Second Machine Age*, characterized by "exponential, digital and combinatorial*"* features of technological advancement. As a matter of fact, digital technologies have pervasively enhanced, automated, and augmented human abilities. The speed at which they are developing is dramatically boosting the levels of sophistication and innovation across sectors and throughout global society. Moreover, the unexpected spread of Covid-19 pandemic has accelerated the development of the Fourth Industrial Revolution (Esposito, Khagram & Signé, 2020). For instance, cross-sectoral integration of AI technologies has enhanced disease forecast and control, online education, remote work, and e-commerce (Esposito, Khagram & Signé, 2020).

At a managerial level, the application of AI technologies in strategic decision-making is of particular relevance (Chernov, Chernova, & Komarova, 2020). Process optimization is increasing efficiency for businesses in areas such as recruitment (Upadhyay & Khandelwal, 2018) and marketing (Stone et al., 2020). At the same time, it is creating new business opportunities by enabling innovative product development like self-driving cars in the automotive industry (Zhao, Liang & Chen, 2018). While the benefits of AI-integrated decision-making processes for businesses are widely recognized, the challenges that such technologies bring about are still unexplored. Such limitations are especially valid if one considers the inherent levels of unpredictability of AI outputs (Yampolskiy, 2020) when they are released on the market. Built-in biases in recruitment processes and erroneous criminal predictions in face recognition, fatal accidents caused by autonomous self-driving cars (Vlasic & Boudette, 2016; Pietsch, 2021) are only a few examples of these unpredictable effects. Such malfunctions of AI-integrated decision-making processes raise questions regarding the ethical principles guiding business behavior in a digital context.

In the context of business ethics, Corporate Social Responsibility models (Carroll, 1991; Elkingtone, 1998; Freeman, 2010) suggest corporations how to include moral and ethical principles in business action and show commitment to societal accountability. However, the idea that ethical norms in the digital era should have another consideration triggered the conceptualization of a new theoretical model and approach to corporate responsibility. Corporate Digital Responsibility (CDR) is defined as a "set of values and specific norms that govern an organization's judgments and choices in matters that relate specifically to digital issues" (Lobschat et al., 2019, p.876,). Besides, the CDR framework (Lobschat et al., 2019) portrays the stakeholders which are affected by the creation and use of digital technologies and connects the impact of their actions to their moral responsibility.

1.2   Problem Statement

Digital transformation is a major topic that engulfs several aspects of the business processes. One of these aspects is AI integrated decisions in corporations. Given the hastened integration of AI technologies in decision-making processes and their unpredictable outcome, the researchers identify a moral responsibility gap which requires a more attentive investigation. Already more than a decade ago, researchers had pointed out that artificial intelligence and learning machines:

"create a new situation, where the manufacturer/operator of the machine is in *principle* not capable of predicting the future machine behavior anymore, and thus cannot be held morally responsible or liable for it."

Andreas Matthias (2004, p.175)

The complexity of autonomous systems is embedded in their design and operation. This aspect makes it inherently hard to distinguish or foresee a "design error from a learning error" (Porter et al., 2018, p.6), due to the network of interactions between users and creators. Therefore, the researchers identify a managerial challenge in understanding how moral responsibility is reshaped in the digital context.

As a matter of fact, the aftermath of AI integration created a context of issues and complications in what is described by norms to be an ethical business behavior and responsible organization. These norms are defined in CSR within the vast philosophical area of business ethics (Carroll, 1991). The resulting predicaments of AI integration in decision-making are observed in society at large and enforce a context of ethical failures (Hadasch, Li, & Mueller, 2013). Indeed, while companies keep on focusing on being socially, environmentally, and economically responsible for their actions towards society, the technological aspect of responsibility seems to have been neglected (Wade, 2020).

Such a context motivated a group of authors to conceptualize a new approach to corporate responsibility in the digital context. Indeed, the CDR theoretical concept developed by Lobschat et al. (2019) seems to be a starting point for mapping the area of responsibilities which could fall on corporations in the digital context. Indeed, their framework includes the identification of technological artifacts and data technologies as stakeholders who are involved

in digital transformation processes. However, this theoretical conceptualization of CDR does not exhaustively cover the ethical implications that managers need to consider when incorporating AI-integrated decision-making processes across corporations, and especially regarding the consideration of learning machines as agents.

1.3   Research Purpose

The purpose of this thesis is to investigate the approach to corporate responsibility in a digital context. A first sub-purpose is to explore the provisions of how the digital and AI aspect are approached in CSR literature. A second sub-purpose is to examine the concept of artificial machines' agency. Lastly, a third sub-purpose is to inspect the managerial challenges which corporations experience when integrating AI decision-making in business processes.

1.4   Research Questions

In order to evaluate the research purpose, three research questions were formulated.

- **Research Question 1 (RQ1):** How is the digital aspect of corporate responsibility, especially of AI integration, approached in CSR literature?
- **Research Question 2 (RQ2):** How do managers and AI experts perceive the agency of technological artifacts and data technologies, as proposed by CDR?
- **Research Question 3 (RQ3):** What are the managerial challenges for establishing a digitally responsible corporation when integrating AI decision-making?

1.5   Delimitations

The focus of this thesis is on the broad understanding of technology and AI integration in business. Therefore, the lifecycle of technologies and data, as elaborated by Lobschat et al. (2019), is used as a reference framework for the researchers to break down the complexity of AI technologies development. Moreover, the research does not dive into the technicalities for each and every phase of the abovementioned lifecycle, but broadly focuses on the exploration of the integration and control processes. In this thesis, the researchers also provide an understanding of the moral responsibility gap which emerges from the integration of AI in decision-making processes across corporate actions. Therefore, the elaboration on the legal responsibility or liability of the stakeholders involved falls out of the scope of this thesis.

1.6 Outline of the Thesis

The subsequent chapter is dedicated to establishing the theoretical framework of the topic at hand. A comprehensive overview of CSR is elaborated along with its relevance for organizational management, and the dimensions of corporate responsibilities which it encompasses. The concept of CSV is also presented briefly in order to highlight the expanded conceptualizations of CSR. In addition, the exploration of the newly formulated concept of CDR is presented, along with an investigation of the context that motivated the need for such a new theory. The third chapter explains the methodology design and elucidates the selection of data collection and analysis methods. Moreover, material, participants, and validity and reliability are presented. Moving to the fourth chapter, the collected primary data are presented. In addition, findings from CSR literature about digitalization and AI are presented. In the fifth chapter, the researchers analyze and discuss the provisions displayed in the fourth chapter, in connection with the theoretical frameworks elaborated in the second chapter. Hence, research questions are fully answered. Finally, the sixth chapter is dedicated to reflecting on the whole research by drawing conclusions, clarifying the main findings, and suggesting further research.

2   Theoretical Framework

"Business will never be any more ethical than the people who are in the business."

(Lewis, 1985, p.377)

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2.1   Corporate Responsibility

2.1.1   Business Ethics

Ethics theories root back to the work of ancient Greek philosophers (Fritzsche & Tsalikis, 2013). Throughout history, terms and definition of what ethics means were developed (Runes, 1964). In the contemporary era, Vittel (1986 cited in Fritzsche & Tsalikis, 2013) explains how the approach to ethics remained within the normative perspective, where the efforts of researchers were aiming to define the codes that a human should follow. Runes (1964) defines ethical behavior to be the rightful standard that directs the behavior between groups in a given context. Barry (1979) elaborates on human conduct and the relative judgment of good and bad attribution based on values and actions. Beauchamp and Bowie (1983) postulate ethics as a query that leads one's behavior in the sense of what should be done and what shouldn't. Additionally, DeGeorge (1982) refers to ethics as research in morality that expresses a set of acceptable acts by a society and the laws in place as well. As for business, corporations are entitled to behave ethically while seeking their financial goals (Lewis, 1985).

Business ethics refer, in the abstract understanding, to what is a right or wrong organizational behavior (Lewis, 1985). The first attempt to set an ethical conduct of business started in The Code of Hammurabi (1700 B.C.) which instituted moral limits for business activities, known as "commerce" back then, where nonconformance was unethical and punishable (Hejase et al., 2013). Similarly, Macroux (2008 cited in Hejase et al., 2013) states that, historically, business and business ethics started together. In 1985, Phillip V. Lewis reviewed 308 different definitions of business ethics from books and journals in his article "Defining Business Ethics: Like nailing jello to a wall". Lewis (1985) explained that business ethics can be defined while defining what is an ethical business imposes that same complexity of the nature of ethics. Donaldson (1982) and Werhane (1985) define business ethics as an exploration of the organizational role and relation to society. It actually sets standards for guiding corporate decision-making processes in the sense of what is judged to be morally acceptable within the business environment (Godfrey, Azigwe & Awuni, 2016). Moreover, the integration of ethics in business practices aims to create trust among stakeholders (Smith, Smith & Mulig, 2005). That being said, the moral value of corporate behavior is essential, hence it requires an impact assessment that goes beyond the financial concern (Mridula & Preeti, 2014).

Going beyond the economic purpose and the legal boundary of the corporation is referred to the moral responsibility of the company towards the society (Walton, 1980). Indeed, the overlap of the academic research within business ethics and corporate social responsibility is noted (Gheraia, Saadaoui & Abdelli, 2019). Existing literature agrees on the similarities at the core of both concepts (Gheraia, Saadaoui & Abdelli 2019), while others define corporate social responsibility as a subset of the broad concept of business ethics (Mridula & Preeti, 2014).

2.1.2   Corporate Social Responsibility

While the rational purpose of doing business is to make profit, build and maintain competitive advantage, and develop a strategy that allows corporations to seize rising opportunities, the concept of corporate social responsibility established a new perspective to the business process and ethical practices. The intervention of societal considerations within business concerns is not recent and the notion of corporate social responsibility lays on the early research and descriptions of corporations' responsibilities towards society (Latapí Agudelo, Jóhannsdóttir & Davídsdóttir, 2019). In the early 1950's, corporations were described as strong entities that impact society thus requiring an overall assessment (Bowen, 1953). The definition of this concept, decades ago, was introduced as a modest shift from the corporation's direct economic interest (Davis, 1960). One year after, Eells and Walton (1961) refined the definition by adding the ethical norms that clarify the relation between the corporation and society.

By 1971, practitioners, academics, and experts developed a sense of awareness due to the increasing urgency of societal problems (Carroll, 1991). For instance, it was advised that businesses, more precisely managers, should actively get involved in enhancing the overall societal environment (Carroll, 1991). At this stage, the evolution of clarity and broad understanding of the concept did not grow in the same direction that was previously defined. Within the same decade, Davis (1973) took CSR to a whole new level, by stating that corporations have an obligation to make society a better place. Following this reorientation, he points to the importance of corporations evaluating their decision-making process which directly or indirectly affects the society. Doing so, organizations can create social benefits that go beyond their performance towards traditional economic gains (Davis, 1973). The notion of obligation was elaborated into four parts: legal, economic, ethical and discretionary (Carroll 1979). Logically speaking, for CSR to earn its legitimacy it must engulf the entire continuum of obligations that a business has (Carroll 1979). Back then, a parallel research started to readdress the concept from a proactive viewpoint emphasizing on the importance of the integration of societal goals and ethical thresholds within the corporate decision-making process and action plans (Carroll, 1991). The concept started in 1976 (Ackerman & Bauer, 1976) and was elaborated to be later introduced as corporate social performance (CSP). Given the scope of this research, the researchers will only consider CSR since CSP is built on similar layers and include the same actors (Carroll, 1991).

In 1991, Archie B. Carroll developed his famous CSR framework that, according to him, encompasses all responsibilities that fall on the businesses' shoulders (Carroll, 1991). The proposed model is a 4-layers pyramid including the economic, legal, ethical, and philanthropic responsibilities (see Appendix A). The author explains that economic responsibilities are the basis of this structure since its absence makes the remaining ones as irrelevant considerations

for corporations. In other words, the process of making profit, being the initial purpose, allows the company to go upwards within the pyramid and fulfill its responsibilities. In addition, Carroll defines organizational stakeholders to be the groups or individuals that should be considered within CSR orientations while doing business (Carroll, 1991). More specifically, stakeholders in this case are societal members that fall within a close state of urgency requiring a responsive behavior from corporations (Carroll, 1991). The list of these actors goes beyond the traditional focus on shareholders (Friedman, 1970) to include consumers, suppliers, community, and social activist groups and NGOs (Bosch-Badia, Montllor-Serrats & Tarrazon, 2013).

In 1994, John Elkington synthesized the concept of the "triple bottom line" encompassing the economic, social, and environmental dimensions of business performance (Elkington, 1998) (see Appendix A). In theory, it is framed as the extension from accounting and profitability, being the ritual bottom line, to these three aspects (Garriga & Melé, 2004). The broad purpose of this theory's implication relies on achieving sustainability through CSR projects (Elkington, 1998; Brin & Nehme 2019). Sustainable business, as in continuous and long-term profit (Brin & Nehme, 2019), is defined by the longevity of the corporation in the industry. Similarly, the theory postulates that the fact of satisfying the surrounding society while performing social activities is a must (Brin & Nehme, 2019). Thus, by prioritizing such an approach to society, sustainability can be achieved. Finally, the wider dimension in this theory is the environment. While holding the quality of life as a paramount, for current and upcoming generations, the theory inputs that corporations should manage the consumption of resources closely and wisely maintaining high levels of nature safety. Moreover, efforts in these dimensions should happen through partnerships (Elkington, 1998). In this case, the urgency of stakeholders' inclusion is properly set since it is a way to optimize performance and build collaborative approaches across all dimensions (Slaper, 2013).

In 1984, Robert Edward Freeman followed the steps of Chester Barnard in his book "Strategic Management: A Stakeholder Approach", the cornerstone of his progressive work that led, after a decade, to what is currently known as the stakeholder theory (Freeman, 2010) (see Appendix A). Based on the theory, stakeholders are groups or individuals that are affected by or affect the decision-making process of an organization (Freeman & Dmytriyev, 2017). Moreover, the theory was developed in a vivid manner to also include what is presently known as stakeholder management, and how it is connected to the approach of CSR (Kotter & Heskett, 1992). On the other hand, other authors also used the theory as a descriptive tool to define the nature of firm and the corporate decision-making process that acts in the interest of its stakeholders (Brenner & Cochran, 1991). One of the important ideas of this theory is the stakeholders' interdependence. Freeman and Dmytriyev (2017) reject the notion that value creation for stakeholders involves a tradeoff. In other words, value creation is not a zero-sum game but a win-win situation.

2.1.3   Creating Shared Value

In order to create value, investments should happen in the first place. Given the large number of stakeholders involved in the process, initiating, measuring, and succeeding are relative and depend on various expectations and objectives. When it comes to corporations, financial measures justify the selection of a specific investment option over the other and allow the decision-maker to track the progress in order to maximize returns and act accordingly. The concept of CSR previously discussed, integrates, to a certain extent, the societal perspective in this business process.

In 2006, Michael Porter and Mark Kramer redefined the link between CSR and corporate strategy (Porter & Kramer, 2006). According to the authors, the competitiveness of a corporation is inseparable from the wellbeing of the society (Porter & Kramer, 2011). This affirmation goes hand in hand with Freeman's approach to stakeholders' interdependence. As a matter of fact, selecting a societal problem that falls within the capabilities of a firm to work on, can generate a higher competitive benefit and will address the societal challenge better than random philanthropic initiatives (Porter & Kramer, 2006). This redefinition of the link between CSR and business came after the relentless focus on profit maximization that increased the gap between organizations and society and acted in favor of stakeholders' independence (Porter & Kramer, 2006).

In 2011, the same authors made a firmer statement that described creating value as a common goal that had a shared effect, presented as "creating shared value" (CSV) (Porter & Kramer, 2011). In fact, the concept of CSV relocates the societal needs from the periphery to the core of the corporate strategy that organizations should implement to maximize profit, solve social problems, and enhance the wellbeing of the whole ecosystem (Kramer & Pfitzer, 2016). As a recent concept in the last decade, some authors criticized this approach by framing it as an idea that is built on a narrow consideration of what CSR means (Beschorner, 2013), while others described it as parallel evolution of the latter concept (Bosch-Badia, Montllor-Serrats & Tarrazon, 2013). On the other hand, authors took it as a motive to claim that corporate strategy should move beyond its economic orthodox perspective to the ecosystem's one (Kramer & Pfitzer, 2016), giving opportunities to innovation while creating shared value (Pfitzer, Bockstette, & Stamp, 2013). One key element is that creating shared value is maximized if all stakeholders collaborate together in order to combine their individual efforts, thus leading to a collective impact (Kramer & Pfitzer, 2016). In short, approaching social and environmental challenges through collaboration and engagement of all stakeholders allows corporations to achieve long term value to the business and the surroundings (Husted & Allen, 2007).

2.2 Corporate Responsibility in the Digital Context

2.2.1 Digital Ethics

Going back to history, Johnson (1978) claimed that the search for a legislative and ethical code to control the use of software had started. Two years after that, Maner (1980 cited in Muller, 2020) defined "computer ethics" as a field of study that covers the resulting ethical failures associated with computer technology. After the summer of the internet, Floridi (1999) defined "information ethics" as a new approach to ethical considerations related to the use of technology which is taking advantage of the philosophical ground of computer ethics. In the last decade, a new abstract term for the ethical aspect of technology has been proposed. Indeed, Capurro (2010) defines "digital ethics" to be the successor of information ethics, dealing with the impacts of digital technologies on the environment and society at large. Afterwards, Luke (2018, p.186) explains digital ethics to be the "normative principles for action and interaction in digital environments". In a more specific attempt, a recent study defined a new section within the broad space of digital ethics, "Algorithm Ethics" (Tsamados et al., 2021). Floridi and Taddeo (2016) explains that digital ethics represents the wide spectrum whereas algorithms ethics defines the ethical considerations and impacts of algorithms that represents the core of AI. This research does not incorporate technical aspects nor a comparative approach of each specific terminology but sticks to the concept of digital ethics as the norms of ethical behavior, concerns and issues inducted by the integration of AI technology in managerial decision-making.

The digital phenomenon is reframing the dynamics of politics, economies, societies, and civilizations at large (De Broglie, 2019). Acknowledging the improvement in social and economic welfare ensured by technology, the ethical risk comes by default (Floridi & Taddeo, 2016; De Broglie, 2019). Two decades ago, James Moore (2001) predicted in his article "The Future of Computer Ethics: You ain't seen nothing yet!" that ethical problems resulting from information technology will massively increase in the future. In simple words, AI involves the delegation of decision-making one way or another in several aspects of human life, ranging from entertainment and business to legal and healthcare (Tsamados et al., 2021). As a matter of fact, AI creators, engineers, and corporations leading the change are subject to questions about overwhelming ethical concerns (Ibiricu & Van Der Made, 2020). The digital transformation of businesses is imposing a wider continuum of ethical apprehensions that goes beyond the ritual approach of corporations to ethics (De Broglie, 2019). At society level, Ibiricu and Van Der Made (2020) argue that the deployment and usage of technology in business before making rules for that opens the path for exploitative and unethical behavior leading to detrimental consequences. While attempts for solving the problem are discussed, designed, and generated, the number of ethical failures resulting from AI is increasing (Tsamados et al., 2021). Moreover, the data rage, and the speed of technological penetration in society obscure the relation between ethics and laws (Renucci, 2005). That being said, the debate is heated due to the gap between technology designers and operators on the one hand and the current understanding of their ethical implications in society on the other (Mittelstadt et al., 2016).

2.2.2 Corporate Digital Responsibility

Digital technologies are reshaping the way in which businesses operate and interact with their customers. According to Bughin, Deakin, and O'Beirne (2019) *digital transformation* is "an effort to enable existing business models by integrating advanced technologies". As a part of digital transformation, digitalization is allowing businesses to increase the speed and accuracy of their processes, reshaping the way they deliver products and services by leveraging new technologies and data. In the last decades, businesses have been able to maximize their profits by providing increasingly customized and efficient offerings through the collection and analysis of customers' data (DalleMule & Davenport, 2017). Additionally, companies were able to develop more resilient business models by reducing the cost of their business operations through automation (Herden, et al. 2021) and extended supply chain networks (Kahl et al., 2017). One of the most impactful and rapid changes brought by digitalization is the application of artificial intelligence (AI) to organizational management, and particularly in its support of strategic decision-making (Chernov, Chernova, & Komarova, 2020). Today, AI-integrated decisions are taken within a wide range of domains, including financial services, health monitoring and equipment maintenance (Wilson & Daugherty, 2018).

Nevertheless, the more refined products and services become, the more the boundaries between private and public domain, between ownership, lease and loss of data become blurred. Evidently, companies have been caught unprepared to face the unpredictability and uncertainty that data technologies pose. Cyberattacks, constant monitoring, privacy violation, data manipulation and unintentional leaks (Hadasch, Li, & Mueller, 2013; Martin, Borah, & Palmatier, 2017) are only a few of the examples of unintentional data governance failures. The complex challenges that digital transformation is bringing about in the relationship between individuals, communities, governments, and companies lead some researchers and practitioners to formulate a new corporate responsibility.

The concept of Corporate Digital Responsibility is redefining the corporate obligations towards society in a digital context. However, its definition is far from being unanimously accepted. One of the first attempts to define CDR (Driesens, Oakeley & Schneevoigt, 2017) envisioned it as a "voluntary commitment" of companies to comply with legal obligations and reflect on the ethical implications of their business operations. A CDR strategy would tackle challenges related to customer data management, the impact of AI technologies in decision-making, the unethical use of technologies and implications of unequal access to new digital technologies (Driesens, Oakeley & Schneevoigt, 2017). All these aspects would need to be solved through approaches that consider legal compliance as well as ethical and philanthropic principles (Price, 2018). Hence, incorporating a CDR strategy would lead to enhanced trust in a company's action and be a driver for competitive advantage in a digitalized society (Joynson, 2018). The benefits connected to an increased digitally ethical corporate behavior have already led several consulting firms to propose a CDR-based action plan to help companies re-thinking their corporate action. Some early adoptions of a CDR approach can be seen at Deloitte Deutschland (Andersen, n.d.), where CDR experts have developed a diagnostic tool to support companies in identifying gaps in their digital strategy (e.g., corporate governance, ethical IT design etc.). As it seems, the need to redefine corporate digital ethics has even promoted governmental initiatives to investigate the possible applications of CDR principles in relation to AI, as a way to provide common standards and prerequisites for business action (Bundesministerium der Justiz und für Verbraucherschutz, 2019).

Such definitions and attempts to map CDR focal areas hint to the fact that such approach is nothing but an extension of the more consolidated approach to Corporate Social Responsibility. As a matter of fact, Lobschat et al. (2019) are the first to provide a theoretical conceptualization of a CDR framework as separate from CSR. Indeed, they identify not only the key disciplines in which digital responsibility applies, but also the implications that the lifecycle of data and technologies have on crucial stakeholders (Lobschat et al., 2019). As shown in Figure 1, the authors present the stakeholders involved in the co-creation of ethical norms guiding an organization's approach to digital responsibility, which are: organizations, individuals, institutional/governmental/legal actors, and artificial and technological artifacts (Lobschat et al., 2019).
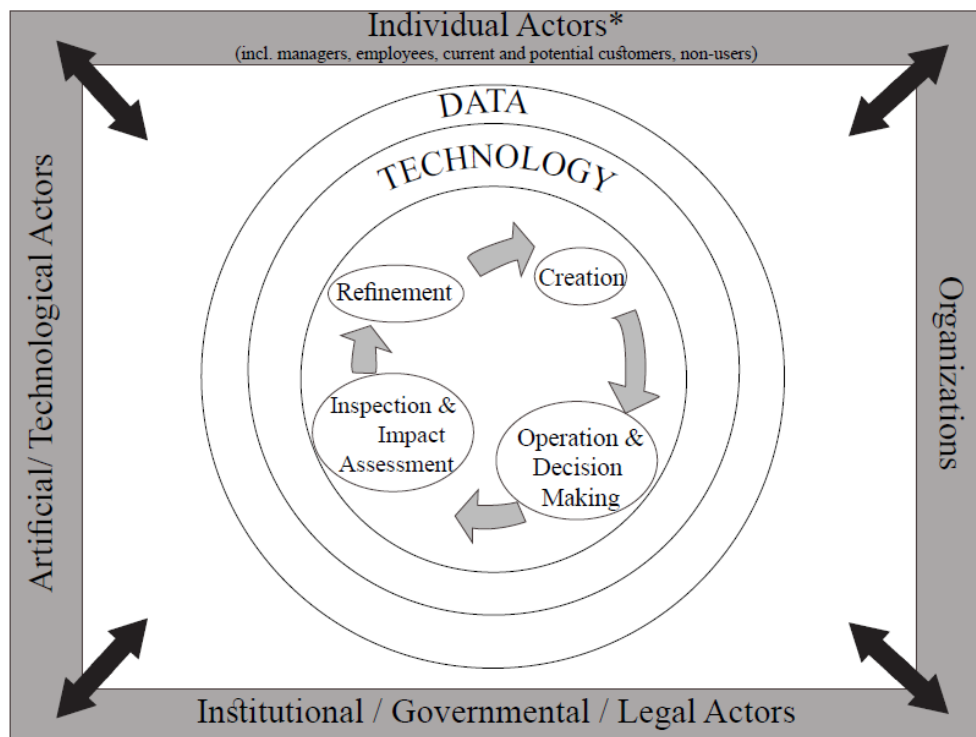
Figure 1: (CDR) Theoretical Framework (Adapted from Lobschat et al., 2019)

When describing the role of the organizations, the authors operate a distinction regarding those companies who use the artificial technologies and those who create them, highlighting the higher moral responsibility of the latter because of the impact that software developers and electrical engineers have on their design (Lobschat et al., 2019). Referring to the role of individuals, Lobschat et al. (2019) identify managers as those actors within an organization who are responsible for communicating and integrating ethical digital norms across corporate actions. Additionally, they discuss the role that individual actors within the organization have on behaving digitally responsible, and the impact that corporate digital action could have on non-users, for example by inducing digital divide (Lobschat et al., 2019). Furthermore, the authors propose artificial actors and technologies as actors having an impact on the corporations' digital responsibility, in virtue of their role in decision-making processes (Lobschat et al., 2019). Lastly, legal actors are considered for their role in defining the accountability and liability areas of corporations. Enclosed in the framework, the life cycle of the data technologies supports the definition of ethical principles and norms and shapes the

responsibility that stakeholders have in the creation, use, evaluation, and implementation of artificial and digital technologies (Lobschat et al., 2019).

Because of the unpredictability of digital technologies, and the unique set of stakeholders which it involves, Lobschat et al. (2019) situate CDR as a separate concept from CSR. In reverse, Herden, et al. (2021) argue that the responsibilities that Lobschat et al. (2019) present in a separate CDR model are actually classifiable under the Corporate Social Responsibility pyramid (Carroll,1991) and coincide with the domains covered by the Environmental, Social and Corporate Governance (ESG) framework (Kocmanová & Šimberová, 2014). Regardless of whether the CDR theory could be considered as a separate concept, or under the scope of CSR models approaches, the researchers believe that Lobschat et al. (2019) framework provides material for reflection with regards to how corporate responsibility is understood and reshaped in the digital era. Specifically, the researchers argue that it introduces a relevant element for such problematization, that is the introduction of artificial actors as stakeholders within an organization.

Therefore, the CDR model (Lobschat et al., 2019) presented above was used to guide this thesis research design. Specifically, the research criteria were identified based on the four stakeholders mapped by Lobschat et al. (2019) (see Appendix B). First, the individuals' element served as a ruling outlook to glance into the digital and AI aspect of corporate responsibility from a managerial perspective. Second, the component of artificial and technological artifacts was used to elaborate on the concept of technological actors' agency. Third, the lifecycle of digital technologies and data was used to investigate how the integration and control of AI are managed. Fourth, the organizations' factor was used to research the impact of organizational culture on digital transformation. Fifth, the institutional/governmental/legal aspect served as a reference to scan the role of laws and regulations in the integration of AI in decision-making processes. Lastly, the item of responsibility gap is envisioned as an overarching standard containing the broad picture.

2.3   Chapter Summary

This chapter delineates the chosen theoretical framework. The concept of business ethics is presented as a body of knowledge which incorporates the ethical principles guiding organizational behavior. Simultaneously, the theory of CSR and CSV were both discussed as the models and approaches which cover corporate responsibility . Moreover, digital ethics was introduced as a field of study concerned with defining the norms for ethical behavior in the digital context. Lastly, the recently developed CDR model was proposed as a new approach to corporate responsibility in the digital context. Particularly, this framework's constituent elements served as a starting point to identify the research criteria used for the research design and data analysis.

3 Methodology

"Be Firm on principle but flexible on method."
(Zig Ziglar)
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This chapter provides an overview of the chosen research methodology. It presents and motivates the implications of the chosen inference method on the research design. Subsequently, it elaborates on how such a standpoint guided the choice of data collection methods, materials, and data analysis. Finally, the researchers describe the validity, reliability, and limitations of the overall research methodology.

3.1 Research Approach

Based on the novelty of the concept of CDR as defined by Lobschat et al. (2019), practical approaches to this theoretical framework are lacking. In addition, there is absence of standardized transformation procedures of digital ethics principles into practices by corporations (Martin, Shilton & Smith, 2019). To explore this concept, the researchers took an *inductive* approach. An inductive approach starts from the exploration of a phenomena to identify patterns and generate a theoretical framework (Saunders, Lewis & Thornhill, 2012). In this regard, the researchers used the CDR theoretical framework as a starting point to investigate digitalization and AI integration in corporate action. Indeed, the model was used as a blueprint to explore corporate responsibility in the digital context, as well as the managerial challenges to the integration of AI decision-making in business processes. Therefore, this study can be classified as exploratory research.

3.2 Research Design

The inductive reasoning selected for this research, suggested a qualitative research approach. Patton (2015) explains how a qualitative approach allows the researcher to avoid generalizations that are highly context dependent. Digitalization is driving societal change in all aspects (Brynjolfsson and McAfee, 2014), and a qualitative study allows the development of ideas that enhance the understanding of a societal phenomenon (Yauch & Steudel, 2003). Likewise, Birkinshaw, Brannen, and Tung (2011) defend that qualitative investigation allows a deep contextual understanding of an event. In fact, qualitative research goes beyond testing the outputs to evaluate the processes that led to them, which is not offered by surveys and experiments (Maxwell, 2013). Furthermore, Morgan and Smircich (1980) describe the world

to be an unlimited process and approaching it with a rigid method does not provide compliance with the nature of the subject. Thus, digitalization being an unrestricted event (Parmiggiani et al., 2020) favors a qualitative investigation. Accordingly, targeting AI decision-making's managerial implications as a specific area of digitalization by designing a qualitative approach extends the researchers' ability to investigate such a process. Similarly, Maxwell (2013) indicates that engaging in a qualitative process clarifies the relation between the context effects on people's perception of a concept in a given environment. Hence, the research process is built on qualitative input from literature and interviews. Doing so allowed the researchers to explore and connect provisions from existing body of knowledge to the ones provided to them by experts and practitioners about corporate responsibility in the digital context.

3.2.1   Research Choices

The researchers chose two methods to collect qualitative data: a literature review and semi-structured interviews. Such an approach is considered a multimethod approach (Saunders, Lewis & Thornhill, 2012). Doing so allowed the researchers to establish a rich ground to investigate the CDR framework. On the one hand, the literature review of CSR approaches to digitalization and AI (see chapter 4.2), which is the main guiding reference to corporate responsibility, built the foundation to highlight how CSR and CDR frameworks intersect. On the other hand, the interviews provided the researchers with contextualized and reliable knowledge on how managers and AI experts perceive digitalization and AI integration in business. Therefore, such a choice provided complementary information that ranges across different levels of detail. Moreover, the researchers approached a wide set of data allowing them to perform a more reliable analysis and discussion of the research results. Finally, enhancing the research process through a multimethod led the researchers to establish coherence among the research parts, stand up to the research purpose, and deliver meaningful findings.

3.2.2   Research Time Horizon

Time, the most decisive resource of this study, was limited and pre-set by the university. The whole research process was designed in a way to draw meaningful conclusions given the time restriction. Thus, the research scope was properly adapted to the specified timeline of two months. From a procedural perspective, Sekaran and Bougie (2016) elaborate on longitudinal studies and cross-sectional studies. The first includes a continuous research and data collection whereas in the latter, the researchers gather data at a single point of time. Longitudinal studies permit the representation of the evolution of phenomenon and people (Rindfleisch et al., 2008) but require more time than cross-sectional studies (Sekaran & Bougie, 2016). However, Rindfleisch et al. (2008) explains how cross-sectional methods can be as efficient as the longitudinal one with proper research design. Considering the research conditions presented, the researchers decided on a cross-sectional study, giving particular attention on sampling design and extensive literature review.

3.3   Data Collection Method

3.3.1   Literature Review

Upon the integration of findings from previous research, the conduction of a literature review allows the researchers to answer research questions (Snyder, 2019). Snyder (2019) justifies how performing a literature review allows the scholar to pinpoint if the targeted area of a specific field requires development. Accordingly, the literature review was used to investigate the current provisions of CSR in the digital context and AI specifically as a selected topic. Doing so, allowed the researchers to relate to the theoretical framework of CSR (see chapter 2.1) from the perspective of digitalization and AI.

The aim of using literature review as a data collection method in this thesis is to synthesize secondary qualitative data from multiple sources (Guest, Namey & Mitchell, 2013) that provide a relation between CSR as a traditional theory and digitalization and AI as a target field. Doing so equipped the researchers with an overview of CSR literature that addresses digital and AI related issues, thus setting the base for answering the first research question. In order to add value, peer-reviewed articles were accessed through LUBsearch (LUSEM online database). The key research terms "CSR and Digital" and "CSR and AI" were selected in order to address the topic at hand.

3.3.2   Semi-structured Interviews

The selected primary data collection method was semi-structured interviews. As a matter of fact, semi-structured interviews fall within the "qualitative research design for answering the questions 'how' and 'why'" (Azungah, 2018, p.387). Bryman and Bell (2015) highlight the sensitivity of qualitative research towards details, most importantly the human aspect as explained by (Gephart, 2004). More precisely, Patton (2015) postulates how a qualitative approach allows the scholar to take advantage of practitioners' experience by analyzing and interpreting their personal provisions about the problem at hand. The researchers selected semi-structured interviews for two reasons. First, semi-structured interviews provided proper direction while investigating the components of the CDR framework. Second, such interviews ensured the required level of flexibility and higher degrees of freedom for participants to avoid narrow inputs.

3.3.3   Sampling

According to Ragab & Arisha (2018, p.10,) "sampling offers a practicable and effective alternative and allows for implementation of research projects within time and budget limits". The researchers' choice of population, that is the individuals from which they expect to collect the desired information (Ragab & Arisha, 2018), was based on *purposive* and *snowball* techniques*,* which fall within the non-probabilistic sampling category (Saunders, Lewis &

Thornhill, 2012). Indeed, the researchers identified two main categories of participants which could provide them with the right information to meet the research objectives: Tech and AI experts (Group 1), and consultants and managers within the AI field (Group2) (see Appendix C). When it comes to the sampling size, the goal was to connect with ten to twelve individuals within the chosen population. As a result, most of the informants were approached via LinkedIn, while other individuals were nominated by the contacts that the researchers had already made. The researchers scanned their LinkedIn profiles to evaluate if the potential informants' professional and/or academic background could match the research purpose. Given the global reach of digitalization, and that components of the CDR framework vary from country to another (e.g., laws and organizational culture), the researchers interviewed participants from different countries. Doing so allowed the researchers to consider additional aspects for interpreting the collected data.

3.3.4   Interview Design

The interviewing process started with a pilot interview with one of the CDR concept's co-authors (see Appendix C). Behind this choice lies the researchers' need to gain a better understanding of the context which motivated the formulation of the CDR concept and theoretical framework. In addition, the CDR co-author provided the researchers with recent panel discussions and research findings about the CDR concept as an update on the topic, since its first conceptualization was in 2019. The conduction of this interview provided additional understanding and allowed the researchers to formulate the interview questions. Interview questions were developed based on the research criteria in order to incorporate the constituents of the CDR framework (see Appendix D). These criteria were derived from the CDR theoretical framework (see chapter 2.2.2).

Tech and AI experts (Group 1), and consultants and managers in the field of AI (Group 2) were interviewed. The researchers did not restrict the discussion to the pre-set interview questions. Indeed, follow up questions, on-spot clarifications, and elaborations were demanded from the participants. Terms and agreements of confidentiality were discussed orally prior to the commencement of the interviews. All interviews were recorded except for one due to organization related restrictions. The interview started with a brief presentation of the research team, the interviewees, and the purpose of the meeting. The duration of the interview ranged between 50 minutes and 90 minutes. Interview conduction details can be found in Appendix E.

3.4   Data Analysis

Kolbe and Burnett (1991) describe the content analysis method to be a systematic approach of analyzing recorded information in two different ways: conceptual and relational. The conceptual analysis is done by interpreting the text after coding it into "manageable content categories" (Sekaran & Bougie, 2016, p.350). Sekaran and Bougie (2016, p.332) state that analyzing qualitative data focuses on drawing "valid inferences from an overwhelming amount of collected data". They also suggest the three steps approach to analyzing qualitative data based on the findings of Miles and Huberman (1994 cited in Sekaran & Bougie, 2016). These three steps consist of data reduction, data display, and drawing conclusions (Sekaran & Bougie, 2016).
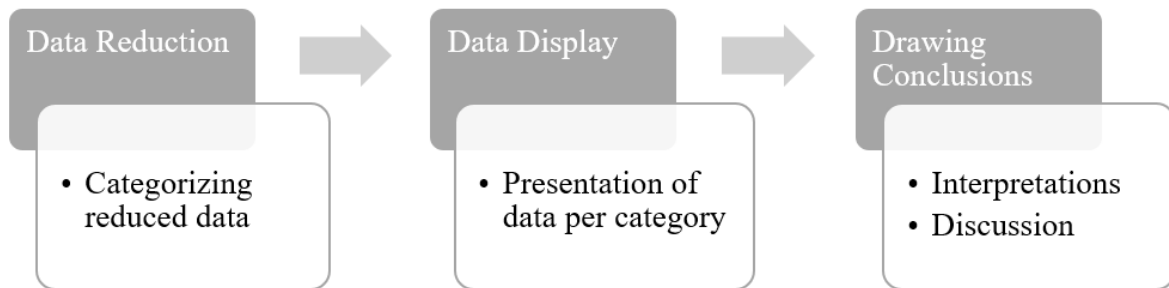
Figure 2: The Three Steps of Qualitative Data Analysis

(Adapted from Sekaran & Bougie, 2016)

Data Reduction begins with coding which in turn "begins with selecting the coding units" (Sekaran & Bougie, 2016, p. 335). The smallest coding unit that can be used is specific words (Sekaran & Bougie, 2016) while themes can also be used. Kassarjian (1977) states that themes, being a larger unit, could be more useful. In addition, Minichiello et al. (1990 cited in Sekaran & Bougie, 2016) justifies the use of themes as codes if the researchers are targeting how ideas are expressed. Likewise, the researchers selected the codes to be the research criteria identified by the end of the theoretical framework (see chapter 2.2.2). As for displaying the data, the researchers provided the reduced and categorized data in a tabular format containing the main stated ideas in chapter 4 (see chapter 4.1). In addition, interviews' summaries can be found in the appendix (see Appendix E). Finally, as presented in Figure 2, the last step was discussing and drawing conclusions. This stage was considered an integrative stage by the researchers, where interview data, theoretical framework, and secondary data are interdependently used to draw on the final conclusions in chapter 5 and 6.

3.5   Validity and Reliability

Sekaran and Bougie (2016, p.348) elaborate on the importance of drawing conclusions that are "plausible, reliable, and valid". In the case of qualitative study, Lincoln & Guba (1985) elaborate on the importance of setting an evaluation procedure for assessing the quality of the research. Such an approach allows the examination of the alignment of all components of the study (Leung, 2015). As clarified by Bryman and Bell (2011), the integration of different perspectives that represents the social setting of the research is crucial to the authenticity of the conducted study. The researchers fulfilled this criterion by including a diverse spectrum of interviewees in the primary data collection phase. In general, when it comes to validity and reliability, this thesis follows the commonly used framework of Lincoln and Guba (1985; Sekaran & Bougie, 2016) to reflect trustworthiness (Bryman & Bell, 2011), which elaborates on four interrelated components: credibility, transferability, dependability, and confirmability.

- **Credibility**: It reflects internal validity (Sekaran & Bougie, 2016).

The researchers satisfied credibility by maintaining a constant communication channel with the research supervisor in the first place. Second, they maintained a feedback loop with the interviews after conducting the interviews to validate the respective collected data.

- **Transferability:** Describes ability to transfer the research results to other contexts (Sekaran & Bougie, 2016).

The researchers properly presented the research setting (see chapter 1), which allows the reader or potential future researcher to understand the context of this research and its boundaries. In addition, these research boundaries were presented in delimitations (see chapter 1.5) and methodology limitations (see chapter 3.6).

- **Dependability:** Establishing control measures for conducted research procedures (Bryman & Bell, 2011).

The researchers created a milestone schedule to control the time horizon (see chapter 3.2.2) of the research. In addition, close collaboration with the research supervisor, submitting research status updates, and peer-review sessions, allowed the researchers to maintain dependability.

- **Confirmability:** Acting in good faith (Bryman & Bell, 2011).

The collected, analyzed, interpreted data were presented with integrity and responsible research behavior from the researchers. The primary data collected through interviews, and the researchers' respective interpretations are clearly presented in order to allow traceability of the process when moving from data to conclusions.

3.6 Limitations

Since the strengths of qualitative research were previously discussed, it is important to highlight the weaknesses which imposed limitations to the conducted research. According to Anderson (2010), the main weakness is the researchers' biases. In order to undertake research within the complex field of digital ethics, it was necessary for the researchers to also understand their own situatedness (Haraway, 1988). As a matter of fact, the researchers first acknowledged how their background, culture and specifically their access to digital technologies would affect their own perception of the phenomena. Moreover, they decided to abstain from producing any normative suggestion regarding objective definition of ethical principles which would guide managerial action.

When it comes to the primary data collection method, i.e., semi-structured interviews, the presence of the researchers can affect the response of the participants (Anderson, 2010). In fact, the conduction of interviews may reveal the interviewers' biases towards their expected findings (Sekaran & Bougie, 2016). Thus, the researchers designed the interviews' questions in a way to engage the participants in a descriptive discussion. In addition, all questions and discussions happened without discussing nor setting the interview context beforehand. In addition, the snowball sampling method reflects bias to the selected network of participants (Griffith et al., 1993 cited in Cohen & Arieli, 2011). To minimize such an effect, parallel snowball networks were done by the researchers as suggested by Cohen and Arieli (2011).

In general, the researchers and participants cannot avoid subjectivity in their respective provisions in the conducted study. Upon the completion of the data collection phase, the interpretation process was designed in a way to mitigate the group conformity bias. The researchers interpreted the data individually first, then discussed them together. Doing so allowed them to take advantage of their diverse background, permitting two different perspectives to be integrated in the discussion.

3.7 Chapter Summary

This chapter outlines the selected research methodology. An inductive approach guided a multi-method research choice of data collection combining literature review and interviews. The researchers selected a cross-sectional study given the time limitation of the research. Literature review and semi-structured interviews were used to collect data. Purposive and snowball techniques were used for participants' sampling. Data analysis was divided in three sequential steps; reduction, display and conclusions. Validity, reliability, and limitations of the chosen methodology were discussed. The following chapters 4 and 5 follow the criteria of data analysis and discussion elaborated in this chapter.

4   Research Results

"The world is one big data problem."

(Andrew McAfee)

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In this chapter, the researchers present the results from data collection. Specifically, data from conducted semi-structured interviews are reduced and displayed according to the research criteria. Secondly, a review of CSR literature provisions about digitalization and AI is presented.

4.1   Primary Data

The collected data through semi-structured interviews were reduced and categorized. The following tables (Table 1 & 2), display the input of each participant on the selected research criteria. Table 1 summarizes the data from the CDR co-author and the four interviewed experts belonging to Group 1: Tech and AI experts. Table 2 summarizes the data from the six interviewed managers belonging to Group 2: Consultants and Managers within the Field of AI.

Participant	Responsibility Gap	Artifacts' Agency	Organizational Culture	Integration and Control of AI	Laws and Regulations
Participant #1	- The need to create synergies among all actors of the responsibility spectrum.	- Considered as stakeholders (He stands by the provisions of the theory that he co-authored).	- Lack of understanding. - Some issues are overlooked. - Still considering AI as a tool. - Obligatory AI understanding. - Reward ethical behavior.	- Human intervention is a must. - Computational literacy is needed.	- Slow/ Reactive. - Outran by digitalization pace.
Participant #1	- Need to create synergy and clear definition of responsibilities. - Intervention of customers is needed. - AI advancements may enlarge the gap. - Companies are to blame for results.	- Might complicate moral responsibility. - Depends on level of autonomy.	- Managerial understanding. - AI "Black Box". - Self-policing. - Building AI knowledge.	- Fast pace due to COVID19. - Safety/ Security/ Privacy. - Transparency/ safeguards. - Human intervention. - Pilot/ Testing programs. - Training	- Set the boundaries. - Reactive.
Participant #2	- Difference between creators and users' companies. - Industry related. - Digital responsibility is beyond traditional approaches to CSR. - Collective responsibility to define ethical principals in digital context.	- Questioning the agency of artifacts in the first place is problematic. - They do not embody agency nor intentionality. - Can be used as placeholders for legal arrangement.	- Oversight and compliance. - Understanding tech ethics. - "Black Box" perception. - Raising ethical questions. - Leadership. - Clear communication with users.	- Ethics at digital core. - The whole practices should be based on ethical practices that clearly states responsibilities and assess quality. - Share of information between users and creators.	- Respected to mitigate reputation problems. - Should not be used to drive an ethical behavior. - Not to be used as source for ethical/responsible digital practices.
Participant #3	- Inability to foresee consequences. - Society's focus on the wrong questions. - Complicated interrelatedness of actors. - Different interpretation arise. - Hard to map responsibility.	- Lack of cognitive abilities. - Not to be considered as agents/ stakeholder. - They can be considered acting technologies given the influence of their results.	- Understanding the AI. - Hindered comprehensive understanding due to the distribution of responsibility.	- Privacy/ safety/ autonomy. - Risk management. - Acknowledging all effects. - Compliance.	- Reactive. - Cannot force moral/ethical behavior in digital practices due to high complexity in: Actors, industries, & legal systems.
Participant #4	- - Difference between creators and users' companies. - Competing guidelines. - No synergy among actors	- Take actions based on level of autonomy. - Not agents/stakeholders	- Investors' awareness in financing responsibly. - Awareness of potential risks. - Abstract understanding of technology by managers.	- Best Practice pressure. - Fierce competition. - Massive investments to follow up. - No standardization. - Cybersecurity/Training	- Financial pressure to abide by stricter laws. - Local and reactive. - Cannot ensure responsible behavior.

Table 1: Tech and AI Experts' interview data per research criteria (By Researchers)

Participant	Responsibility Gap	Artifacts' Agency	Organizational Culture	Integration and Control of AI	Laws and Regulations
Participant #5	- AI Creators have the highest responsibility. - Different interpretation arise.	- Designers are in control. - Artifacts are not agents or stakeholders.	- Misalignment of tech and managerial expectations. - Technical understanding on managerial level.	- Balance of operations both offensive and defensive. - Privacy and safety. - Full control of operations.	- GDPR not applicable in Switzerland. - They have their own federal data regulations.
Participant #6	- Reactive approach to responsibility is noted. - Data handling was not monitored before GDPR. - Lack of CSR practices consideration in AI.	- Not to be considered as agents/ stakeholder. - Creators of AI are always responsible.	- Dehumanization of personal data is problematic. - Data treated as means. - Top-down digital responsibility is needed. - Technical Knowledge.	- Limited collection of data. - No data trade with third parties. - Reporting about CDR strategies. - Well designed monitoring.	- Companies abide by the minimum. - Laws doesn't drive ethical digital behavior. - Need to go beyond policing.
Participant #7	- Relation between creators and users' companies. - Communication among all actors.	-Not to be considered as agents/ stakeholder. - Actors depending on level of autonomy.	- Mindset of top management. - Ethical digital core. - Communication is crucial.	- Secure Data handling. - Security and Transparency. - Constant training for all. - Pilot and testing / checks.	- Strict abidance to GDPR.
Participant #8	- No combined effort. - Distance between companies and users. - Corporate structure.	-Not to be considered as agents/ stakeholder. - Actors depending on level of autonomy. - Debatable	- People over profit mindset. - Constant voluntary care. - Lack of AI understanding. - Traditional approaches falling short.	- Human intervention in AI decision-making process. - Integrity/ Quality. - Digital mission.	- Companies abide by the minimum legal. - Cannot solve the problem alone.
Participant #9	- Public pressure. - Corporate structure.	-Not to be considered as agents/ stakeholder. - Actors depending on level of autonomy.	- Hiring the right people. - Culture of awareness. - Top-down agenda. - AI understanding. - Investors' awareness.	- Market Competition. - Ethical evaluations. - Best practice pressure. - Human intervention. - Traceability/ Training	- Regulations are essential. - Reactive/ Fall behind.
Participant #10	- The global effect of AI on society (social media). - Very large spectrum. - Business is to blame first. - Academia has a role. - Low barriers to entry.	- Not to be considered as agents/ stakeholder. - AI designers are responsible always.	- Lack of side effects understanding by managers. - Need for AI understanding. - Whistleblower's hotline. - Consumer power.	- Understanding hackability of data. - Transparency with customers. - Budgeting. - Need to prioritize cybersecurity. - Ethics at core. - Training/ AI certifications	- Reactive/ Fall behind. - Does not ensure a mechanism of moral compliance.

Table 2: Consultants and Managers' interview data per research criteria (By Researchers)

4.2   CSR Literature on Digitalization and AI

The recurrent statement in the literature about digitalization, and AI specifically, is that such a transformation is adding value to all stakeholders in the business on the one hand and imposing new complexities on the other. The discussion in the reviewed literature revolves around the description of the state of urgency that the digital and technological aspects are creating. From a corporate perspective, societal considerations are highly urged to address the new spectrum of responsibilities imposed by the digital way of doing business (Jiménez, Dittmar, & Portillo, 2021). Similarly, Orbik and Zozulakova (2019) elaborates on the fact that digital technologies should not be considered as tools that optimize the business process, but also as requesters of crucial change in awareness and responsibility continuums of people doing business. On the other hand, the fast pace of digital transformation is also affecting the sustainability of contemporary business (Orbik & Zozulakova, 2019).

While technological development is widely perceived and experienced by all stakeholders, "the business ethics literature has largely refrained from specifically and explicitly" tackling the responsibility of business in such a context (Etter, Fieseler & Whelan, 2019, p.935). Furthermore, when it comes to the digital context, the way definitions are presented in CSR literature "obscure areas of new responsibility" (Grigore et al., 2017 cited in Osburg & Lohrmann, ed. 2017, p.22). On the other hand, Jiménez, Dittmar, and Portillo (2021) explain how CSR covers a broad reach in society while it faces many obstructions to position itself in the digital area. In this sense, while digitalization brings in innovative procedures for business, some traditional routines, guidelines, and control structures seem to be few of these obstructions (Etter, Ravasi & Colleoni, 2019). For instance, Osburg and Lohrmann (ed. 2017) explicate that current businesses are missing the holistic approach to digitalization by considering it as a technological improvement that should be applied to a present model thus refraining CSR from integrating the broad digital phenomenon.

As an example, Illia et al. (2017) elaborates on the importance of digital media as a tool for communicating CSR strategies and issues between stakeholders, but no discussions on digital concerns that are likely to rise from that approach, such as privacy and security, were included in their article. Moreover, the role of digital technologies in conveying CSR practices of business (Kucukusta, Perilygina & Lam, 2019) is also framed as an emergent tool that optimizes the business process and increases stakeholder engagement. Additionally, Fang He et al. (2020) examine how digitalization can help solving societal and governance disputes. More recent studies are starting to shift towards understanding the experienced effect of digitalization on CSR (Esposito & Ricci, 2020). Likewise, Grigore, Stancu, and McQueen (ed. 2018) argue that CSR needs new definitions in the digital context, rather than simply perceiving technology as a medium to add value and to communicate CSR issues.

As for AI, the narrative is more complex. AI could be simply defined by the ability of software, machines, and computer systems to perform human tasks, engaging in a series of decision-making that varies in urgency and impact (Du & Xie, 2020). Furthermore, the perception of what AI might change in society as a whole is also nonuniform and complicated (Dirican, 2015). When it comes to business, several ideas are crucial to be explored. There is a perceived fear from employees that AI systems will replace them (Fountain, McCarthy & Saleh, 2019). Likewise, given the wide-reaching change enhanced by the integration of AI in corporations, Dirican (2015) asks a question about the future of the human resources department. On the

other hand, AI integration in businesses is done to leverage and augment human capabilities, thus adding value to the whole process (Wilson & Daugherty, 2018).

That being said, some cases summarize the reinvention of the whole business model by setting AI at its core and relying fully on automated decision-making throughout the whole value chain (Iansiti & Lakhani, 2020). These three situations are distinct and not only reflect the intricacy of AI, but the complexity of understanding what businesses really need from AI as well (Wilson & Daugherty, 2018). In this specific context, some claim that traditional business models are obsolete (Iansiti & Lakhani, 2020), while others discuss the advantage of combining the old expertise and the new technology to seize opportunities (Beane, 2019). While AI is proven to complement and leverage employees' skills (Singh et al., 2019), a reliance on AI decision-making is also problematic (Rangan, 2020). Rangan (2020) explains how the reliance on AI affects the employee's competitiveness and creates a tendency to lean back on what the algorithms say. In addition, Zerfass, Hagelstein, and Tench (2020) postulate the limited understanding of how AI actually works, creating an unclear distribution of responsibilities inside the corporation. As for corporate responsibility towards all stakeholders involved in the show, the situation is ambiguous to a vital extent. Breidbach and Maglio (2020) explains how AI and data usage uncovers a new field of responsibility and ethical complications. The ambiguity of this context is mainly due to the fact that businesses' ethical shortcomings resulting from AI integration range between the short term and long term, the expected and the unexpected, and the intentional and the unintentional (Lobschat et al., 2019).

When speaking about the intersection between CSR and AI, the situation requires renovation of the human concepts of responsibility (Krkač, 2019). Krkač (2019) argues that while a certain degree of freedom is provided to AI systems to make decisions, from partial to full automation, blaming it for its actions is an irrational approach. In addition, AI is not to be seen as a bearer of social responsibilities, but its use modifies CSR since such a technology can be utilized in ways to leverage social considerations and promote responsible business behavior (Krkač, 2019). Notwithstanding this, the intricacy of AI makes it harder on all stakeholders, mainly governments, to come up with a general framework that provides formal guidance of ethical and responsible AI use at the moment (Annals in Social Responsibility, 2021). The major factor in this situation is the level of autonomy directed to AI in the decision-making processes, which in return heats up the debate of technology, if it should or should not be considered as a carrier of moral responsibility (Annals in Social Responsibility, 2021). In addition, by expanding the reliance on AI autonomy, corporations become dependent on the AI's interpretation of what is morally right or wrong, that is if the integration of ethical norms in the design algorithms proved its authenticity in the first place (Annals in Social Responsibility, 2021).

Elaborating on the ethical implications, while AI can be used for accurate CSR and sustainability monitoring and reporting (Antoncic, 2020) and help in recruitment processes to attract talent (Nawaz, 2020), it is also maximizing engagement with unethical contents on social media to be used for marketing purposes (Dholakia & Reyes, 2020). Hence, Du and Xie (2020) discuss the importance of redefining the relation between CSR and AI, and the need for corporations to establish CSR-AI strategies to overcome the current challenge. Starting from the stakeholder theory (see chapter 2.1.2), the authors build an approach for CSR initiatives to control the future of AI (Du & Xie, 2020). In parallel, Zhao (2018) takes the continuum of economic, legal, ethical, and philanthropic aspects [CSR pyramid, Carroll 1991] (see chapter 2.1.2) as a starting point and discuss the importance of corporation to revisit their business mission in the first place and then engage with all stakeholders in reexamining CSR and new responsibilities in the AI era. Doing so, and after the disruptive change imposed by AI in

corporations, will allow businesses to put CSR at the heart of business where human wellbeing matters the most (Zhao, 2018). Sharma (2019) explores the necessity of redesigning corporate strategies, engulfing CSR actions, with each incremental change or upgrade in technology. Similarly, Keenan, Kemp, and Owen (2018) elaborate on the importance of due diligence, being a crucial action for CSR, to become a constant process in evaluating the risks that may result from the deployment and integration of AI in corporate decision-making. At this stage, a proper understanding of the current and the future situation imposed by artificially intelligent technologies, should be approached from the three areas of the triple bottom line theory in CSR (see chapter 2.1.2), allowing shared awareness and engagement to design corporate countermeasures (Keenan, Kemp & Owen, 2018). In a similar attempt, Ghosh et al. (2019) projects the triple bottom line theory of CSR on the context of ethical challenges imposed by AI integrated decision making in order to conceptualize a new combined corporate framework for responsibilities in the age of digitalization.

4.3   Chapter Summary

In this chapter, primary data from conducted interviews were reduced and displayed according to categories of research criteria. In addition, this chapter elaborates on a review of CSR literature that specifically addresses AI integration in business and digitalization at large. Indeed, several outlooks on digitalization and AI integration from a CSR perspective were presented. The results exhibited in this chapter constitute the foundation of the following chapter, where the researchers analyze, discuss, and answer the research questions.

5   Discussion

"The aim of argument, or discussion, should not be victory, but progress."

(Joseph Joubert)

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In this section, the presented data (see Chapter 4) are analyzed and discussed in three separate parts where each one answers one of the three research questions. The researchers used the theoretical framework and the reviewed literature as a basis to ensure the proper context for the research results. Upon answering the three research questions of this thesis, findings are determined and summarized in the final section of this chapter.

5.1   Answering The Research Questions

5.1.1   First Research Question (RQ1): Answer

In the broad sense, the reviewed CSR literature (see chapter 4.2) reveals that there is an important level of awareness when it comes to digitalization in general. Most of the literature evaluates the positive and negative impacts of digitalization and AI integration in business. The context of ethical failures and the increasing number of incidents, scandals, and defective products led to questioning the accuracy of AI and the responsibility of corporations that deploy it. Indeed, while this research is being conducted, a Tesla car crash occurred in mid-April 2021, and caused the death of two passengers that used the AI autonomous mode (Pietsch, 2021). From a societal perspective, it is crucial to question the impact of digitalization on the understanding of corporate responsibilities in such a context. The idea of digitalization changing the face of business and thus requiring a new approach to corporate responsibility (Lobschat et al., 2019) could be a starting point if digitalization is acknowledged as a major transformative event (ed. Osburg & Lohrmann, 2017) and not as an emergent trend that optimizes the business process (Kucukusta, Perilygina & Lam, 2019).

The priority given to digitalization varies across the literature in terms of impact, urgency, and objective. It is clearly a vast area that goes beyond business and corporations to prevail in the society as a whole. Among the articles, Osburg and Lohrmann (ed. 2017) makes a serious affirmation regarding digitalization by considering it a new bottom line of corporate responsibility. According to their findings, the globally standardized areas of CSR, defined as the triple bottom line, economic, environmental, and social are not enough (ed. Osburg & Lohrmann, 2017). They propose a quadruple bottom line for CSR including an additional area to contain digitalization (ed. Osburg & Lohrmann, 2017). Nevertheless, the situation is quite

different in the past three years. Indeed, rules and regulations around digitalization saw the light. The project that started in 2016, became officially a law that enforced data protection of users in 2018, General Data Protection Regulation (GDPR, 2021). The law being established in certain European countries, even though it could be considered late, reveals an important reaction to several shortcomings of digitalization on the one hand, and a new research area on the other.

As for the intersection between CSR and AI, the situation is somehow similar to the broad approach to digitalization in literature. The traditional CSR theories are used as a starting point to contain the responsibility of companies dealing with AI (Du & Xie, 2020; Zhao, 2018; Keenan, Kemp & Owen, 2018). It is clear that more urgency is given to AI specifically when it comes to digitalization. The complexity imposed by AI and speaking about ethical issues and decision-making theories reveal a different perspective on technological advancement. Given the level of societal concern resulting from the ambiguity of autonomous AI decision-making, several articles reflect the necessity of redefining the concept of corporate responsibility in such a context (Krkač, 2019; Annals in Social Responsibility, 2021; Du & Xie, 2020; Sharma, 2019; Ghosh et al., 2019). Many aspects are specific to the context of AI, but most of them revolve around the moral obligations of companies when it comes to protecting consumer's data on the one hand and making sure that the deployed technology is designed on sound ethical norms and standards on the other. In addition, the issue of understanding how AI works, in the first place, on the managerial level is also discussed (Zerfass, Hagelstein & Tench, 2020).

While Osburg and Lohrmann (ed. 2017, p.55) propose "to think about digitalization from the end" when it comes to CSR, Parmiggiani et. al (2020) explain that the end of digitalization is not even foreseeable, and all that society has to deal with is forecasts and proposed scenarios of how the post-digital era will look like. These two opposite perspectives reveal a state of nonuniformity of understanding the problem and actually defining it in the first place. Wade (2020) elaborates on how digitalization developed separately from CSR and sustainability; thus, a common ground is missing at first. According to him, the problem of understanding how issues of the virtual worlds impact the natural one requires a merger of digitalization, corporate responsibility, and the way business is conducted (Wade, 2020). The merger of these areas will allow a holistic approach to contain the unethical digital actions that are threatening humanity at large (Wade, 2020). As previously discussed, this is the case in several conceptual approaches to updating traditional CSR models by including a digital area, but it doesn't reach the practical implication level nor standardization.

In simple words, the conceptual approach to digitalization in CSR literature can be summarized in four different perspectives based on the conducted review. The first is the need to redefine corporate responsibility in the digital context (Krkač, 2019). The second proposes to separate digital responsibility from CSR (Lobschat, 2019). The third explains that digital responsibility is an extension of CSR (Herden et al., 2020). Finally, the fourth builds on traditional CSR models to connect and contain digital responsibility (ed. Osburg & Lohrmann, 2017).

5.1.2   Second Research Question (RQ2): Answer

Artifacts' Agency

In the CDR article (Lobschat et al., 2019), a relevant suggestion from the authors is to start considering data technologies and technological artifacts as actors. Indeed, they argue that based on the level of autonomy which is given to AI-based technologies by their creators, it is necessary to reflect upon the possibility to also delegate the moral responsibility for the decisions taken by machines (Lobschat et al., 2019). Considering the extent to which AI-integrated decision-making is taking over within corporate action, an important aspect of the researchers' investigation was to explore the perception of AI experts and managers on the subject of artificial actors' agency.

The concept of agency has been investigated for centuries and yet there is not one commonly agreed upon definition which can comprehensively explain it. In fact, the first theorizations around it date back to Aristotle, who defined action as a process which is chosen by the agent and is motivated by his intention, will and desire to initiate it (Charles, 2017). In modern times, Anscombe (1957) and Davidson (1980) set the ground for a *theory of action* and the conceptualization of agency as involving intentional action. Debates around intentionality, causation and consciousness of action (Wegner, 2002; Shepherd, 2015) unfolded over decades, providing multiple perspectives on what could be defined as agency. While proposing an own philosophical interpretation or an exhaustive review of agency theory falls out of the scope of this thesis, of particular relevance are the recent debates revolving around non-human agency. The concept of non-human agency was first introduced by Cooren & Bencherki (2010). The authors argue that human action, and especially the interaction among different human actors, is facilitated by the presence of other artifacts or agents such as technologies, principles etc. on "the interactional scene" (Cooren & Bencherki, 2010, p. 56). Such artifacts would contribute to the action of the human agents. Additionally, while some form of action could be associated with artificial actors, the same does not apply for the attribution of a moral responsibility to technological artifacts. Indeed, even though technologies are acting on the behalf of humans, they still lack intentionality, will or desire, which are usually inherent characteristics of human agency. Therefore, existing literature suggests a distributed morality approach (Floridi & Sanders, 2004) to explain how moral action and responsibility results from a systemic distribution among several agents. Given such postulates, the researchers have focused on gathering managers' and AI experts' opinions on whether artificial agents could be embodying agency.

During the interviews, a more or less unanimous consent was reached on the fact that technological artifacts and data technologies can't be considered as agents in a strict sense. Indeed, based on their level of understanding of the functions of artificial technologies and ethical principles guiding their life cycle, both managers and AI experts argued that the attribution of agency was difficult to postulate for a number of reasons.

Participant # 1 argues that considering AI technologies as actors would enlarge the moral responsibility gap. As they explain, in spite of the level of change in AI-integrated decision-making processes, which is triggered by the interaction of the machines with the external environment, there is still a level of predictability to what the outcome of such decisions could potentially be. Therefore, some kind of "safeguard mechanism" presupposing human intervention should be included in the development phase of AI-integrated decision-making processes. Similar ideas were advanced by Participant # 8 and Participant # 9, who believe that

the managerial decisions should not be fully delegated to the machine. An interesting perspective on the agency conundrum is provided by Participant # 2. As a matter of fact, they argue that, from an ethical and philosophical perspective, technological artifacts and data technologies do not embody intentionality nor agency in the ways as humans do. However, they explain how machines could be considered as "placeholders" from a legal perspective, meaning that using such terminology could support the development of new legal rules around processes which involve AI-integrated decision-making. Nonetheless, they should not be deemed liable in the same way as the companies who create, use and sustain data technologies and artifacts, and neither be responsible for the effects that they could have on society at large. Lastly, since such framing might open for misunderstandings and legal loopholes, which could be used by companies to escape responsibility, they believe it is advisable to avoid it. In the same way, participants #3, #6 #7 reinforce the argument that artificial technologies are not self-creating, they are programmed. Therefore, even though they are still making certain decisions on humans' behalf, the responsibility should still refer back to the company who created such technology.

These findings from the interviews with research participants disclose a potential interpretation to the agency of technological artifacts. Clearly, managers and experts do not consider technologies as agents. However, they could be regarded as acting technologies, given the margin of autonomy provided to them by corporations, as well the impact that they have on the redefinition of agency of other actors (e.g., individuals, organizations etc.). From a legal perspective, the linguistic reframing of "agency" when interpreting digital technologies' decision-making processes could serve as a reference to reorganize the regulatory framework around digital responsibility. However, they should not be mistaken as liable agents. A similar reflection applies to the moral responsibility of digital technologies: indeed, organizations who create technologies are mostly accountable for their outputs. Such discussion reinforces what existing literature tells about agency laundering, which involves the mystification of moral responsibility by the means of listing technological conundrums (Rubel, Castro & Pham, 2019, p.2). By reducing digital failures as mere technical or algorithmic problems, and attributing responsibility or liability to digital technologies, people risk losing sight of the underlying ethical dilemmas which are at the heart of deliberate or unintentional human action.

5.1.3   Third Research Question (RQ3): Answer

Responsibility gap

When investigating the spectrum of managerial challenges which divide companies from acting digitally responsible, that is being mindful of the ethical implications of acting in the digital era, one of the focal issues identified brings back the responsibility gap. As previously mentioned, the limited predictability of the outcome of artificial machines, which is affected by their interaction with multiple actors as well as the environment, configures a moral responsibility gap (Matthias, 2004). Based on the researchers' communications with managers and experts, such a gap seems to be difficult to tackle, both externally and internally to corporations.

On a macro level, AI experts and managers broadly agree upon the need to rethink the factors which should govern ethical corporate behavior in the digital era and call for a shift from

individual to collective responsibility. Indeed, while it is true that companies should ensure to embed ethical principles into their internal processes and across the entire organization, governments and individuals also have a responsibility for establishing a more digitally responsible behavior. As Participant #1 further explains, the effort of corporations, governments and individuals would create synergetic results. Instead of expecting tech corporations deploying data technologies to act as self-policing actors, governments should set the regulatory boundaries so that companies would act within them. At the same time, consumers of digital technologies should also take the responsibility to increase their levels of digital literacy (Park, 2013), for example with regards to their data privacy handling, learning how their data is collected, stored, and used. Similarly, other participants argue that a collective definition of global digital ethics principles is possible and desirable, since it would support the development of a common understanding and approach to digital technologies. In addition, as Participant #6 clarifies, such common principles would benefit both companies who are just starting their digital transformation processes, as well as help companies who are already ahead on their digital path to make sure they act based on high quality ethical standards.

In case of data technologies shortcomings such as data breaches, algorithmic biases etc., there is a clear need to assign internal responsibility, whether it is on the lowest or highest level of the hierarchical ladder. However pinpointing responsibility on one individual or a department when it comes to corporate digital behavior seems rather problematic, since it is often hard to understand if the problem with artificial machines is at the operational level, or in their initial design (Porter et al., 2018). Therefore, as Participant # 2 suggests, appointing responsibility, accountability, and liability within companies as an effect of ethical failures would depend on the size and both the internal culture and context in which the company is situated. At the same time, as specified by participant # 3, determining who should be blamed for digital failures might actually be counterproductive, since it could hinder a comprehensive understanding of the complexity problem and identification of the right approach to solve it.

As a matter of fact, opinions from both AI experts and managers are conflicting with regards to who should be held responsible within the organizational structure. According to Participant #4, accountability generally falls on management, however moral responsibility isn't necessarily borne by managers. While they might receive guidance from experts regarding available best practices, these solutions are not uniform and could be considered as competing guidelines. Additionally, managers do not have the ability to monitor the behavior of a large number of employees, and it takes one click (or a missing one) to cause a data breach. Such debate becomes even more articulated when one considers the difficulties in addressing responsibility when multiple entities are involved, i.e., companies that create and companies that use technologies. Since the distinction between the companies that create the technology and companies that use it is crucial, the relation between these two should be stressed. Creators of technology are on a different learning curve when it comes to the detailed understanding of technology. When AI software is sold to the user company, they both initiate a tight communication channel to overcome several roadblocks as pointed out by all participants. The major roadblock is the technical understanding and digital knowledge of managers from the buyer company. Indeed, managerial understanding of digital practices can be limited to abstract levels. Moreover, such a level of understanding makes it harder on all managers within the company to trace and explain decisions made by the AI software. The "black box" terminology is used to reflect the inability of managers and practitioners to understand and explain the decisions made by AI (Lobschat et al., 2019). Such a situation complicates the capability of managers to define roles and responsibilities of employees involved in this context (Zerfass, Hagelstein & Tench, 2020).

Organizational Culture

The lack of managerial understanding behind the technical limits of artificial technologies seems to be the root cause of organizational culture's deficiencies in tackling digital responsibility across corporate actions. As Participant #2 highlights, a main issue appears to be the inability of leadership to raise ethical questions, integrate them across the organizational culture and stimulate their internalization. At the moment, the focus seems to still be on the mitigation of legal and reputational consequences. Additionally, Participant #4 argue that the role of management is to create a culture of digitally responsible behavior so strong that it is reinforced and ensured in a holistic approach to a responsible business. Comparably, participants # 6 and #7 highlight how the shift in the company's mindset towards digital responsibility is in the top management team. Setting an ethical digital behavior as a goal and a ruling factor for business operation is highly needed: it should be a nonnegotiable guiding element of the company's overall practice, a starting point for all business models in the digital context. Ultimately, participant # 8 raises an important argument of how digital transformation happened to exacerbate those issues and gaps which were already pervading corporate organizational culture. Indeed, they claim that a company with a weak culture of values and responsibility is more exposed in the digital context. In the AI decision-making context, management is urged to foster a culture of transparency, integrity, and sustainability in the broad sense. Thus, traditional approaches are somehow falling short and revisiting and updating all business guidelines is needed in the digital age due to the fact that digitalization is open ended.

Based on the interviewees' responses regarding the allocation of responsibility, both internally and externally to corporations, it seems possible to admit that there is not a one-way easy solution to such an ethical predicament. Nevertheless, by mapping the moral responsibility issues emerging from the integration of AI in decision-making processes, a few patterns have emerged. Firstly, as digital technologies become increasingly pervasive, a shift towards a mindset of collective governance, supporting the elaboration of global guiding principles for the creation, operation, monitoring and implementation of artificial technologies seems to be desirable. A participatory effort of individuals, governments, and corporations - who would be paving the way for such transformation to happen, would allow all interested stakeholders to participate in the design and co-creation digital policies (Escoubes, Miailhe & Jain, 2017). Additionally, while accountability and liability can be traced back to management or the board of directors, the same does not apply for moral responsibility. Indeed, because of the constant "manipulation" of artificial technologies by different actors (e.g., companies that create or use technologies, third parties, users etc.), a problem of many hands or PMH (Van de Poel et al., 2012) is determined. In view of the above, management is responsible for establishing a culture of digital responsibility. When the tone of the top determines the importance and strategic validity towards ethical digital responsibility, all organizational behavior will follow. Conclusively, what is clear is that the problem is not digital, rather ethical at heart, and the digital aspect is adding a layer of complexity to it.

Integration and Control of AI

The prerequisite of integration and control of AI is proper and secure data handling in order to add value for the business. Today's market is highly competitive where organizations are subjected to the pressure of staying up to date. It is the pressure of integrating the best practice available. Constant update of digital practices makes the previous ones look obsolete even though a relatively short period of time separates the two updates. So, there is a constant aim for companies to surf on the highest learning curve of technology. Companies that disagree, face the probability of being left behind in the fierce competition. That being said, companies and managers don't really know where they are in their digital journey nor where they are heading. Indeed, a lack of "digital mission" is noted (Participant #8).

Advancements in the field of AI require heavy investments. Initially, it is crucial set safety, security, and privacy as the priority of all business operations involving AI decision making (Participant #1; Atlam & Wills, 2020). These elements are the prerequisite pillars that should be embedded in business strategies. Ensuring these criteria promote the sustainability of business in the digital context and prevent unwanted risks from occurring (Atlam & Wills, 2020). The term cybersecurity engulfs all of these aspects. Radziwil and Benton (2017) explain how cybersecurity failures, as an example of these unwanted risks, have an immense economical cost. For instance, the integration and use of AI technology requires additional investments in cybersecurity and constant staff training. Managers should understand that cybersecurity is a major concern. In many cases, investments in advanced cybersecurity systems are still seen as a burden of expenses since they don't have palpable returns. Furthermore, investments in the area of cybersecurity often enter a financial tradeoff with other areas where companies are highly biased to investments of higher returns. Several contemporary scandals resulting from data breaches, reflected managerial misconfiguration of digital practices that lead to the exposure of users' data and personal information (Popken, 2017). In fact, data breach is unnoticeable mistake at first (Participant #4, 2021). At this stage, training is crucial. But, when it comes to digital practices around AI, training is costly because it involves more frequent, lengthy, and highly sophisticated training than usual business training of employees (Participant #4, 2021). Again, similar to investments in cybersecurity, investment in these types of training is for the sake of preventing failure and scores low in economic returns. Which relates back to the moral responsibility. Acknowledging the riskiness of AI integration and inaction towards a well-established cybersecurity system and training for employees puts managers on the pedestal of moral responsibility.

Laws and Regulations

All participants noted that laws and regulations are reactive and fall behind technological development. This claim can be associated with the example of GDPR. GDPR became official in 2018 after a series of scandals resulting from data leaks and breaches. Participants #1, 2, 3 and 4 explained how such a general ruling policy for protecting data came late to the show. Indeed, it could had been forecasted a decade ago (Participant #1 & 4) that at some point there would be a need for legal guidelines that enforce a proper handling of data. GDPR led to prioritizing consumers' data privacy and transparency in all businesses that operate in the EU. But still, several parts of the GDPR relies on a consent between the company and users about their data being collected.

In addition, GDPR states that companies need to inform customers when automated decision-making is happening (Kuner et al., 2017). Similarly, Cath (2018) explains how laws and regulations like GDPR do not cover the whole spectrum of challenges embodied by the use of AI decision-making software. Kuner et al. (2017) pinpoint the difficulty of how such a requirement can be satisfied and assessed, given the multiple sources of data collection and the opacity of technical processes. Thus, when it comes to AI decision-making companies in general and managers specifically face a challenge of translating legal requirements into internal policies and practices in the first place. Another example is the gap identified in the GDPR, where no neat and clear law mandates the explanation of AI decision-making (Wachter, Mittelstadt & Floridi, 2017). This pinpoints additional questions to obscuring accountability and transparency with customers. On the other hand, ensuring transparency through laws and regulations is important for building trust between the company and its customers, but it can also be problematic in some contexts. In fact, manifesting too much transparency when it comes to technical operations of AI and data collection is exactly what hackers and organizers of cyber-attacks want (Participant #4).

Laws are needed. The problem is that they are not scoring high in efficiency (Wachter, Mittelstadt & Floridi, 2017). The initial problem roots back to the pace of technological development and the inability of legal frameworks and legislations to cope with the exponential rate (Lobschat et al., 2019). In fact, the above discussed examples of gaps in the GDPR laws demonstrate that laws cannot cope with the AI development speed. The gaps are identified in an ex-post analysis after the socio-technical context between developing GDPR (in 2016) and implementing it (in 2018) has changed in a relatively short period (Wachter, Mittelstadt & Floridi, 2017). In summary, the legal actors are slower than technological actors, and the provisions of the first don't cover the full reach of operations of the latter. By acknowledging that, managers willing to act morally responsible cannot build and organize internal policies regarding AI integrated decision making based on laws only.

5.2   Concluded Findings

The concluded findings are presented in a consolidated manner. The following table (Table 3) presents the answers of the first (RQ1) and the second (RQ2) research questions. As for the third research question (RQ3), the findings are synthesized in a conceptual model (Figure 3).

RQ1	• The CSR literature reveals four outlooks towards digitalization and AI: - CSR needs to be redefined in the digital context. - CDR needs to be separated from CSR. - CDR is an extension of CSR. - CSR traditional models can be developed to contain digital responsibility.
RQ2	• Technological artifacts should not be perceived as embodying agency. • Can be perceived as "placeholders" to organize legal responsibility of actors.

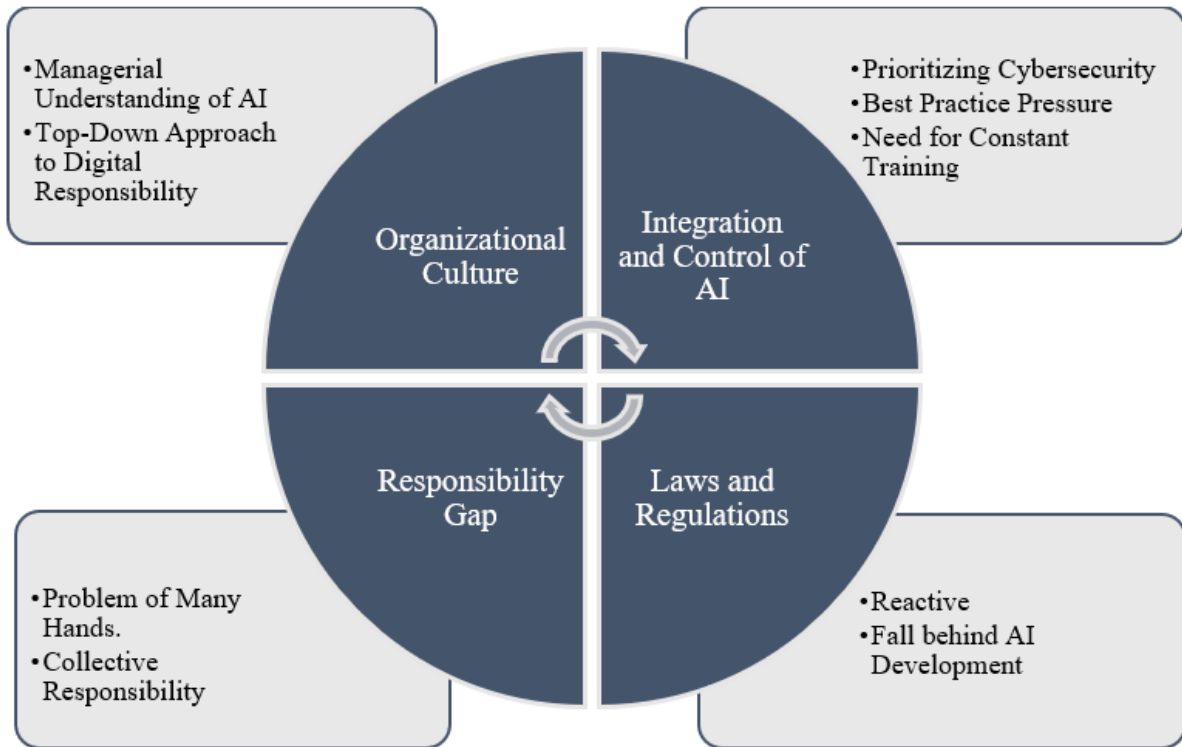Table 3: Concluded Findings of (RQ1) and (RQ2) (By Researchers)

Figure 3: Spectrum of Managerial Challenges for Digital Responsibility (RQ3)

(The Hamadi & Manzo Conceptual Model)

5.3 Chapter Summary

In this chapter the results of this research are analyzed and discussed. Initially, the first research question regarding how CSR literature covers the digital and AI aspects is answered. Indeed, four conceptual approaches were identified: CSR needs to be redefined in a digital context; digital responsibility is separate from CSR; digital responsibility is an extension of CSR; CSR models can be reviewed to contain digital responsibility. Then, the second research question based on the agency of technological artifacts was answered. Technological artifacts do not embed agency, but can be considered as "placeholders", since they have an impact on other stakeholders, in order to organize the legal framework. Finally, the third research question on the managerial challenges to integrate AI in decision-making processes across corporate action is answered. In fact, the challenges within the identified research criteria of responsibility gap, organizational culture, integration and control of technology and laws and regulations were discussed.

6   Conclusion

"Faith is not jumping to conclusions. It is concluding to jump."

(Westlake Taylor Purkiser)
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6.1   Summary of Main Findings

The purpose of this thesis was to explore how corporate responsibility is approached in a digital setting. A first sub-purpose motivated the researchers' investigation on how CSR relates to digitalization and AI-integrated decision-making. A second sub-purpose was to explore the concept of artificial machines' agency. Lastly, a third sub-purpose was to map the managerial challenges when integrating AI in corporations. The motivation for this research was the identification of moral responsibility gap resulting from digitalization, and specifically when integrating AI in decision-making processes.

In order to stand behind this thesis' research purpose, the researchers formulated their research questions around specific areas of investigations. First, they examined how the digital aspect of corporate responsibility and AI integration are addressed in CSR literature. Second, they interviewed managers and AI experts regarding how they perceive the agency of artificial machines. Lastly, they explored the managerial challenges faced by corporations when integrating AI in their decision-making processes. Furthermore, a theoretical framework was developed based on an in-depth review of the main concepts which relate to business and digital ethics, CSR and CDR. Additionally, the CDR framework (Lobschat et. al, 2019) and the authors' representation of CDR focal areas and elements served as a foundation for the whole research design, including the methodological and analytical approach.

The concluding findings of this thesis research revealed multiple patterns which clarify relevant gaps behind the understanding of digital transformation from a conceptual and managerial perspective. In particular, **the answer to this thesis first research question** highlights the existence of four perspectives on how CSR literature relates to the digital phenomena and AI-decision making. First, scholars call for a need to revisit corporate responsibility in the light of digitalization. Second, digital responsibility is seen as separate from CSR. Thirdly, an opposing stance identifies digital responsibility as an extension of CSR. And finally, CSR traditional models and approaches can be developed to contain digital responsibility.

Additionally, **the answer to the second research question** uncovers how the concept of agency is perceived by managers and AI experts. Specifically, artificial machines are not considered as embedding agency in the same way human actors do, i.e., they lack intentionality, awareness

and the will which are inherently human characteristics. However, they could be seen as "placeholders" for legal institution because their decision-making processes have an impact on other actors. Indeed, such a definition could support the development of more proactive legislative measures to establish and maintain digital responsibility. Finally, these findings highlighted how the moral responsibility of digital failures is in fact still borne by companies and can't be transferred to artificial machines, regardless of their level of autonomy.

In this regard, **the answer to the third research question** resulted in a portrayal of the challenges which managers face when integrating AI in corporate decision-making processes. Due to the number of actors involved in the creation, use, monitoring and implementation of data technologies, a problem of many hands is configured, leading to a responsibility gap. This aspect has repercussions not only on the life cycle of artificial agents, but especially on how accountability and liability can be ensured. Therefore, a collective governance approach to tackle digital responsibility challenges is desired in order for all stakeholders to participate in the co-creation of digital policies and practices. Additionally, managers are responsible for establishing and enforcing a top-down culture of digital responsibility within organizations.

Third, another managerial challenge refers to the integration and control of technology. Investments in cybersecurity are vital for companies to remain competitive and mitigate best-practice pressures, yet they are often an expensive investment. Moreover, technical implementations such as software updates are so frequent that they can easily be missed, exposing the company to glitches and other digital risks. Therefore, managerial training is necessary to avoid digital failures and establish a culture of digitally responsible behavior.

Lastly, laws and regulations such as GDPR in Europe promise to protect consumers. On the other, they delimit the realm of lawfulness within which corporations can operate. However, such regulations do not comprehensively cover all the transparency, security, safety and accountability standards which AI-driven decision-making technologies require. Neither do they delineate those guidelines which could support companies in the development of internal policies and practices. At the same time, while transparency is desirable for corporations, it can also be a double-edged sword. Too much transparency can indeed expose corporations to vulnerabilities such as cyberattacks.

6.2   Research Contributions

One of the main contributions of this thesis is to support the understanding of the digital phenomena from a managerial perspective. Indeed, the researchers expanded on the theoretical concept of CDR and addressed the shortcomings of using traditional practices to corporate responsibility in the digital realm. Moreover, the concluding findings of this thesis illustrate the complexity behind understanding and analyzing the digital phenomena with a univocal representation.

From a practical perspective, the provided insights on the concept of corporate digital responsibility can be used by managers to start redefining internal policies, values, processes, and procedures. Additionally, the thesis has advanced the discussion regarding the agency of technological artifacts. In particular, the researchers illustrated how the speculations regarding future developments of AI and their potential to take over humans is removing the focus from the more imminent and relevant ethical dilemmas. By highlighting such ethical concerns, managers could start focusing on the right questions supporting the definition of more resilient digital strategies. Finally, this thesis presents a conceptual model that synthesizes the managerial challenges when integrating AI in business.

6.3   Future Research

As an extension of this thesis, the researchers distinguish a spectrum of topics and questions which could be addressed in future research. First, the potential threat of big tech companies stirring digital technologies in the direction they desire, could push further investigations regarding the relation between companies which create technologies and their role in the business ecosystem. Second, the challenges and opportunities deriving human-machine interaction need to be explored further. Specifically, the researchers foresee how research within the field of AI-driven strategic decision-making and the related moral responsibility concerns need to be addressed in the short run. Lastly, if it is required to create commonly agreed upon digital responsibility standards and ways to monitor and assess artificial actors' efficiency, it is then imperative to investigate the shift from individual responsibility and ownership perspective to a collective governance and distributed responsibility.

On an Endnote

"Since this thesis is about acting responsibly in the digital world we started with ourselves. Recorded interviews, collected articles through LUSEM library, private emails with participants, and private discussions between us about the participants' inputs and the conducted research were permanently deleted and thus abiding by the "right to be forgotten" clause of GDPR. The only remaining document of the whole research project is this report that you are reading and that will be published in the university's database. We wish that all readers, mainly future students aiming to consider our findings in their future projects, to use this document responsibly".

(Hamadi & Manzo)

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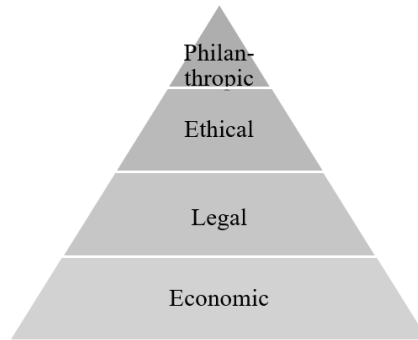
Appendix A

Figure 4: The Pyramid of Corporate Social Responsibility
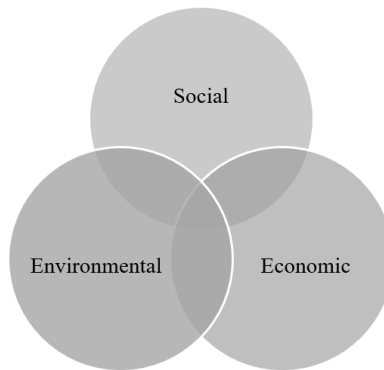
(Adapted from Carroll, 1991)

Figure 5: The Triple Bottom Line

(Adapted from Elkington, 1998)

Figure 6: The Stakeholder Theory Model
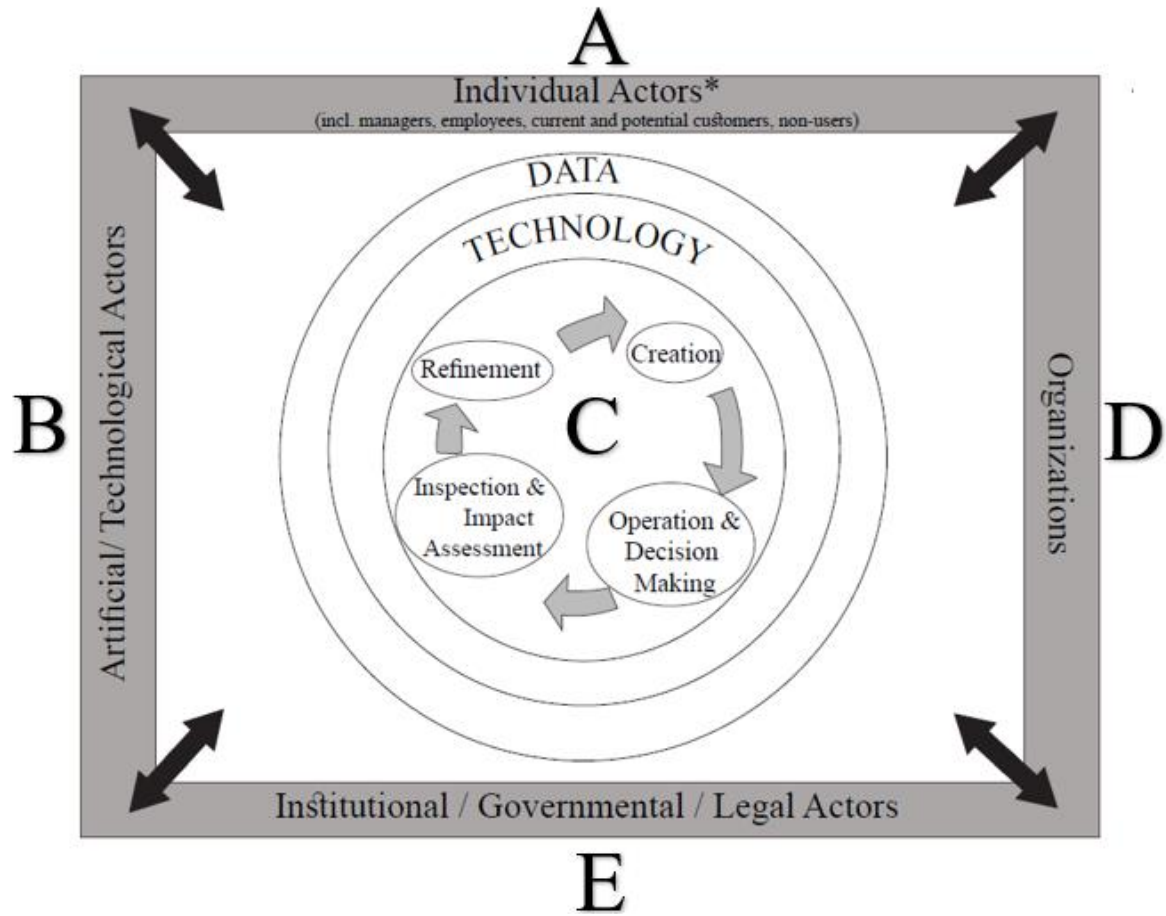
(Freeman, Harrison, & Wicks, 2007)

Appendix B

Figure 7: Annotated CDR Theoretical Framework

(Adapted from Lobschat et al., 2019)

Annotation	Theoretical Component in CDR model	Selected Research Criteria
A	Individual Actors	Ruling Outlook (Managerial Perspective)
B	Artificial/ Technological Actors	Artifacts' Agency
C	Lifecycle of Data and Technologies	Integration and Control of AI
D	Organizations	Organizational Culture
E	Institutional/ Governmental/ Legal Actors	Laws and Regulations
Overarching standard containing the broad picture		Responsibility Gap

Table 4: Selected Research Criteria based on the CDR Model (By Researchers)

Appendix C

Interviews Conduction Details

Reference	Group	Detail	Duration (min)	Data	Country
Participant #i	CDR co-author	Author	60	Recorded	Switzerland
Participant #1	Expert	AI and IoT	50	Recorded	USA
Participant #2	Expert	AI/Ethics	50	Recorded	UK
Participant #3	Expert	Digital Ethics	80	Recorded	Canada
Participant #4	Expert	Cybersecurity	90	Recorded	UK
Participant #5	Consultant/Manager	AI developer	50	Recorded	Switzerland
Participant #6	Consultant/Manager	Fintech	55	Recorded	Kenya
Participant #7	Consultant/Manager	AI/Software	50	Recorded	France
Participant #8	Consultant/Manager	Cybersecurity/Digital Ethics	60	Recorded	Nigeria
Participant #9	Consultant/Manager	Digital Ethics	60	Not recorded	Germany
Participant #10	Consultant/Manager	Digitalization/Risk Management	60	Recorded	Australia

Table 5: Interviews' general protocol (By Researchers)

Appendix D

Interview Questions

Table 6: Interview questions with corresponding research criteria (By Researchers)

No.#	Leading Question	Research Criteria
1	What are the current shortcomings of AI integrated decision making in corporations?	- Integration and Control of AI
2	How does the problem of "black box" is understood and approached at the managerial level?	- Integration and Control of AI
3	Where does the responsibility lies within corporations in case of shortcomings?	- Responsibility Gap
4	How is the responsibility spectrum understood among actors (Individuals, Organizations, & Governments)?	-Responsibility Gap -Laws and Regulations
5	How efficient current approaches to responsible digital behavior are today?	- Organizational Culture - Laws and Regulations
6	How is AI approached in CSR practices?	- Organizational Culture
7	Should technological artifacts and technologies be considered as actors?	- Artifact's Agency
8	To what extent artifacts and technologies are embodying agency?	- Artifacts' Agency
9	What managerial task or aspect is essential for AI integration?	- Integration and Control of AI - Organizational Culture
10	What is the practical definition of digital ethics?	- Integration and Control of AI - Organizational Culture

Appendix E

Interview Summaries

Reference	Participant #1
Group	Tech and AI Expert
Detail	AI and IoT

According to them, it is hard to have a clear picture of how the integration of AI is happening across corporations, because AI penetration is different depending on the industry. For example, social media use machine learning to understand their customers' behavior and provide them with more accurate offers, while other companies rely on deep learning for providing a more articulated meaning to our behavior (e.g., improve facial recognition).

Moreover, they believe managers have a different understanding of the technology than the technical experts do, especially with regards to the black box of AI. Indeed, their main interest is to gain and provide internal teams with sufficient knowledge on how the machine allows the company to obtain accurate and effective results, that is the *rate of convergence,* instead of how the algorithm was generated. Responsibility is shared among corporations, government, and individuals. Individuals should also be responsible about their collected and used data.

Because of the fast pace that digital transformation is taking due to Covid-19, there is a concern for companies to achieve digitization faster than ever. However, that does not mean one would leave the concept of control behind. Mainly, safety, security, and privacy are the foundation. Once these conditions are satisfied, companies should also ensure transparency with regards to how data is captured, used and kept confidential.

Technological artifacts are not to be considered as stakeholders, regardless of the level of autonomy. Indeed, safeguard mechanisms and human intervention is needed and crucial in risky situations like self-driving cars and healthcare. Additionally, AI technologies can't yet be considered as superior to human minds, and the technical problems behind AI capabilities is leading to responsibility gap. According to participant #1, companies should be responsible and for the results of AI-integrated decisions. The same considerations don't necessarily apply for other industries, where AI tech could be considered as stakeholders, since the major threat for a digital failure would be loss of money for the company. For these above-mentioned reasons, participant #1 highlights the importance of pilot programs within corporations, which allows internal small-scale testing before the technology is further developed and released to the market, as well as managerial and executive training for equipping them with the necessary knowledge on how to integrate AI technologies responsibly across corporations

Reference	Participant #2: Cansu Canca, PhD
Group	Tech and AI Expert
Detail	Founder/Director of AI Ethics Lab

According to participant #2, current approach to ethics behind AI integration across companies is more related to oversight and compliance, while an emergent way of dealing with AI integration and ethics is to use a design approach where ethical issues are seen as questions to be determined, identified, and solved. They define it as the PiE (puzzle-solving in ethics) Model (Canca, 2021).

When it comes to the understanding of the "black box" issue at the managerial level, participant # 2 believes that it is necessary to distinguish between vendors and companies using AI. Indeed, the latter might actually miss the potential ethics mistakes that AI systems might generate, because they are less likely to understand that ethical decision-making is embedded in the technology. Alternatively, they could perceive the "black box" because the vendors' companies are not sharing information with them regarding how the system works. On the other hand, vendor companies who design AI technologies and hopefully have an understanding of the ethical issues seem to not have yet in place structures that allow them to tackle such ethical concerns in a preventive manner, that is they do not have proactive approach to ethical issues, but only reactive, usually involving PR to mitigate the repetitional risks.

When it comes to ethical failure, responsibility and accountability depends on the internal culture and the ability of developers to raise the proper ethical questions and leadership allowing or encouraging such critical approach. Currently, more focus is put on abiding to new rules for reputational reasons .In this context, participant # 2 argues that CSR approach does not necessarily equate with behaving ethically responsibly from a digital perspective, nor from a business perspective. Indeed, they argue that, even though CSR falls within the ethics spectrum, it does not necessarily drive ethical business action in practice, as their focus might not be integrating ethical practice to digitalization, and they might only be motivated by a more philanthropic foundation/principle. Therefore, ideally CSR "should not be the driving force of ethical digitalization", and neither should the regulatory barriers. Participant # 2 argues that everybody, from individuals to companies, from governments to ethicists, have a collective responsibility towards ethical practice in the digital sphere.

According to them, technological artifacts, as they exist today, do not embody agency from an ethical perspective because their action is not generated by intention. One reason to use the concept of "artificial agents" can be for utilizing this concept as "placeholders" for better legal provisions and organizing the spectrum of responsibility. Finally, ethical behavior should not be considered as a policing element of compliance. Digital ethics should be reflected in the whole process, across organization, and through proper ethical analyses and strategies, monitoring, and quality assessment procedures.

Reference	Participant #3: Frederick Bruneault, PhD
Group	Tech and AI Expert
Detail	Digital Ethics, Université du Québec à Montréal

According to them, AI integration and digital transformation are resulting in multiple types of issues. On the one hand, they believe that people are unable to see the potential challenges that digital transformation is posing to society. On the other hand, people are focusing on the wrong questions, that is futuristic scenarios where robots could take over the world. Actually, the issues that are emerging are related to the incorporation of biases into the AI design, data privacy and safety, as well as challenges to our own autonomy (i.e., to what extent are we still making decisions when we rely on the results that such technologies provide us with), but also to responsibility and accountability.

Based on these problems, participant # 3 argues that these are mainly of epistemic nature, and that they are understood differently by different people, since individuals are related to other groups (e.g., organizations, families etc.) Therefore, different interpretations of such issues should be taken into account. Moreover, participant # 3 believes that the current managerial approach to AI integration does not really understand nor question how the results of AI-integrated decisions are achieved, which poses additional issues to how responsibility is addressed.

Assigning responsibility to one unit, individual, or department in a company cripples the initiative to achieve a shared and collective understanding of the complex problem at hand. On the other hand, technological artifacts are not to be considered as actors given their lack of human abilities that explain agency. However, they could be considered as acting technologies, since they do have an impact on human agents, challenging how they relate to their own abilities, to each other and to the world around them.

Reference	Participant #4
Group	Tech and AI Expert
Detail	Cybersecurity

Corporate responsibility in the digital context begins by acknowledging where the company stands in its financial and technological journeys. Financial pressure, not only to obtain new technologies, but also to abide by stricter laws is a major factor. Proving ethical behavior demands ever increasing administrative costs as company grows and changes, while providing services nationally and internationally is subject to progressively more laws and regulations. This leads back to the decisions of shareholders and investors to finance projects that abide by local and international laws, are environmentally friendly, are socially accepted by local and global consumers, and ethical overall with respect to prevailing ethics of the primary consumer audiences. Hence, the corporate and financial structures, and the local regulatory systems are the ruling factors in how companies can present and assess their digital responsibilities.

Another pressure is caused by the trend of best practice in the industry. Companies that don't upgrade their technology agendas and tools, including the use of artificial intelligence are at risk of falling behind in the competition. As for the AI, leading companies have considerable advantage over other players of the industry. Advancement in AI requires heavy investments in, and availability of large amounts of data, which not all companies can buy or collect. For digitalization in general, no standardized guidelines are available for a responsible corporate behavior, though there have been attempts at creating those. Digitalization has global reach whereas laws, regulations, and moral norms are relative to the place where practices are taking place. Data breaches would typically be pinned to technical or managerial failures due to misconfiguration of digital processes or data handling. Accountability falls on managers or technology providers and users, while moral responsibility is not so easily assigned.

Another issue is the competing guidelines developed from best practice where there is lack of standardization. A large number of employees cannot be monitored all the time by managers when it comes to a responsible digital behavior. As for companies that integrate AI, understanding how technology works in the abstract sense falls to managers or those dealing with ends users.

Investment in cybersecurity should be considered within a tradeoff with other investments in the business, including the costs of losing access to data and infrastructure. The organizational culture should be founded on rewards to responsible behavior, constant training, ethical behavior, and shared awareness starting from individuals.

Reference	Participant #5
Group	Consultants and Managers within the field of AI
Detail	AI Developer

In their work, Ai has been essential to modernize both offensive (e.g., marketing) and defensive business operations such as software updates, increased customer privacy and safety. According to them, current issues with AI integration lie in the expectations misalignment between what upper management expects from the technology and what is feasible and just from a technical standpoint. Indeed, being Switzerland out of the EU, they do not have to internally abide by GDPR, and have therefore their own federal regulations with regards to customers data protection, digital liability, and responsibility standards.

As participant # 5 explains, in case of digital failure, the product owner or business developer would be deemed responsible and accountable if something should go wrong, because they have the power to stir the direction of the product and push back the business, should anomalies be detected before the release of technologies on the market. In this sense, they think that business developers, which are usually considered as the sole people accountable for the design and functioning of digital technologies, should have the right to define the limit of their own responsibility, especially when the use of the technology they create does not match with their own ethical values and intentions.

With regards to the managerial responsibility for digital transformation, participant # 5 believes that whoever is responsible for product development should have. technical understanding in order to lead such processes, supporting the work of business developers. Lastly, they believe that the business opportunities that AI enables are far higher than the challenges perceived by other people who do not have technical knowledge, and therefore do not understand how technologies work.

Reference	Participants #6
Group	Consultants and Managers within the field of AI
Detail	Fintech

Participant # 6 is a senior fintech consultant with a background as a business analyst. According to them, one of the major problems with digital transformation is the dehumanized perception of people's personal data which are considered by businesses as mere means to decision-making.

According to them, managers care about ethics only from a reactive perspective rather than proactive, specifically only when there are legal implications for them. They propose the example of data being collected and traded aimlessly with third parties, until it was regulated by law how much data companies could collect from their consumers. Hence, companies are responsible of what technology developers are doing in the case of shortcomings. A top-down culture of digital responsibility needs to be developed and communicated within corporations

Therefore, participant # 6 believes that managers should have the technical knowledge to understand the potential challenges and risks related to digital transformation. When it comes to the current approaches to CSR, participant # 6 recognizes the lack of consideration of current CSR approaches for the digital aspect of business. Additionally, she argues that, just as companies are currently reporting about their CSR actions and results, they should also report their CDR strategies. However, before this goal can be achieved, participant # 6 believes there is a need for moving beyond the regulatory aspect guiding responsible business behavior in the digital context.

According to them, AI technologies are not to be considered as agents regardless of the level of autonomy. The company that creates the technology is responsible of its creation. Participant #6 proactive approaches are the basis of designing, monitoring, and assessing technologies by companies. Thus, proper mechanism should be well established by management. Finally, defining digital ethics in practice on a global scale is needed to support all players in the industry.

Reference	Participant #7
Group	Consultants and Managers within the field of AI
Detail	AI/Software

Companies dealing with AI have two main considerations: secure data handling (collection, storage, and use) and adding value to the business through better personalization. The major challenge is the ability to perform a responsible operation of data technology. From a legal perspective, GDPR is not negotiable and implemented across the whole spectrum of digital operations that deals with consumers data. The relation between the company that creates the technology and the company that uses this technology should be elaborated. The first, being the seller, must get consent from the latter, being the customer. The prerequisites of this relation are security and transparency, along with communication and coordination.

Mindset of top management team is the basis of change toward a responsible behavior in the digital context. An ethical digital behavior should be the core of business operations. Companies working in the tech industry should start from the idea of designing and assessing ethical technologies. That being said, communication is crucial to create harmony and shared values across the organization in a top-down approach. Lastly, constant training of employees on designed ethical dilemmas are currently used. In the case of CSR, the traditional approach emerged in order to lessen the business impact on the surrounding, and currently, to create value. The responsibility starts at the moment algorithms are being designed. As for agency, technological artifacts are not to be considered stakeholders even though a margin of autonomy is permitted to the software.

In the practical sense digital ethics means security, trust, and staying with the customer company (the company that integrates AI) in a tight information and feedback loop. In addition, it requires properly designed risk/quality checks that are shared and communicated with customer companies. Moreover, trials and testing period, longer periods for deploying pilot programs allows better impact assessment of the software (AI).

Reference	Participant #8: Ridwan Oloyede
Group	Consultants and Managers within the field of AI
Detail	Cybersecurity/Digital Ethics, Co-founder and Advisor

The implementation of a solution for the problem, in some cases, creates other problems. In the context of AI, the evaluation of technical processes reveals gaps when moving from ideation to testing. The traditional narrative of profit over people is one side of the story. Indeed, lack of voluntary care regarding potential ethical failure is the major driver for irresponsible business. From a managerial perspective, a lack of understanding of actual digital practices is widely observed through inability of explaining and tracing certain AI decisions. Hence, the second problem is not understanding what the risk is about. In this case, the bottom line in AI context, digital ethics, is absent on a managerial level. No one can blame the AI software for shortcomings. So, it cannot be considered as a stakeholder. In addition, human intervention in AI integrated decision making is crucial.

There is no real combined effort from all stakeholders involved in the ecosystem. All actions could be seen as discrete initiatives that lack the synergy. In most cases today, there is a disconnect between businesses and customers. What complicates the scene, is that companies abide by the minimum egal requirement more often. Laws and regulations cannot lead a responsible behavior. When it comes to companies, the corporate structure should prioritize constant risk assessment of AI results. Furthermore, customers should always have a say in the whole process of handling their personal data. In the broad sense, a collective effort among all actors should start.

The translation of biases from the human designer to the artificially intelligent software reveals a serious problem, especially in the case of a large users' base. It doesn't have to do with digital products only. In fact, digital transformation is a common goal to a large set of companies, even the ones involved in previous social failures and scandals. Digitalization exposed points of weakness that were already there in the company before integrating technology. In the context of AI, questioning what the socially responsible digital practices are to be done is the first step. In terms of moral responsibility, a weak organizational structure has higher risk of failure in digital context. Adding to that, several companies do not have a digital mission where they really know where they want to head or what to achieve with a digital business model. Most CSR models and approaches did not consider what is the real impact of digitalization on the society at whole nor what pace should the companies adapt and how fast will the business change. Traditional approaches to socially responsible behavior might fall short in the digital context. When it comes to AI, managers are entitled to create and develop a culture based on sustainability, integrity, and transparency. Constant updates of all guidelines is needed given digitalization is only moving forward with no foreseen end so far.

Reference	Participant #9
Group	Consultants and Managers within the field of AI
Detail	Digital Ethics

AI today is associated with the competitiveness of the company. That being said, AI as an emergent field in business is leading to a conceptualization of what is currently called "AI ethics". AI requires ethical use by the company that buys the system, and ethical design from the company that creates it. From an ethical perspective, shortcomings of AI can happen anywhere on both sides but first the designer company is entitled to deploy authentic technology that engulf all ethical considerations. As for best practices, the difficulty of learning from others is in the first place financial, then it is a matter of properly integrating it in the organization. Theories and guidelines cannot do much if not fully translated into practice across the company.

The corporation should be built on trust, awareness, hiring the right people, and integrating this culture of responsibility across the whole organization. When it comes to ethical behavior, top management leads the change by setting the guiding agenda of company's practices. Managers are not entitled to become tech expert to lead the AI business operation of the companies. In fact, proper reasoning and understanding of what the company wants from integrating AI, along with leadership to foster the culture of responsibility. From an external perspective, companies is subject to public pressure. Internally, managers are accountable for the shortcomings since they are responsible to monitor and assess all the processes and results of digital practices. At this stage, traceability of AI results is crucial. This relates back to the importance of human intervention and no complete delegation to technology. Lastly, constant questioning of practices and ethical evaluations should be done to contain the technological upgrade.

The current situation reflects a high level of awareness on the investors and shareholders' side. Such a fact is translated into pressure on managers to perform responsible digital business practices to account for potential reputation damage (e.g., scandals about data breaches). Traditional approaches of CSR may fall short in such a context given that in most cases these initiatives were separated from the business core. Laws are regulations are crucial, but in most circumstances they fall behind the pace of digitalization and AI integration. Hence, corporation leading business should also lead a societal change towards a shared awareness and a responsible behavior of digital technologies' use. So far, digitalization is an open-ended process and not like previous transformative trends (e.g., computerization in the 1980's and 1990's), and new waves are exponentially emerging.

Reference	Participant #10
Group	Consultants and Managers within the field of AI
Detail	Digitalization/Risk Management

From a managerial perspective, the technical understanding of AI decision-making is not always available. AI decision-making ranges from social media and adds recommendation to medical diagnosis. The latter is an example of what is going well in terms of AI operations. Proper handling of data is always a concern and a priority for all companies in the field. At this stage, special care should be given to cybersecurity as a protective element. It begins by acknowledging the volatility and the hackability of stored data in any company.

The relation between the company that deploys the AI technology and the company that uses it should be always under investigation. Training should be constant and offered by the first to the latter in order to enhance the managerial understanding of AI in customer companies. Treating AI as a tool is problematic. Indeed, the whole process is very complicated and involves several elements and several stakeholders at each level where abstract understanding of technology will make the situation worse.

As for the spectrum of responsibility, managers in companies dealing with AI are the first bearers of responsibility. Externally, societal consideration of stakeholders should be collective and comprehensive. The legal actors are reactive and will fall behind the pace of digitalization and AI integration in business.

Companies handling customers' data should abide by a level of transparency that regulates the relation with them. Doing so allows the customers to properly understand when, how, and why their data are collected in addition to their ability to intervene. Safety, privacy, security, and transparency face a roadblock in case they are not prioritized, and a proper budget is allocated. Several failures revealed a lack of prioritization to cybersecurity. Ethics is at the core of digital business practices. It is not an add on or a separate practice that is offset from the corporate strategy.

Artifacts and technologies are not stakeholders, especially not bearers of responsibility. The algorithm designers are the ones to blame in the first place given their high-level understanding of the situation. When it comes to managerial challenges, constant training is a must. AI certifications and programs for managers can assist to create an acceptable level of digital literacy. Internally, whistleblowers' hotlines should be ensured to stop unethical business behavior. Digital ethics starts with awareness and building the digital operations on a firm ethical core.