How Organizations Institutionalize Corporate Digital Responsibility in their Culture

and the Influence on Employees' Digital Responsible Behavior

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As of late, digital transformation is becoming more apparent in all facets of work and life. Despite the benefits that powerful technologies bring, the need to recognize potential unwanted consequences arises. Corporate Digital Responsibility is proposed to ensure social, ethical, and ecological accountability when utilizing digital technologies. However, the concept is still in the early stages of conceptualization and there is a lack of how this is perceived and implemented by individuals. This research conducted a multiple-case study with semi-structured interviews with nine employees and five (C-level) managers from five organizations where CDR is incorporated. Thereby, it contributed to the conceptualization of CDR by uncovering the drivers of CDR and five strategies of institutional work, leading to the institutionalization of CDR throughout the organization. Furthermore, this research gained insights into the impact of CDR on employees' digital responsible behavior. Lastly, this paper provides practical implications for organizations and developed avenues for future.

1. Introduction

For the last couple of years, digital developments have enabled various systems with rich capabilities (Lobschat et al., 2021). Therefore, digital advances such as artificial intelligence (AI), data analytics, machine learning and automation continue to become more evident in all facets of daily life (Lobschat et al., 2021). The applications of these digital systems range from making lending decisions and fulfilling customer requests to the transportation of people and goods (Lobschat et al., 2021, as cited in Wirtz et al., 2018). However, despite the benefits of these powerful digital systems, system designers and organizations that use these systems need to recognize the potential unwanted consequences for different stakeholders and society at large due to misconduct (Lobschat et al., 2021). Examples of potentially unwanted consequences include bias in algorithmic decision-making, unemployment due to automation and robotics, cyberattacks and data breaches (Herden et al., 2021). The ubiquity of digital technologies in everyday life creates various disadvantages for individuals with improper skills or access to digital technologies. With the digitalization of organizations, digital technologies have become a significant contributor to ethical tensions such as social inclusion, discrimination, and unfair exclusion (Mihale-Wilson et al., 2021). Thus, emphasizing the need to identify, analyze and potentially mitigate the ethical tensions related to digital systems in the digital transformation (Mueller, 2022). Digital ethics is concerned with the moral problems related to "information and data", "algorithms", "practices" and "infrastructures" in order to create and support morally good solutions (Floridi et al., 2019). Organizations can minimize the ethical tensions caused by the (new) digital technologies with the establishment of policies that encourage a responsible approach to the development, use, and modification of digital technologies (Mueller, 2022). Although such policies can be formulated in the organization's overall corporate responsibility (CSR), recent literature (e.g., Herden et al., 2021; Mueller, 2022; Lobschat et al., 2021) propose the concept of Corporate

Digital Responsibility (CDR). CSR and CDR are similar concepts. However, CSR intends to minimize the negative effects of the organization on socially and environmentally relevant aspects, whilst maximizing the positive impacts (Mihale-Wilson et al., 2021). In contrast, CDR aims to minimize the negative impacts of digitalization whilst maximizing the positive effects of the digital technologies and data developed, deployed or in use by the organization (Mihale-Wilson, 2021).

There is currently no shared definition of the term "Corporate Digital Responsibility", and so the term CDR is used in different ways (e.g., Andersen, 2018; Driesens, 2017; Lobschat et al., 2021). The following definition based on a review of existing definitions was proposed: "*Corporate Digital Responsibility is an extension of a firm's responsibilities which takes into account the ethical opportunities and challenges of digitalization*" (Herden et al., 2021, p. 17). Even though CDR is gaining traction in both research and practice, there is little empirical research on CDR in practice (Mueller, 2022). Moreover, Leoński (2019) found that the institutionalization of a CSR culture, is subject to hindering factors, which might also apply to the institutionalization of CDR, because these are similar concepts. These factors can be internal, such as insufficiently qualified staff, low dedication to CDR or a fear of change. External factors concern influences from the macro-environment on which the organization has limited influence, such as legislation (Leoński, 2019). However, little is known about the internal drivers and barriers to the institutionalization of CDR within the organization. Implementing CDR is of great importance because CDR has the potential to become a differentiator. Organizations can obtain and maintain the trust of stakeholders and a competitive advantage (Koch & Windsperger, 2017, as cited in Herden et al., 2021). CDR is of importance for stakeholders because CDR can provide scrutiny and safeguards to steer organizations to what is societally desirable and sustainable, instead of what is technologically possible (Mueller, 2022). Thus, a successful implementation of CDR is important for

organizations to mitigate the possible negative unintended consequences for stakeholders, and gain a competitive advantage (Trier er al., 2023). Furthermore, the implementation of CDR has notable consequences for individuals, who are obligated to think about the alignment of their decisions with the goals of the organization and ethical guidelines (Lobschat et al., 2021). Thus, CDR norms and culture have wide ranging impacts on how employees work with digital technologies, in a digital responsible manner (Lobschat et al., 2021). Therefore, in this thesis, the research question is as follows: *How can organizations institutionalize a corporate digital responsible culture, and how does such influence the employees' digital responsible behavior*? Hence, the following sub-questions were formulated: (1) *How can organizations institutionalize a CDR culture?* (2) *How does the organization' CDR culture influence the employees' digital responsible behavior?*

By addressing the above research questions, the current research contributes to the existing literature in several ways. First, it extends knowledge on the concept of CDR, as this study aimed to find what a CDR culture entails, building on the proposed CDR framework by Herden et al. (2021), with empirical findings on specific CDR attributes and behaviors that organizations undertake. Furthermore, this study extends knowledge on how CDR is institutionalized throughout the organization, extending knowledge on both the theory on institutional work, as the literature on CDR. In addition, the research by Mihale-Wilson et al. (2021), suggests future research on CDR, to consider stakeholders such as employees and companies. This study addresses this suggestion, as it aimed to find the influence of a CDR culture on digital responsible behavior of employees, and thus considered employees as the stakeholder. By considering the individual level, this research also contributed to the theory of planned behavior, which was yet applied to the concept of CDR.

Moreover, this research has practical implications for organizations, managers, and consultants. The outcome of this research can help managers and consultants with the

successful establishment of a CDR culture, because the institutionalization of the CDR culture is identified. In addition, specific CDR attributes, behaviors and practices are identified, which can be adopted by managers and consultants to strengthen the digital responsibility of the organization. besides, the results raise awareness about the possible positive and negative influences of the CDR culture on the commitment to responsible digital behavior of employees. At last, CDR is of great importance to other stakeholders such as employees and consumers, as the new digital technologies bring new social issues. This research can stimulate the discourse about CDR, pushing organizations towards digital responsible behavior.

2. Theoretical framework

2.1 Conceptual roots of responsibility during digital transformation

There is ambiguity to what CDR entails, because the concept of CDR is still in its infancy. Therefore, the most important roots of CDR are explained, which are digital ethics and CSR. CDR has important roots in computer ethics and business ethics, or digital ethics (Mueller, 2022). Digital ethics is a turbulent field ethics due to the constant development of new digital technologies, leading to the expansion of the discipline. Digital ethics includes both old issues, adapted to modern digital technology as new issues such as the risks due to artificial intelligence (Müller, 2022). Digital ethics are the ethics regarding the rules and moral guidelines that guide behavior between entities, that are mediated by computer technology (Gorbatai, 2022). The main topics of digital ethics are intellectual property, privacy, security, information overload, digital divide, (gender) discrimination and censorship (Ess, 2009; Himma & Tavani 2008). Digital ethics furthers the discussion from whether actions are legally admissible to whether they are the right thing to do (Gorbatai, 2022). Thus, it is important for organizations and individuals to consider all possible impacts, where digital ethics can be considered the moral compass in decision-making.

Recent literature (e.g., Mueller, 2022; Mihale-Watson et al., 2021; Herden et al., 2021)

propose that the concept of CDR is closely related to that of CSR. However, it is this relation between the concepts that creates tension in the conceptualization of CDR as different approaches are taken. Some literature argues that CDR should be distinct from CSR (e.g., Lobschat et al., 2021), other literature suggests that CDR is extending the traditional CSR approaches to a digitally conscious approach (e.g., Herden et al., 2021), and thus build further on the concept of CSR. This research considers CDR as an extension of CSR since this allows for an implicit transfer of the CSR literature (Mueller, 2022). Therefore, the concept of CSR will first be discussed.

CSR has been proposed as a concept to help corporations define necessary moral norms, values, and corresponding governance schemes to facilitate ethical decision-making. CSR is a business practice or strategy where environmental and social policies are combined with the economic goals of an organization. Organizations can reduce their negative social and environmental impact on society by implementing CSR policies (Edmondson, 2022). One of the most established and accepted models of CSR is that of Carroll (1979; 1991), the "four-part model of CSR" or the pyramid of CSR. Carrol (1991) suggests that CSR constitutes four levels of responsibility: economic (1), legal (2), ethical (3) and philanthropic (4).

First, economic responsibilities are at the core of most businesses, as such it has the responsibility to produce goods or services that are desired by society and sell them at a profit (Carroll, 1979). Second, legal responsibilities are the ground rules expected by society by which businesses need to operate, codified in laws and regulations (Carroll, 1979). In addition, ethical responsibilities oblige businesses to do what is considered right, fair, and just, beyond the scope of legal requirements. The last level are the philanthropic responsibilities (also discretionary responsibilities) which incorporate activities that are within the corporation's discretion to improve the quality of life of employees, local communities, and ultimately society in general (Crane & Matten, 2016). This aspect of CSR is according to Carroll (1991)

merely desired, without being required of organizations, in contrast to the other three levels.

Carroll & Shabana (2010) argue that the positive social influence can and does come with economic rewards for the organization (Carroll, 2016). According to Carroll & Shabana (2010), the literature (e.g., Zadek, 2000; Kurucz et al., 2008) maintains four different groupings of the reasons how CSR creates value for organizations: cost and risk reduction (1), gaining competitive advantage (2), developing reputation and legitimacy (3) and seeking win–win outcomes through synergistic value creation (4).

2.2 Corporate Digital Responsibility

2.2.1 Defining Corporate Digital Responsibility

There is currently no consensus about the definition of CDR. According to Mueller (2022), CDR directs organizations to engage in behaviors that adhere to the broad understanding of positive behaviors. An organization needs specific values and norms that direct the decisions of the organization, concerning the digital topics (Mueller, 2022). Therefore, digital ethics is the source of determining the underlying norms and values. On the other hand, the literature suggests that CDR can serve as an important function to govern that the organization is compliant with the norms and values (Mueller, 2022). However, as this study considers CDR as an extension to the CSR framework, the following definition, adapted from Herden et al. (2021, p. 17) is proposed: *Corporate Digital Responsibility extends the organization's responsibilities by including the ethical opportunities and challenges of the digital transformation.*

So, CDR is the responsibility of organizations to enhance the positive societal impacts of digital technologies, whilst minimizing the negative impacts. Similar to CSR, this is voluntary as it goes beyond legal obligations (Corporate Digital Responsibility, 2021).

2.2.2 The three layers of a CDR culture

Earlier research on digital transformations indicated that to achieve a true digital

transformation, organizations should not only implement technological changes, but also cultural changes (e.g., Williams, 2020; Hartl & Hess, 2017). To reap the full benefits of the digital transformation, organizations need to change their organizational culture (Hartl & Hess, 2017). Similarly, Lobschat et al. (2021) argue the importance of the organizational culture, as this can influence or determine how CDR shapes corporate behavior. As this study seeks to address how a CDR culture is institutionalized by organizations, the identification of the CDR culture precedes this objective. A CDR culture describes how CDR is executed by an organization e.g., which CDR practices are implemented by the organization. Based on Schein (2004), organizational culture consists of three interrelated layers which differ on the degree of accesibility and visibility. The three layers are: basic underlying assumptions (1), espoused believes and values(2) and artifacts and behaviors (3). According to Lobschat et al. (2021) a CDR culture is related to the assumptions and shared values regarding digital responsibility. The assumptions and shared values form the specific CDR norms. From the CDR norms, specific CDR related artifacts and behaviors are formed which are on the highest level of accesibility and visibility. These values and norms are needed to guide the decision-making within the organization, concerning digital issues (Mueller, 2022). So, the organization' CDR culture can ensure compliance to the norms and values.

The underlying assumptions represent what the organization deems desirable, often manifested in strategies, goals, and philosophies (Schein, 2004). However, the assumptions, or shared values do not provide specific guidance in a specific CDR context. Instead, shared values can be seen as guidelines for the development of CDR related norms (Lobschat et al., 2021). The espoused values and believes embody the organization's underlying assumptions in a particular CDR context. The values and believes guide actions within the organization in terms of what is right or wrong in the digital context. In a CDR culture, artifacts would be observable behaviors, structures and processes that embody the commitment to digital

responsible behavior.

2.2.3 Categorizing relevant CDR topics

Recent literature by Trier et al. (2023), has defined digital responsibility principles, that motivate actors to attain digital responsibility. These principles guide behavior and governs the evaluation of practitioners. The *sustainability principle* emphasizes the need to consider environmental impacts when developing and using digital technologies, e.g., the power consumption (Trier et al., 2023). It also involves adopting technologies that enhance the sustainability performance of individuals, organization, and society at large. The second principle is the *participation principle,* which addresses the importance of involving a wide range of stakeholders within the digital environment (Trier et al., 2023). The *functionality principle* encourages organizations to develop digital functionalities that meet digital responsibility requirements (Trier et al., 2023). The fourth principle is the *data privacy principle,* where organizations should empower users to manage their digital identities and individuals should evaluate if information should be categorized as private or public (Trier et al., 2023). Moreover, the *transparency principle* allows organizations to build trust, whereas on the individual level, awareness should exist on the importance and value that data can have for the good of society. In addition, the *fairness principle* promotes fair treatment of others in the digital world and not excluding specific groups (Trier et al., 2023). The seventh principle is the *norms & values principle,* which indicates that organizations should consider human norms and values in the development of products and services, which are important for individuals (Trier et al., 2023). The last principle is the *accountability principle,* which is focussed on who is responsible for ensuring digital responsibility, where organizations can define roles and processes (Trier et al., 2023). The principles collectively guide individuals, organizations, and governments to responsible digital behavior.

Other literature such as Herden et al. (2021) apply the ESG-framework to categorize impacts related to CDR. The ESG-framework can be used to identify categories in the CDR attributes and behaviors. ESG consists of three main factors that relate to an organization's ethical and sustainable practices, potentially offering investors long-term financial performance benefit (Herden et al., 2021). Based on the ESG-framework, CDR topics can relate to the environmental, social and governance factors. Environmental factors include those topics that affect the environmental impacts of the organization, such as waste reduction (Peterdy, 2022). Social factors refer to CDR topics that involve stakeholders, for instance, the digital well-being of employees (Herden et al., 2021). Finally, the governance factor relates to how an organization is managed, and what internal control exists (Peterdy, 2022). In terms of CDR topics, data collection and data transparency fall under this factor.

2.3 The concept of institutional work

2.3.1 Three forms of institutional work

The concept of institutional work is a particularly useful theoretical lens, to better understand how actors in and outside the organizations aim to establish a grounded, integrated certain way of doing business within the organization. Institutional work can be described as the broad category of purposive actions that aim to create, maintain, and disrupt institutions (Lawrence et al., 2006). Maintaining institutions through institutional work are the actions of actors that reproduce the mechanisms of social control of the institutional logic. Even though institutions are often linked with mechanisms of social control that result in "self-reproducing", few institutions have such power that no ongoing maintenance is needed (Lawrence et al., 2006). Disrupting institutions are the result of actors whose interests are not served by the existing institutional arrangements, and therefore work to disrupt these institutions (Lawrence et al., 2006). Institutional work aimed at disrupting institutions follows from attacking or undermining the mechanisms at place that result in members to comply with the institutional

logic (Lawrence et al., 2006). Creating institutions is the set of practices that actors engage in which result in the creation of institutions (Lawrence et al., 2006).

2.3.2 The institutionalization of CSR

Even though institutional work is often used to investigate institutional change at the field or macro level, actors performing institutional work are normally active within organizations (Wickert & Risi, 2019). The specific actions of agents in support of the organizational change may enforce the change at the institutional level, which results in the shift of the institutional logic in the field (Smets et al., 2012). In addition, the study by Wickert & Risi (2019) proposed that the day-to-day work of (CSR) managers is part of wider system of activities, which puts forwards the institutionalization of CSR as a collection of established practices.

Wright and Nyberg (2012) found that sustainability managers, who saw themselves as agents of change and promoters of pro-environmental behavior often experienced negative responses from their colleagues, especially when they needed to motivate counterparts inside the organization to engage in different additional activities beyond their traditional job tasks (Wickert & Risi, 2019). Wickert & Risi (2019) found that the major challenge of managers was to convince others, mostly in the lower levels of the organizational hierarchy, of the importance of implementing CSR. To overcome the intra-organizational barriers to the institutionalization of CSR, five strategies were found. The most important strategies were *promoting holistic awareness of CSR* and *benchmarking against internal and external parties* (Wickert & Risi, 2019). However, despite the similarities between CSR and CDR, the transferability, of the strategies used by managers to institutionalize CSR, to other areas is limited according to Wickert & Risi, (2019), which suggest future research to consider other areas.

2.4 Theory of planned behaviour

The theory of planned behaviour (TPB) is based on the theory of reasoned action (Fishbein & Ajzen, 1975). The TPB operates on the foundational assumption that an individual's actions are contingent upon their intentions to engage in said actions and their perceived level of control over the execution of those actions (Jimmieson et al., 2008). According to the TPB, an individual's intentions are influenced by three factors: attitude towards the behavior, subjective norms, and perceived behavioral control (Ajzen, 1991). Recent literature has considered TPB to analyze how employees' environmental responsible behavior is influenced (e.g., Guan & Wang, 2022; Ham et al., 2018; Khalid et al., 2022). This study also aims to identify how the CDR culture influences individuals' digital responsible behavior. Therefore, TPB can be a useful lens to explain the employees' engagement in digital responsible behavior on the individual level. Thus, the attitudes, subjective norms and perceived behavioral control can explain the intentions of employees to perform CDR behaviors.

Attitudes refer to the degree to which an individual' evaluation of the behavior is positive or negative (Ham et al., 2018). If an individual perceives positive outcomes from an activity, then the attitude towards performing that behavior is likely to also be positive (Ajzen, 1991). Subjective norms reflect a person's perception of social influences that pressure the individual to perform or not to perform the behavior (Ajzen, 1991). Thus, when an individual thinks that the behavior is deemed favourable by significant others, the individual is more likely to perform the behavior (Ham et al., 2018). Lastly, perceived behavioral control includes the perception of an individual's abilities and sense of control over the situation and is defined as a combination of locus of control and self-efficacy (Ham et al., 2018). Thus, whether an employee engages in a behavior is partially dependent on if he or she believes the behavior is easy to perform or adopt (i.e., the perceived behavioral control).

3. Methodology

3.1 Research design

The aim of this research is twofold, first the aim is to gain insights into how the organization institutionalizes a CDR culture throughout the organization. Second, this research aims to gain insights into the impact of the CDR culture on the employees' digital responsible behavior. To answer the research questions, an inductive qualitative multiple-case study is used, as a qualitative research design allows for a deep, colourful and contextual world of interpretations (Cypress, 2015). In addition, qualitative research can provide deep and rich theoretical descriptions of the contexts where the organizational phenomena occur (Gioia et al., 2013), which is especially relevant within this study as it seeks to understand the influence of the organizational cultural factors. Following this reasoning, it was decided to conduct a multiple-case study, as this allowed to explore different in-depth perspectives on the same CDR culture, whilst also allowing to explore potentially different CDR cultures. The inclusion of multiple cases is especially relevant to this study as a CDR culture is not pre-defined, and thus can vary largely between organizations, a multiple-case study can thus increase the reliability of this study. In addition, multiple-case studies allow for better theory building, as the inclusion of different cases increases the generalizability (Yin, 1994). Furthermore, an inductive approach is used, by which a theory or principle is induced through observing cases, with the objective to derive conclusions from the observations (Zalaghi & Khazaei, 2016). Inductive reasoning proves advantageous in the absence of an existing theoretical framework for constructing arguments, facilitating the building of a theory that is adequately grounded in the data (Saunders et al., 2009), from the case studies.

3.2 Research instrument

Before the semi-structured interviews were conducted, ethical approval was granted by the Ethics Committee of Behavioural, Management and Social Sciences at the University of

Twente on the 2nd of February, 2023 (approval number: 230011). The use of semi-structured interviews provided the researcher with a more useful and detailed description of the organizational contexts than would be possible using a questionnaire or structured interview (Carruthers, 1990). In addition, the semi-structured interviews allowed the participants to share detailed descriptions of experiences and feelings towards the CDR culture. Semi-structured interviews were also chosen as it allowed the participants to focus on the topics that were relevant to them, whilst the interviewer remained in control to steer back to the topics relevant for the research question (Adeoye-Olatunde & Olenik, 2021). In this study, it allowed the participants to focus on those aspects of the CDR culture that were most relevant or made the biggest impact on them. The fourteen semi-structured interviews were conducted through the online videoconferencing platform Teams. The interviewees were asked for consent to record the interviews and to use the collected data for this research, and their anonymity was ensured. The researcher prepared questions beforehand but made sure that there was room for follow-up questions and anticipation. The interview guides can be found in the Appendices A and B. Furthermore, the interview guide was slightly adapted for the interviews with employees, as there is a different perspective involved. The structure of the interviews remained similar i.e., an introduction to explain the research, the goal of the research, some formalities such as permission to record the interview and some introductory questions. The introduction was followed up by the main part with the prepared questions and follow-up questions on the topics (1) drivers for the implementation of CDR; (2) CDR activities that the organization has implemented; (3) describing barriers and opportunities to the implementation of CDR; (4) describing how the organization shares the CDR culture throughout the organization; (5) what the effect of CDR is on the digital responsible behavior of employees. Before asking interviewees about the second topic, i.e., the CDR practices, the interviewees were presented with a framework containing examples of CDR practices, grouped by the ESG-framework, to

give an impression of what a CDR practice is (see Appendix C). The interviews were finalized with a closing statement, in which the gratitude for participating was expressed. The interviews took approximately between 45 and 60 minutes and were immediately followed up with the transcription which was done using MS Teams software.

3.3 Data collection

3.3.1 Selection of the organizations

In this study, purposive sampling was used to find organizations, as this allowed the researcher to select organizations that fulfilled certain characteristics (Etikan, 2016). For this study purposive sampling was used to select organizations that (1) have implemented a CDR culture and promotes the CDR culture, and (2) have over 50 employees. The choice for an organization that promotes its CDR culture was made in an attempt to include only frontrunners in the CDR context, that have integrated CDR throughout the organization. It was thought that organizations that promote digital responsible behavior, also actively engage in digital responsibility. This was expected to result in a more comprehensive discussion on the CDR culture during the interviews. The choice for organizations with over 50 employees was made in an attempt to increase the pool of potential respondents in case there was a low participation rate. In addition, it was thought that a larger organization increased the chance to collect different perspectives and opinions on the topic. There were no criteria for the market of the organization, as according to Eisenhardt (1989), given the limited number of cases, selecting cases on statistical criteria is less likely to extend emergent theory.

The researcher searched for organizations through online platforms such as LinkedIn and websites about CDR. This method was seen as ideal as it enabled the researcher to reach a large number of companies within a short period of time. Also, organizations found through CDR-related LinkedIn pages and websites were thought to be more actively engaged in CDR. In addition, to reduce the risk of selection bias, an extensive online search for organizations

through other channels was included. This resulted in the inclusion of both organizations that do actively promote CDR, as organizations that do not. Through this selection method, a total of five organizations have been selected, and participated in this research.

3.3.2 Selection of the respondents

In this study, (C-level) managers and employees participated in an interview. The managers consisted of Chief Digital Officers (CDOs) and Corporate (Digital) Responsibility Managers since they were expected to have the most knowledge about digital technological and strategy-related aspects in terms of CDR. Yet, as this study aims to find the influence of the CDR culture on employees' digital responsible behavior, the majority of interviews were conducted with employees. Although the researcher aimed to select employees from different departments, this was not always possible due to a low participation rate. The low participation rate was mostly caused due to a language barrier between the researcher and the respondents. In total, data was collected at five organizations, with five managerial employees and nine non-managerial employees. To select employees, convenience sampling was used as this allowed the researcher to include anyone willing to participate (Etikan, 2016). The combination with purposive sampling allowed the researcher, where possible, to select employees from different departments. The names of the interviewees and organizations are anonymous and coded. Table 1 gives an overview of the most important characteristics of the interviewee as well as the organization.

Table 1: Characteristics of the sample group

The organization	Code	Age range	Department
Organization A *Sector: Telecommunication* *Country: Germany* *Employees: ±90000*	M1-A E1-A	50-59 40-49	Compliance Compliance

Organization B	M1-B	30-39	Innovation
Sector: Health-insurance	E1-B	40-49	Marketing
Country: Germany	E2-B	50-59	Marketing
Employees: ±15000	E3-B	40-49	Public relations
	E4-B	50-59	Customer service
Organization C	M1-C	30-39	Responsibility & data
Sector: Consultancy			
Country: Germany			
Employees: ±150			
Organization D	M1-D	30-39	Governance & ethics
Sector: Consultancy	E1-D	20-29	Privacy
Country: The Netherlands			
Employees: ±5500			
Organization E	M1-E	30-39	IT
Sector: Utility	E1-E	30-29	Innovation
Country: Germany	E2-E	20-29	IT
Employees: ±2200	E3-E	20-29	Innovation

3.3.3 Validity and reliability

To guarantee validity and reliability of the data collection and analysis, the interviewer took several precautions. There are numerous forms of bias, potentially influencing the validity of the data collection and analysis, of which one of the most common biases is the social desirability bias (Fisher, 1993). Social desirability is the systematic error in self-reporting, stimulated by the desire to portray a positive image to others or to avoid a negative image (Fisher, 1993). Social desirability bias is more likely to occur in situations where the topic of questioning is sensitive or controversial (Bergen & Labonté, 2020). Although, this research does not cover sensitive topics, participants could still have bias towards the topic, as it can have a notable impact on the participants. Additionally, social desirability is strengthened by the presence of the researcher, as this reduces the anonymity of the respondent. To reduce the

social desirability bias, the researcher reassured that there would be no mention of the participant' name, as the names of the interviewees would be coded (see Table 1), which can increase the chance of open and honest answers (Nikolopoulou, 2022). In addition, the researcher followed the interview techniques suggested by Bergen & Labonté (2020), such as indirect questioning, probing questions and asking for examples or stories, minimizing participants' social desirability bias, and promoting more candid and detailed responses.

With the use of interviews, especially semi-structured interviews, a second type of bias is plausible to influence the validity of the data collection, the interviewer bias. Interviewer bias is caused by the (sub)conscious opinions and expectations which may impede with the objective, causing the interviewer to ask questions that lead the conversation in certain directions (Jager et al., 2020). To reduce the interviewer bias, the researcher tried to adhere to the interview guide, and included probing questions in the interview guide, reducing the chance to ask leading questions.

Furthermore, the recall bias was considered, which refers to the phenomenon where the outcome of a treatment or activity, influences the recollection of the participant to that treatment (Pannucci & Wilkins, 2010). Although, recall bias is more commonly addressed in Health science, applied to this study it could be that the outcome of the implementation of a CDR culture, influences if, and how, the respondents remember events. However, for this research the focus in the interviews is more on current activities and influences, and therefore is less subject to recall bias. Preventing or limiting recall bias in the data collection is difficult, especially in this research where only subjective data is considered.

Finally, this study is subject to selection bias, which is a common result of the convenience and purposive sampling method that was used in this study. Selection bias may threaten the validity of the data collection, as the participants do not sufficiently represent the target population (Nikolopoulou, 2022). To reduce selection bias, the researcher included

different types of organizations with the addition of employees from different departments, to increase the representativeness of the sample to the target population.

Besides validity, the researcher has also made efforts to ensure reliability. Reliability refers to the consistency of the research method, and thus if the results can be reproduced. The type of interview is of great influence on the reliability, as semi-structured interviews allow for flexibility, and thus, the collected data can be less comparable between participants. To increase reliability, emphasis was placed on providing a detailed description of the methodology (Shenton, 2004). The researcher also included the interview guide, which can help to reproduce the results. In addition, reliability of the data analysis is influenced by the process of coding. A coding process grounded in a strong methodology helped to avoid coding errors. Intercoder reliability could not established, as the research was conducted by a single researcher.

3.4 Data analysis

To analyze the transcribed texts, the Thematic Analysis (TA) methodology was chosen for its theoretical flexibility. TA was used to derive patterns from the data that was gathered. After the analysis using the TA method, the model by Gioia et al. (2013) was used to organize the data, allowing the development of a clear model of the data structure. There are six steps in TA developed by Braun & Clarke (2006). The first step is to familiarize with the data, which was done by transcribing and reading through the transcripts. The second phase is the initial coding, where relevant passages were coded and related data was connected. The coding was followed by generating themes, which means that related codes were categorized into groups or themes (Braun & Clarke, 2006). The fourth step was to review the previously made themes and check whether they accurately represented the data. After finalizing the list of themes, the themes were named and defined. The final step was the presenting of the data analysis in the result section (Braun & Clarke, 2006). The Gioia method consists of 1st-order themes, 2nd-order

themes, and aggregate dimensions, which partly overlap with TA. The second phase of TA can be perceived as the definition of the 1st-order themes. The third and fourth phases are then perceived as the forming of 2nd-order themes (Gioia et al., 2013). To finalize the Gioia method, aggregated dimensions were formed, by which the 2nd-order themes were clustered together based on their interrelationship.

4. Results

In this section, the 1st- and 2nd-order codes derived from the qualitative data analysis of the semi-structured interviews will be presented and elaborated on, as structured through the aggregate dimensions. In the appendix D, the results on the CDR practices are presented in a Gioia figure, including all the specific examples of CDR practices that were found in the interviews. The aim of this research was to answer the following question "How can organizations institutionalize a corporate digital responsible culture, and how does such influence the employees' digital responsible behavior?". The first part of this question, how organizations can institutionalize a CDR culture, was answered by the interviewees, who described the drivers to implement CDR and the different CDR practices that the organization engages in. The second part of the research question i.e., the influence on employees' digital behavior, was answered by the elaboration on strategies of institutional work and the adoption of CDR behavior by employees. Lastly, this section includes a comparison between the perspective of managerial and non-managerial employees is made, as well as a comparison between cases.

Table 2: The data structure

First order codes	Second order codes	Aggregate dimensions
The board of directors sets the formal direction	Board of directors	Drivers of CDR
Personal connection of board member to CDR		

Customers demand organizations to implement CDR practices	Customers	
Obtain the trust of the customer trough CDR		
Retaining customers		
A coping mechanism for current regulations	Regulations	
CDR can prepare the organization for upcoming regulations		
There is a need for CDR because regulations are falling behind of DT		
The increasing development and use of technology demands responsible usage	Technology	
The usage of technology comes with new risks		
There exists a digital incompetency in employees	Employees	
CDR makes an organization an attractive employer		
Being a pioneering organization in CDR	Marketing department	
Enhancing the organization' reputation		
Energy and Carbon footprint	Environmental practices	CDR practices
Reduction of waste		
Reduce the impact of travelling		
Assess the impact on flora and fauna and improve flora and fauna		
Enhancing the digital competence of different stakeholders	Social practices	
Making sure that everyone is included in the digital sphere		
Digital well-being		
The organizations try to have a positive digital influence in the digital sphere		
Donating to charity		
Data ownership and privacy	Governance practices	
Data security		
Digital ethics		
Reliability of systems		
The organization is transparent about CDR topics		
Data collection and storage		
Involving employees	Sense of ownership	Strategies of institutional work
Create a personal connection between employees and CDR		
The board of management gives interviews on CDR	Creating legitimacy	

The development and publishing of a CDR report		
Refer to CDR initiative organizations for extra credibility		
Place and express the same importance on CDR as on CSR		
Create a job position of a CDR manager		
Create a network of employees who can communicate CDR to their peers	Employee ambassadors	
Make use of individuals that offer support		
Educate and assist employees through the network of employee ambassadors		
Regularly communicate every development that is taking place	Continuous informing	
Communicate CDR on different platforms		
Remind employees of CDR with a constant flow of information		
Use gamification in trainings and practices	Awarding employees	
Praise employees for responsible behaviors		
Give employees rewards		
Employees can work more efficiently with technology	Perceived benefits	Adoption of the CDR behavior
Increased transparency about processes		
CDR is restricting employees in their freedom	Perceived drawbacks	
The implementation of CDR costs time and money		
Employees feel proud on the organization	Attitudes towards CDR	
Employees feel happiness towards CDR		
Some employees express indifference towards CDR		
Employees are intrinsically motivated	Commitment	
The existing organizational culture can create a positive environment for the institutionalization of CDR		
Effect of expressing the importance of CDR	Subjective norms	
Feeling that CDR is valued by others		
CDR behavior is complex	Perceived behavioral control	
Engaging in CDR creates a higher workload		

Note: The italic-faced first-order codes were more prominent in interviews with employees. Bold-faced first-order codes were more prominent in interviews with managers.

4.1 Drivers of CDR

4.1.1 Board of directors

The interviewees described several factors or entities that drove the topic of CDR. Most

apparent throughout the interviews was the board of directors as a driver of CDR. The interviewees indicated that CDR was initially implemented because **the board set this direction**. M1-E mentioned: *"I think it was the board of directors that came with CDR. So, you need I think, the management attention to make sure that this aspect of CDR and the different parts of CDR are seen and visible and used within the company"*. However, it was also indicated that this direction was often set and promoted by one board member who had a **personal connection** to CDR, as mentioned in the following quote *"I think positive was the support of one of our board members. He made a very personal purpose out of it and supported it strongly within the board. So that was very important to have the support on the C-level and he just promoted it, within the board, but also in the Advisory Board, in interviews, I think that was important too."* (E2-B).

4.1.2 Customers

Besides the board, other drivers were indicated by the interviewees. The customers were indicated as an important stakeholder for the development of CDR. On the one hand, were **customers demanding** organizations to engage in CDR, M1-C mentioned: *"The pressure on companies is growing, so you'll have to implement CDR. Our customers and especially the end customers have a growing voice and start to for example demand responsible websites in many different ways. Thus, we really try to push on accessible websites for example"*. whilst on the other, the interviewees indicated that CDR could increase the **customers trust** in the organization. *"As a company we see what the demand of the customer is and so we have to deliver services that they want and the customers says very strictly that they focus on, yeah, trustworthy companies who have CDR measures in place, they do not want to pay more for that. We have made many studies on that, but the customer says they see it as an essential that companies are behaving that way" (M1-A)*. Furthermore, CDR was seen as a way to **retain customers**, mostly those who lack digital skills, as expressed by M1-B: "we feel that if they

are not digital competent, they cannot use our products. So, they will stay in the analogue world."

4.1.3 Regulations

The interviewees also stated that regulations, were one of the reasons to implement CDR. CDR was explained to be a **coping mechanism for current regulations**, as expressed by E3-B: "T*he German legislation is very strict with data protection, so we work in a CDR friendly environment*". Furthermore, regulations drive CDR as CDR helps the organization to **be ahead of upcoming regulations**. "*Seeing that there will be so many regulations coming, the decision to implement CDR definitely rose on that*" (M1-A). In addition, some interviewees mentioned that **regulations are falling behind**, and that the organization needs other coping mechanisms. The following quote from M1-B highlights this: "*CDR could help us to make decisions in the future and that's why we started, so there was a lot changing on the outside and we had to react before regulators and politicians were able to act because obviously the digital transformation moves a lot faster than politics*".

4.1.4 Technology

Similarly, the interviewees identified technology as a driver to implement CDR within the organization. The growing **scale of technologies** makes technologies more present in each process within the organization, which stimulates the implementation of CDR. "*When you provide them with digitisation in new processes or with new digital technology, you have to make sure that things really work out! And that our services are not threatened in anyway. So, I think that's one driver you have to really make a strategy on*" (E2-E). Moreover, the possible **risks** associated with the use of technology drives CDR, as stated by E3-B: "*if you think now of artificial intelligence for example, this will overrun us so fast, that if you're not prepared and if you have no code of conduct for these technologies, you will always follow the events and you will not be ahead of the scene.*".

4.1.5 Employees

The employees were a stakeholder to the organization that also stimulated the implementation of CDR. First, the internal need for CDR existed in the organizations due to the **digital incompetence of employees**, as described by E2-E: "*You have to transform your employees to be open and aware of digital transformation in this kind of field like you just cannot give them a whole new set of technologies and expect them to work just fine with it. You have to make your mind about how they could like things or dislike things and how it could advance the advantage to your process and how not and thinking about that is where digital responsibility comes in*". Second, CDR is used as a mechanism by the organizations **to attract and retain employees**, which is addressed in the following quote by M1-A: "*we are an attractive employer because of these topics. We see it when we have interviews with applicants, as they really say I really decided to work for X because you are that sustainable and responsible*". In addition, M1-D mentioned both of these aspects: "*CDR was also about making the company attractive for potential employees, and of course current employees. We have to show that the organization has good values and is responsible, otherwise employees move to other organizations, that has a better reputation.*".

4.1.6 Marketing department

Lastly, the marketing department was identified by the interviewees as a driver of CDR. The marketing department stimulated the implementation of CDR, because, according to the interviewees, they saw a **chance to be a pioneer**. The quote from E1-B illustrates this: "*Another factor was that the marketing department also pushed very much towards implementing CDR because they saw this chance to become a pioneer. So, it might help to shape the reputation of X as a company and as a brand in terms of X is faster and more responsible and more reflective*.". Furthermore, the ultimate goal of the marketing department was to better **the organization' reputation**, by implementing CDR. The following statement

by M1-D addresses this: "*our marketing or corporate branding also pushed the topic because it is another way of showing that our organization is doing something good*".

4.2 CDR practices

4.2.1 Environmental practices

The interviews show that with the implementation of a CDR culture, environmental CDR practices are implemented. The first environmental practices were about reducing the **energy and carbon footprint** of the organization. For example, organizations reduced data from emails, lowering the energy consumptions of these emails as explained by E2-B: "*Recently we have debated about the graphic signature in our emails, and we started to research how many emails we sent each month and what the energy consumption is of this signature alone. And we decided to remove it*". It was also indicated that organizations engage in various practices to reduce both physical and digital **waste**, e.g., the recycling of mobile devices, or removing stored data from the servers. "*We have the data cleaning days, where we are supposed to clean up our date to reduce energy*" (E1-E). In addition, organizations are active in reducing the impact of **travelling**, through both reducing the need for travelling as reducing the emissions per travel. To reduce the need for travelling, some organizations implemented virtual reality, and others opted for reducing the impact of travelling by creating an app for the carpooling of employees. "*We use augmented reality and virtual reality to reduce work travels*" (E2-E). Lastly, **flora and fauna**, most organizations aim to assess the negative impact of the organizations' operations on nature. In addition, some organizations adopted technology to positively contribute to the flourishment of nature such as drones that plant seeds. "*We have drones that drop seeds for, it should be more efficient, reforestation*" (E1-E).

Overall, in the environmental practices, two clear patterns came forward. On the one hand, the development and use of digital technologies, is used to enhance the sustainability performance of the current business' operations. Whilst the rise of DT also pushed

organizations to assess and reduce the impact of the technologies in use. "*We do an assessment of how the environment is affected by these digital technologies, as this is huge, so we try to reduce the impact technology has. But it is this trade of because we also use technology and data for sustainability purposes.*" (M1-A).

4.2.2 Social practices

Another form of CDR practices, derived from the interviews, were the social practices. One of these practices was the enhancement of the **digital competence**, both internally as externally. This enhancement was often in the form of trainings on different technologies such as AI or social media. "*We have a training on social media usage, and mostly related to work, so what expectations do colleagues have of you for posts about work, and especially what not*" (M1-D). More internally focused were the practices related to **digital well-being**. These practices aimed to reduce the negative effects on (mental) health due to the increased use of digital technologies of employees. For example, organizations established a "digital coffee kitchen" where employees could meet whilst working from home, allowing for social interactions as mentioned by M1-C: "*there is a digital coffee kitchen, so there is a channel in the system where you can meet if you need a short break, just like in a real office*". Furthermore, the interviews showed that the organizations implemented practices to improve the **digital inclusion**. These practices ranged from making participation in the digital sphere accessible, to stimulating (minorities) to participate, as well as keeping analogue versions. "*We really try to keep offering our services through non-digital channels, because the people who need us most are the ones who are the least competent*" (E2-B). In addition, a recurring theme was being a **positive digital influence**, meaning that organizations use their power to affect a positive change or avoid a negative change. For example, increasing the awareness of fake news, and counter the existing fake news. "*They don't know how to identify fake health news, so we have a large program on schools to teach that*" (E1-B). Another group of practices relates

to **charity**, where organizations donated hardware or software to digital have-nots as described

by M1-C: "*We also donate hardware, for example to charity projects or refugees. But it is only*

hardware that can still be used reasonably, defective parts are taken by non-profit workshops".

4.2.3 Governance practices

The last group of CDR practices, that followed from the interviews, were the

governance practices. Most profound were the **data ownership and privacy** measures, to

safeguard the data collected by the organization. Some organizations had dedicated privacy

teams or boards with the goal of stricter safeguarding. "*When you have a project that hits a*

question of privacy, there is a team of privacy experts where you can chat with, and who have

to check this first" (M1-A). Second to that were the practices related to **data security** of the

collected and stored data, mostly by avoiding unwanted access, and improving the technical

infrastructure. For instance, some organizations restricted software for videoconferencing.

"*You get a list of software that you are allowed to use or download, so I couldn't download*

Teams on my work tablet only our own software" (E4-A). Another aspect that came forward

from the interviews was **digital ethics**, assisting employees to responsibly use technology and

create awareness about ethical dilemmas e.g., with guidelines and trainings on these topics,

M1-A described the following on the training on digital ethics: "*Yeah concerning what is*

digital ethics, what are the risks and where are the dangers of technology". Furthermore, some

organizations engaged in practices to safeguard the **reliability of systems**. These practices

included the quality check of products on bias. "*We do everything so that bias does not occur,*

for example we have a quality gate to test products specifically on that." (M1-A). Less apparent

in the interviews compared to the previous aspects was that of **data collection and storage**,

where organizations had a "no camera" policy, and restricted the data flow between, within,

and across borders. "*So far, you cannot use the camera on the work devices, even though they*

have one, they blocked it off" (E4-A). The last aspect is that of **transparency**, which came

down to the open and honest communication about CDR related topics, mostly in the form of

a CDR report. "*We have the CDR report, which really covers all that we do. And you can see*

in this document that we have all these principles with us and in our processes" (E1-A).

4.3 Strategies of institutional work

4.3.1 Sense of ownership

The interviews revealed that during the implementation of CDR, different strategies

were used to increase the employees digital responsible behavior. During several moments in

the implementation, the **involvement of employees** was stimulated. "*We don't try to push*

people into the topic but try to create a pull effect. So, by allowing employees to participate,

people start to like the topic more and share it with others. This works well as people are social

beings and feel this social pressure even though it is voluntarily" (M1-C). In addition, M1-A

mentioned: "*we set up this design thinking process with all different people in order to find out*

what do our employees really need and want, which really allowed them to make CDR their

own". Their involvement was needed in order to make employees engage in the CDR culture,

and to create more awareness of CDR amongst employees. E1-E mentioned: "*I did the data*

cleaning day for example, that was a thing that was communicated throughout the whole

company, and everyone got the time to participate. So, I set this time frame and participated,

and I really feel like I contributed and that I am part of this", which shows that by stimulating

and allowing employees to be involved, employees are more engaged in CDR. Furthermore, it

was important to make a **personal connection** to CDR, which was established by explaining

how CDR affects the employees. E1-A explained: "*They make it very individual because*

people from one department are affected differently than someone from IT for example.

Eventough, we have the package of the CDR report that everybody reads, the message that is

shared is different for everyone because some things are more relevant in certain parts of the

organization". The personal connection often included an aspect of fear, where the impact that

CDR has on employees was explained, which is illustrated by the quote from M1-C: "*I make this personal connection because CDR has an impact on each of us, even our personal lives. Some employees don't realize that, so I have to show them the impact and I just give many examples*".

4.3.2 Creating legitimacy

Organizations were also found to create legitimacy for the existence and implementation of a CDR culture. This means, the actions and structures to create support and acceptance of CDR. In most interviews it was mentioned that (members of) **the board of directors gave interviews** on CDR. "*You can really see the strong commitment from our CEO and also other board members. They give information sessions or interviews, internally and externally, which makes it visible for everyone. This really shows their commitment, and that CDR is serious*" (E1-A). The expression of board member' commitment towards CDR, indicates to employees that CDR is of importance. In addition, most organizations were found to create a **CDR report**. "*We have started with an annual CDR report, it's published internally and externally, and it has an impact on both as well because every practice and process or campaign is reflected in this report. Yeah, it creates awareness and because of this transparency, we should really do these things*" (E1-B). By sharing the CDR report, the organization creates an obligation to commit to CDR. Furthermore, some interviewees mentioned that referring to other **CDR initiative organizations** is beneficial for the "credibility" of CDR as described in the following quote by M1-B: "*I can tell people, we are not doing this for fun. And then it really helps that I can say, mostly in internal communication, this is not something I came up with, but this is from CDR initiative organizations. That often helps with credibility, it's weird but yeah that's how it is*". Another tactic that came forward from the interviews was that the organization **matches the importance of CDR with that of CSR**. "*During our last stakeholder meeting, we focused just as much on CDR as*

environmental, financial, and social topics. Whereas in the previous years, there was only little

space for our CDR measures, and now you can see for example in the report, that the CDR

section has the same size as the financial part, so that really shows how important it is for us"

(M1-A). In contrast, it was also mentioned that the matching of CDR and CSR is the next step,

as CDR is still relatively new in some organizations. "*So now that we have these initiatives, it*

is not really connected yet. I think that with connecting CSR and CDR, people take CDR more

seriously. This way it gets more on the agenda of every employee" (M1-E). Lastly,

organizations were found to create the position of a **CDR manager**, to create more legitimacy

for CDR. E3-E mentioned: "*Last year a CDR manager was established who is responsible for*

that topic, and that was also communicated, which I think everyone heard. I think having a

responsible person really helps, and it shows that the company is willing to spend money and

time on it". In addition, M1-B mentioned: "*I can just go into different projects and departments,*

and nobody will say that I cannot talk to them or stop me. I think it is really good that someone

has this responsibility". The previous shows that having a CDR manager can help overcome

resistance, as the CDR manager has gotten the authority to operate organization wide.

4.3.3 Employee ambassadors

Another strategy that was found in the organizations was that of employee ambassadors.

Employee ambassadors were used to communicate CDR throughout to organization. By

creating a network of employee ambassadors, the organization tries to inform employees trough

someone close to them. "*They implemented digital multipliers in every department, in every*

team so that everybody within the company has a person close to him or her. We got around

15000 employees and about 500 digital multipliers." (E1-B). In line with this, E3-B mentioned:

"*the digital coaches communicated the 10 principles and the code of conduct, and therefore it*

was communicated everywhere in the company". In addition, some interviewees also

mentioned that there were individual employee ambassadors taking this role upon them without

stimulation from the organization. The organizations were said to make use of these **individuals that support CDR**, for instance: "*there are employees who want to help shape things themselves and who donate their time and expertise, who act as multipliers. I try to make use of this, it is kind of an extra communication channel*" (M1-C). Besides communicating CDR, employee ambassadors were also used to **educate employees** about the practical implications of CDR. "*When our CDR framework was published it was promised that we would get schooling, now we have a network of people who are well trained and can help others, kind of a messenger system*" (E2-B).

4.3.4 Continuous informing

An additional strategy used by organizations to increase the commitment to the CDR culture was that of continuous informing, consisting of several components. First, **communicating developments**, meaning that organizations/managers would regularly share news about CDR related topics. "*Whenever a milestone was reached or when something new was started, it was always communicated internally via those channels, like the intranet*" (E1-B). The communication of developments was an effort to engage employees with the topic. Furthermore, the interviewees mentioned many different **communication platforms** where CDR related topics were communicated. The most often mentioned platforms were the "intranet" and social media. "*The standard way for B, and the first place would be the intranet, with regular postings there. Recently I heard that my activities and that of the CDO on social media have a huge effect on our employees. They better understand it, and you can do it more frequently because it is not getting buried underneath other topics.*" (M1-B). Finally, the interviewees mentioned a **constant flow of information** to contribute to the awareness of CDR. "*I am sharing a lot of things that are going on about topics related to CDR, about what we are doing here at C. I try to make it constantly visible like this, so that everyone is reminded*" (M1-C).

4.3.5 Awarding employees

The last strategy identified in the interviews was awarding employees to increase the engagement and motivation of employees. Various forms of awarding were found, one of these was by introducing the element of **gamification**. Gamification was often applied to training programs or specific CDR practices. "*Our Digivalley, that's how the training platform is called, is a beautiful valley. They encourage you to try to catch some fish, and each fish is representing a digital topic, where you will learn things about the topic*" (E2-B), explaining the gamification element to a training platform on digital topics. E1-E explains in the following quote a case where gamification is applied to a CDR practice: "*for the data cleaning day, I think there was also a little bit of a game thing behind it, because whoever cleaned up the most data was able to win something, so it was kind of a competition*". Another form of awarding is through **praising responsible employees**, as explained in the following quote "*in the CDR report, there were these portraits of some employees that were interviewed on their responsible behavior, and they made a lot of rumour about it on social media like LinkedIn*" (E2-B). Not only is the employee complemented on their behavior, but the organization also tries to show employees that if you behave responsibly, you can be awarded. The last form of awarding employees was with actual **rewards**, such as certificates and monetary benefits. "*If people have ideas for CDR practices, they can enter them into a forum where it is judged, and then you will get certification and you can get budget to run this idea further on, and it's a reward because they can get a little bit back*" (M1-A). Not only does this quote show the rewards that employees can receive, but it also shows again that employees are stimulated to be involved in the topic of CDR.

4.4 Adoption of the CDR culture

4.4.1 Attitudes

When the interviewees were asked about the responses and feelings towards the CDR

culture, three main emotions were identified. First, many interviewees explained to be **proud** of the organization for implementing CDR, especially considering the novelty of the topic. *"I thought it was really great and something you didn't see many organisations do, so I am really proud to work for an organisation that is taking this responsibility serious and is one of the first."* (E1-D). Besides feeling pride, another positive emotion that was expressed by the interviewees was **happiness**. "*It made me very, very happy to see this topic coming from zero to yeah, seeing structures and processes. Yeah, that was very positive for me to see that happen, that the organisation is so flexible and so responsible to implement such a topic. And, I would say this is also helping for my commitment to be more responsible.*" (E2-B). Furthermore, M1-D mentioned that most people responded this way: "*Overall, most of us responded positively, the people are just happy when an organization is contributing to society like this*". However, some interviewees also mentioned that they noticed negative feelings towards CDR by colleagues. The negative emotion that was expressed by their colleagues was **indifference**, meaning that employees had a lack of interest or did not see how CDR applies to them. "*I think not everybody is involved because some employees just think that their job has nothing to do with CDR, so they just seem to not care*" (M1-E). Thus, some employees do not engage in the CDR culture, because they do not feel how it affects them. It was also stated that some employees were just not interested, as described by E1-E: "for example, sometimes you can just see that people participate, but they are not enthusiastic at all, you know, you can just see it on their face, they only do it because they have to!".

4.4.2 Subjective norms

The interviewees explained that there were actors that **effect of expressing the importance of CDR**, which had a positive impact on the adoption of CDR. The expression of this importance came from different actors such as the board members, customers, colleagues, and managers. For example, "*I'd say it definitely has to come from those higher-level*

employees, because when he was supporting CDR, the other employees just followed. Probably because a C-level manager is someone they look up to." (E3-E). The interviewees also expressed that employees **feel that CDR is valued**. "*I think most of us are aware that CDR is good, and that most of us really want this to happen*" (E4-A). In addition, E2-E mentioned: "*Because I feel like our employees, we all, or most of us at least, want to contribute to a more sustainable and responsible future, so we have to for each other*". Thus, employees experience that CDR is wanted by other employees in the organization.

4.4.3 Perceived behavioral control

Many of the interviewees mentioned that the implementation of a CDR culture, would lead to **extra work**. Yet, none of the interviewees mentioned that this was a problem for them, but that this was experienced by their colleagues. In the following example, about the decision-making process to engage on TikTok, the following was said: "*Now they have another framework and another step they have to do. They have to check if our values are affected in any way, so for them it's more work and so the first reaction of most negative*" (E1-B). In addition, some employees experience a **complexity to CDR**. Some employees experienced difficulties with understanding CDR, which negatively influenced their commitment towards CDR. "*What I have seen happening is that well we have this ethical framework and then people ask me what to do, they do not understand how to apply it. And yeah, this of course does make them step back a little.*" (M1-B), or "*Yeah, I mean CDR doesn't have to be difficult when it becomes a routine or when it is explained good. But now some people don't do it because they don't understand how. If people are helped the first times, Um, yeah I think that would make even more employees engaged*" (E2-B). Thus, the complexity of CDR, makes it difficult for employees to perform the CDR behavior.

4.4.4 Commitment

When it comes to the commitment of the interviewees towards digital responsibility,

the interviewees were asked what has had the biggest influence on their own commitment. The non-managerial interviewees referred to their personal values or reasons to be the biggest contributor, thus the employees were **intrinsically motivated** to behave responsibly. "*Probably, I would say the biggest influence is probably my personal values because I think it's just who I am, it might be a generational thing too, but I think I went with it from the beginning because I felt like OK this is important to me. So, I think the biggest commitment came from myself actually*" (E1-E). Also, E2-E talked about what has influenced his commitment: "*Honestly, I think its personality, I just care about environmental problems quite a bit, and my girlfriend does some study into it, so I knew a lot about the topics. I think I am trying to behave responsible and commit to the things that are beneficial for social, environmental and governance, but not through our communication.*". Another factor that was mentioned in the interviews to explain the acceptance and commitment, was the **existing organizational culture**. The existing organizational culture can positively influence the commitment to CDR, as certain CDR values and behaviors are already established. E1-B mentions the following: "*our data is highly regulated, much more than other personal data. We always had to have a high sensibility about what might result if we use data in a certain way or if we work on social or personal data together with partners and so on, we are highly sensible or sensitive for this, and I think this has helped in implementing the CDR perspective, because people better understand the need for CDR.*". From organization D, a different reason plays a role, as explained by M1-D: "*at D, almost everyone has a university degree, so there is a high professionality amongst the employees, and that makes it that they take it seriously. They also have to because it is something they might need to apply at clients*.". In both cases a beneficial factor is at play, which positively contributes to the adoption of CDR.

4.4.5 Perceived benefits

In this research, the adoption of the digital responsible behavior was also considered.

To get more insights into this, the interviewees were asked about their feelings and commitment towards CDR. Some interviewees mentioned that seeing the (indirect) benefits of CDR, has a positive effect on the acceptance of the CDR culture. One of these benefits was the increased **efficiency** "*CDR makes it much more efficient when using technology, internally and also with customers. Because people are trained and have more knowledge on guidelines Yeah. So that was the positive thing which helps with the adoption of CDR.*" (E4-A). After being asked what has contributed to his own digital responsible behavior, E3-B, mentioned that the benefit of **transparency** has impacted his behavior: *"I think transparency is a very important value for B because uh, people rely on us being transparent and CDR helps us being transparent because we can openly say what we do as we have this code of conduct. So, we know that when we work with CDR, we do things in a responsible matter, and it is not something shady***".** In addition, the transparency that is a result of the internal and external communication of CDR, creates the sense of obligation to act on the CDR principles as is described in the following quote: "*with an annual CDR report, it's published internally and externally, and it has an impact on both as well because every practice and process or campaign is reflected in this report. Yeah, it creates awareness and because of this transparency, we should really do these things"* (E1-B).

4.4.6 Perceived drawbacks

The interviewees described that some employees resisted CDR because they see CDR as **restricting**. Again, this was not something that the interviewees personally experienced, but rather the responses of their colleagues. "*Like some of the older conservative employees, are not convinced of CDR, and that usually happens because they think they can't continue working as they did. When they can't do the things they could do before they start to resist*" (E3-E). A topic more prominent in the interviews with the managers is that the development and implementation need **time and money**, which were often not or limited available. It was found

that more resources would be beneficial to the overall implementation and commitment to digital responsible behavior. "*To develop good, impactful CDR measures, takes time and you need a big budget. Then, you also want to make everyone aware and involved, so we as a huge organization even have these capacity problems.*" (M1-A). Furthermore, when asked about resistance to CDR M1-B mentioned that there is no resistance, but: "*sometimes it is more about that they need more resources to, you know, do this on top of their normal tasks, cause yes if it takes times, it also costs money. Thus, that would probably help people to follow our frameworks.*".

4.5 Comparing the perspective of managers and non-managerial employees

This study included interviews with managers and non-managerial employees, as it was expected that managers have more knowledge on the strategic aspects, whereas employees have more knowledge of the effect on their behavior. The data shown in table 2 are the codes that were commonly expressed by the interviewees. However, not all codes were equally apparent in the interviews with managers as in the interviews with non-managerial employees. Therefore, the table included bold-faced 1st-order themes when codes were more prominent in interviews with managers, and italicized 1st-order themes when the codes were more prominent in interviews with non-managerial employees. The distinction was only made when there was a significant difference in the number of quotes. First, when it comes to the drivers of CDR, there was not much difference between the interviewees. Only the aspect of regulations was clearly more expressed by the managerial employees. **Regulations** are, compared to the other drivers that were mentioned, more external, and thus more seen from a strategic level as also addressed in the following quote: "the company seeing that there will be a regulation coming and the main point where the company decided to implement this is project and processes was slightly rising on that." (M1-A). By referring to "the company", she is indicating that this is more on a strategic level.

Second, the strategies of institutional work show that there is a difference between what is expressed by the two interviewee groups. These differences were expected as some of the strategies were more on a strategic level, whereas others were more directly related to the employees. For example, the **creating legitimacy** was more apparent in the interviews with the managers and is more strategic. More specifically, the codes "referring to CDR initiative organizations" and "matching CDR importance with CSR" stood out. However, referring to CDR initiative organizations was often on an individual or project level of communication, and thus it is not likely that every employee has experienced this strategy as explained in the following quote: "*I can tell people, we are not doing this for fun. And then it really helps that I can say, mostly in internal communication, this is not something I came up with, but this is from CDR initiative organizations. That often helps with credibility, it's weird but yeah that's how it is*" (M1-B). In contrast, the **employee ambassadors,** and **awarding employees**, were more present in the interviews with the non-managerial employees. The employee ambassadors were in some cases referred to as a "network", meaning that there was a wide coverage of these employee ambassadors "*everybody within the company has a person close to him or her. We got around 15000 employees and about 500 digital multipliers*." (E1-B).

The last significant differences were found in the **perceived benefits** and **perceived drawbacks**. These themes were more present in the interviews with employees. Employees were e.g., asked what has influenced their commitment. This allowed them to elaborate on their personal experience. In contrast managers were asked about the general commitment of employees and what has influenced that, pushing them to consider this from a managerial perspective, hinting more towards the strategic and general influences.

4.6 Comparison between cases

Table 1 gives an overview of characteristics of the cases. The comparison of the cases indicate that there is a lot of overlap between the cases regarding the drivers of CDR, the CDR

practices, the strategies of institutional work, and the adoption of CDR. However, there were also some differences between the cases. First, there were general differences between the cases regarding the three categories of CDR practices. At organization A and organization D the **governance practices** were more prominent, compared to the practices and the other cases. "*Yeah, the governance or internal control are the most prominent, so the data privacy and limiting the flow of data across borders and GDPR compliance, without a doubt most attention goes to these topics. It is just very important, maybe also because we need to apply this at our clients.*" (M1-D). In contrast, the **social practices** were more prominently expressed in organization B and organization C. "*The people are our main concern, digital competency for us is one of these focus topics, regarding customers and employees. So, we really focus on supporting people inside and outside B*" (M1-B). A more specific difference related to the CDR practices, was found at organization E. Although there was no significant difference between the three types of CDR practice, the **environmental practices** were more focussed on the flora and fauna.

The second difference between the cases was found in regard to the **existing organizational culture**. Although, this factor was found in most cases, how it influenced the acceptance and commitment of employees was different. First, in organization A the organizations' operations, are felt to contribute to the adoption of CDR as mentioned by E1-A: "*It is in our DNA to bring all the people to safe interactions, we connect people, that is what we have always done. So, it feels natural to adopt CDR, in our processes but also the products, because if we don't do it, how can we continue to safely connect people? Yeah, I think everyone here sees it this way*". In organization B, the existing high sensibility about data privacy, positively contributed to the commitment of employees. "*our data is highly regulated, much more than other personal data. We always had to have a high sensibility about what might result if we use data in a certain way or if we work on social or personal data together with*

partners and so on, we are highly sensible or sensitive for this, and I think this has helped in implementing the CDR perspective, because people better understand the need for CDR." (E1-B). In contrast, organization D it is the professional character of employees, and the need to have certain knowledge that creates a positive environment for adopting CDR. "*Almost everyone has a university degree, so there is a high professionality amongst the employees, and that makes it that they take it seriously. They also have to because it is something they might need to apply at clients.*" (M1-D). Organization E, was said to have a positive organizational culture because they operate in the "critical infrastructure", as explained by E2-E: "*We have always had to be on a high level of security, safety and, yeah, consistency. Because we operate in the critical infrastructure it has more meaning and importance at E, than other organizations. Because if the energy supply gets threatened the consequences are extreme*".

Lastly, in two of the three organizations, it was mentioned that the, above average, age of employees had an effect. In organization B, this was said to cause this group of employees to be more resistant to digital technology, and that everything they learn in regard to the use of technology is learned within the organization. In line with this, organization B was found to be focussing on social practices, because of this digital incompetence of employees. Surprisingly, although one of the interviewees referred to the employees as conservative, E2-B mentioned that this was positive for the implementation of CDR: "*we are in a very conservative organization and so many of the older people are very risk averse and embody security and safety. So, to be the most progressive, CDR really helps to make it very clear, very visible, and also very substantial that we look for any risks and responsibilities*". In addition, organization E also addressed the above average age of employees, however in this case a different effect was mentioned. In organization E, the older generation was also found to be more resistant to use digital technology, but this was also said to influence their willingness to change. "*There are a lot of older people who are here for 20 or 30 years, and they just do their job. They are*

not willing to change and that is kind of a problem. It is not just that they are conservative to use new technology, but they think this responsibility is not really necessary." (E3-E). However, due to the lower age of the participating employees of organization E, this was not personally experienced, as they all expressed that they were intrinsically motivated.

5. Discussion

5.1 Discussion of the results

The aim of this study was twofold, first, to explore how an organization can institutionalize a corporate digital responsibility culture. Second, how the CDR culture influences employees' digital responsible behavior. This study found several drivers, stimulating the initial implementation of the CDR culture. Also, the CDR practices, implemented by the organizations, were identified. Besides, several strategies were found, used by management to create awareness and commitment to the CDR culture. In regard to the commitment of employees to digital responsible behavior, several influential factors were found such as the perceived benefits and drawbacks. Figure 1 is a process model which represents the findings. The discussion will be structured according to the four phases of the model, followed up by the theoretical and practical implications, and lastly the limitations and suggestions for future research.

Figure 1: Process model of the institutionalization of CDR and the effect on digital responsible behavior
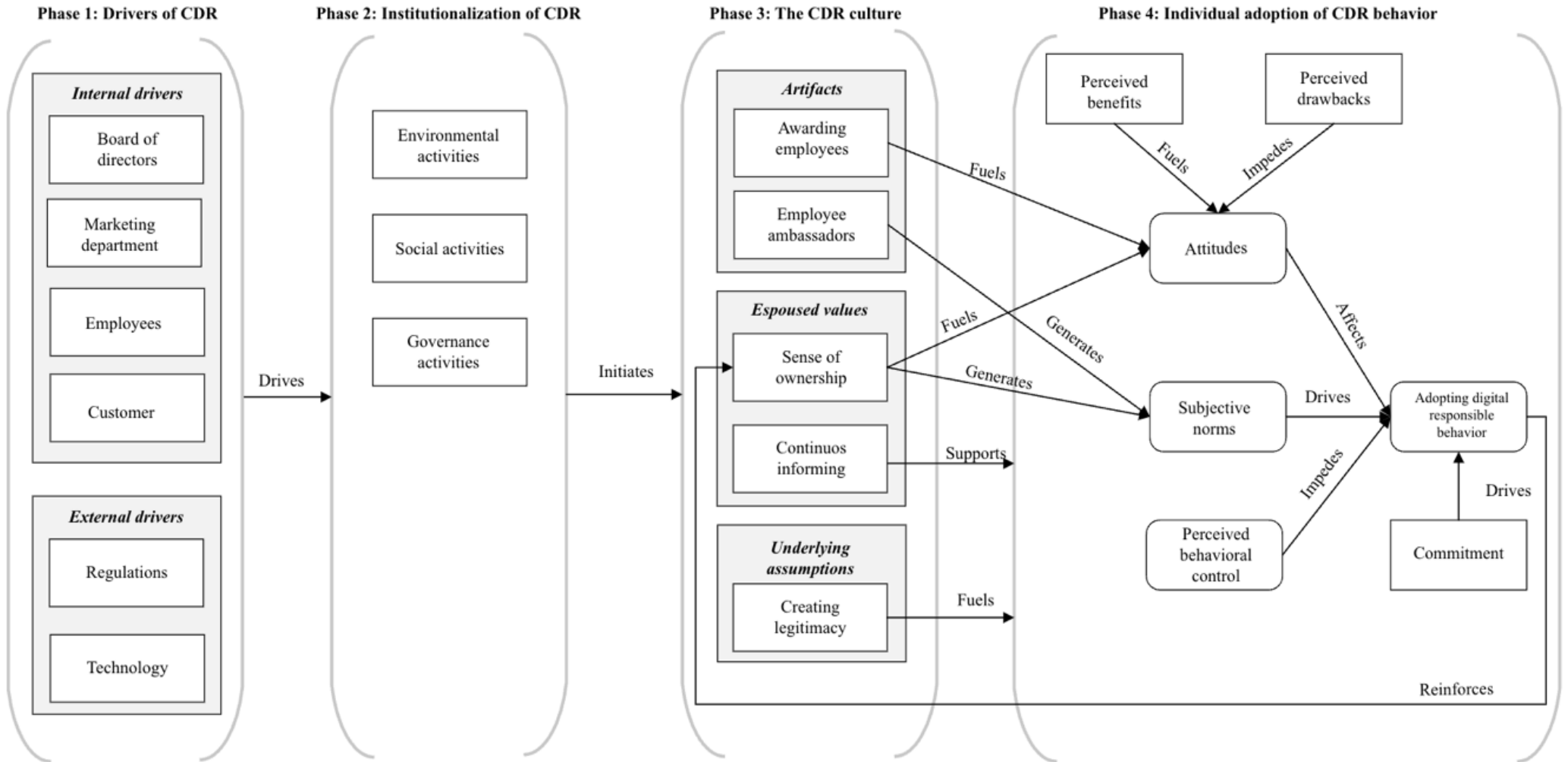
5.1.1 Phase 1: Drivers of CDR

This research found that the institutionalization of CDR is influenced by internal and external pressures stemming from various actors and circumstances, such as the board of directors, regulations, and employees. These pressures raise CDR awareness within the organization, being the initial trigger for the implementation of the CDR practices. This is similar to the theory of institutional work, where actors inside and outside the organizations perform institutional work to maintain or create an institution (Lawrence et al., 2006). The drivers also relate to the identified levels and stakeholders that were expected to develop CDR norms by Lobschat et al. (2021), i.e., the organizations, legal actors, and individual actors. In line with the paper of Lobschat et al. (2021), this paper found that actors on the organizational level play the most significant role in the development of CDR practices, as these were significantly more often mentioned during the interviews.

5.1.2 Phase 2: Institutionalization of CDR

The second phase consists of the establishment of CDR practices, which follow from the drivers. Organizations engage in a wide variety of CDR practices, which can be categorized into environmental, social, and governance activities. The categorization of the CDR practices based on the ESG-framework, as proposed by Herden et al. (2021), was found to be comprehensive. Even though the interviewees were explicitly asked for CDR practices that would not fit this framework, this did not result in the discovery of new CDR practices. Although some of the 1st-order codes are similar to the CDR-topics found by Herden et al. (2021), this research extends this framework by the identification of the lower-level CDR practices that belong to these CDR-topics. By establishing these CDR practices, organizations institutionalize CDR in the organization, which "initiates" the CDR culture.

5.1.3 Phase 3: The CDR culture

This research found that organizations engage in informal strategies, part of the CDR

culture, furthering the institutionalization of CDR within the organization. This is in line with the research of Wickert & Risi (2019) on the institutionalization of CSR. Based on the theory on organizational culture by Schein (2004), the strategies can be placed on the three different levels of culture. First, on the highest level of visibility, are **awarding employees** and **employee ambassadors**. These strategies are the artifacts, as they are the observable behaviors, structures, and processes of the culture. Second to that is the layer of espoused values, which provide guidance to activities in the organization, and can rationalize why and how employees behave (Schein, 2004). The strategies that belong to this layer are **sense of ownership** and **continuous informing**. Lastly, the underlying assumptions represent what is deemed desirable, often manifested in strategies, goals, and philosophies, **creating legitimacy** belongs to this layer. Moreover, the five strategies have different effects on the individual adoption of CDR behavior. **Creating legitimacy** has no direct influence on individual behavior but it creates the support and acceptance of CDR, therefore it "fuels" the whole rather than an individual aspect. Similarly, **continuous informing** is, as the name suggests, a constant reminder to employees of the existence of CDR, creating awareness, therefore it "supports" the individual adoption of CDR behavior. Thirdly, the **employee ambassadors**, with this strategy organizations deploy a network of employees who are "ambassadors" of CDR, and thus promote and express the CDR behavior. With that, employee ambassadors "generates" subjective norms, as the digital responsible behavior is expressed to be desirable by the employee ambassadors. Moreover, **awarding employees**, creates extra benefits for employees that engage in CDR. Therefore, the extra benefits "fuels" the attitudes towards performing the CDR behavior. Lastly, the strategy of **a sense of ownership** is also described in the interviews to influence the digital responsible behavior of employees. On the one hand, the data indicates that the involvement, which is part of this strategy, "fuels" the positive attitude towards the behavior. In some cases, the involvement leads to "social pressure", meaning that this strategy also "generates" subjective

norms. In addition, this strategy also included the establishment of a personal connection, which means to explain how CDR affects an employee, often with aspects of fear. This "fuels" the attitude of employees towards performing the digital responsible behavior, as additional outcomes of performing, or not performing, the behavior are explained. Lastly, when employees perform the CDR behavior, and thus they are being involved, this strategy is being "reinforced".

5.1.4 Phase 4: Individual adoption of CDR behavior

On the individual level, this research found results that are similar with the theory of planned behavior as proposed by Fishbein and Ajzen, (1975). The three elements of TPB that determine whether a certain behavior is performed, were also found in this research. First the **attitudes**, the three attitudes towards CDR that were found influenced the engagement in digital responsible behavior. Pride and happiness are favourable attitudes towards the CDR behavior and thus positively "affect" the adoption of CDR behavior. Indifference is a negative attitude found in the interviews and negatively "affects" the adoption of CDR behavior. This is similar to the research by Ajzen, (1991) which mentions that the attitude towards a certain behavior is comprised of favourable and unfavourable evaluations. In addition to the research by Ajzen, (1991), several influences on the attitudes were found. The perceived benefits were found to "fuel" the attitudes towards the behavior, as they provide additional reasons why the behavior is positive, whereas the perceived drawbacks "impede" the attitude towards CDR.

Second, the subjective norms as discussed in the TPB (e.g., Ajzen, 1991), were also found. As explained earlier the **subjective norms**, create the belief that the CDR behavior is approved by others, for example the employee ambassadors. This feeling then "drives" the adoption of the CDR behavior by the employees because they can feel obliged to do so. The TPB also indicates that the perception of ease or difficulty of performing the behavior, influences whether the individual performs a certain behavior (Ajzen, 1991). In line with this,

this research found the **perceived behavioral control**, which consists of the complexity of CDR and extra work. Both were indicated in the interviews to negatively influence the adoption of CDR behavior. Because CDR behavior is not perceived as "easy", employees are less likely to perform the CDR behavior. From the interviews, the perceived behavioral control thus seems to "impede" with the adoption of digital responsible behavior. One important factor to consider however is that none of the interviewees experienced these factors, but rather mentioned that this affected some of their colleagues. In contrast to the TPB (e.g., Fishbein & Ajzen, 1975), this research found that an additional factor influenced whether or not individuals performed the digital responsible behavior. The **commitment**, i.e., intrinsic motivation and the existing organizational culture, is directly linked to the adoption of digital responsible behavior. The interviewees indicated that these factors were highly determining their adoption of the CDR behavior, and thus the commitment is presented as a "driver". The commitment is similar to the later considered background factors in the TPB (e.g., Ajzen, 2011), such as personality, personal values, demographical variables, and organizational culture. These background factors can influence the attitudes, subjective norms, and perceived behavioral control, yet in this research a direct link with performing the digital responsible behavior was found. It is however likely that the commitment influenced the other variables in the model, instead of a direct relationship with the behavior. A possible explanation is the type of questioning, where interviewees were asked what had influenced their behavior, implying a direct relationship. Future research would be necessary to test the relationship. The cross-case analysis showed that these factors are different across the cases, and how the effect of such a factor can differ e.g., the age of employees.

5.2 Theoretical implications

5.2.1 The institutionalization of CDR

This research contributes to the existing literature on institutional theory in several

ways. First, this study builds on the theory of institutional work by identifying six drivers, or actors, of institutional work, in the context of institutionalizing CDR. This is in line with the previous literature of e.g., Lawrence et al. (2006), which mention that creating institutions is done through actions taken by actors that result in new institutions.

Furthermore, these results build on the existing evidence that managers engage in institutional work within the organization, by engaging in several strategies. This was indicated by Wickert & Risi, (2019), who found that this applied to CSR managers. Wickert & Risi, (2019), suggested to explore the extent to which these strategies apply to different contexts, which is what this study has done. Wickert & Risi, (2019), identified three similar strategies, being the internal allies, emotional and functional connections and promote awareness of CSR. These strategies correspond with, in the same order, employee ambassadors, create a sense of ownership (specifically, the personal connection), and creating legitimacy. In addition, this research found two new strategies, being the awarding of employees and continuous informing.

5.2.2 Corporate digital responsibility

This literature also has theoretical implications for the literature on CDR. Foremost, this research furthers the literature on a CDR such as Herden et al. (2021), which categorized CDR topics according to the ESG-framework. This study furthers this categorization by providing new topics, and clear examples of CDR practice, that the organizations engage in.

Furthermore, the identified strategies build on the recent literature by Lobschat et al. (2021) which created a conceptual model a CDR culture. The identified strategies relate to the three layers of a CDR culture, providing new examples of elements that are part of a CDR culture. The framework proposed by Lobschat et al. (2021) suggests that the layer of artifacts are specific, concrete instances that embody the commitment. Awarding employees for their digital responsible behavior and the employee ambassadors, are observable actions that embody this commitment to CDR. In addition, Lobschat et al. (2021) indicate that with regards

to the second layer, the clear formulation and communication of CDR, is essential for the implementation of CDR. In line with this, this study found that continuous informing is part of this second layer and supports the adoption of CDR behavior. Lastly, the strategy of creating legitimacy, provides a clear example of the most abstract level of the CDR culture, and provides expression of the importance of CDR for the organization.

Moreover, the presented model extents the fragile existent literature on corporate digital responsibility, by emphasizing the role of institutional factors and strategies of institutional work, that shape the implementation of corporate digital responsibility. Lobschat et al. (2021) suggested that to establish CDR-compliant behavior, the organization needs individual actors, foremost managers, but also other employees, to steer and account for individual actors. This research addresses this, as specific managerial strategies were found, that were used to effectuate CDR-compliant behavior. Moreover, the strategy of employee ambassadors confirms that also non-managerial employees need to be involved in the institutionalization of CDR.

In addition, the results of this paper found support for recent literature on digital responsibility principles, as proposed by Trier et al. (2023). The proposed principles should guide the design of information systems and the responsible behavior of stakeholders e.g., organizations and employees (Trier et al., 2023). Support was found for the *sustainability principle*, as within the environmental activities, organizations reduce the impact of digital technologies, assess the impact of digital technologies, remove digital technologies, and use technology to positively contribute to the environment. The *participation principle* is supported by the sense of ownership where the organization aims to involve employees in order to enhance the digital responsible behavior. Second to the social activities also indicate that organizations address the requirement of involving stakeholders, by engaging in practices related to digital competence and inclusion. The *transparency principle*, was perceived as a

benefit of digital responsible behavior by employees, stimulating the engagement in CDR. Moreover, this research found various aspects of the *norms & values principle*, that organizations considered important. For example, the trust of consumers was an important value for various organizational drivers. Furthermore, digital well-being and digital ethics were present values and norms within the CDR practices. To end, the *data privacy principle* was also a prominent topic within the CDR practices, supporting that this principle guides the organizations' digital responsible behavior.

Lastly, this research extends the literature on CDR, by considering an additional perspective i.e., the employees. Recent literature such as Mihale-Wilson et al. (2022), indicated the importance of considering other stakeholders, and the effect that a CDR implementation has on this stakeholder. This research contributes to this research direction by exploring the influences of the CDR implementation on employee's adoption of digital responsible behavior.

5.2.3 The theory of planned behavior

The theory of planned behavior has been applied to many research avenues, but not yet to CDR. Therefore, this research improves the power of the TPB. The results extend the theory of planned behavior, as proposed by Ajzen (1991), as influences on the attitudes, subjective norms, perceived behavioral control and the digital responsible behavior, were found. In contrast to the research of Ajzen (1991), this study found no clear evidence of the existence of the intentions which precedes performing the behavior. However, this absence could be the result of only asking the interviewees what influenced their behavior, hinting towards a direct relationship.

5.3 Practical implications

Corporate digital responsibility is an increasing popular topic, proposed to ensure social, ethical, and ecological accountability when utilizing digital technologies. This research provides clear examples of CDR practices that future organizations can adopt when

establishing a CDR culture. Therefore, the found CDR practices make CDR more approachable for other organizations, ultimately amplifying the adoption of CDR in other organizations. This research also found five strategies; (1) creating legitimacy, (2) a sense of ownership, (3) employee ambassadors, (4) awarding employees and (5) continuous informing, that managers used to institutionalize a CDR culture, and thus leading to a higher commitment to digital responsible behavior of the employees. These strategies can be adopted by managers and consultants that aim to implement a similar CDR culture, strengthening the digital responsible behavior.

This study also identified some "barriers" and "opportunities", which can be used by managers and consultants to increase the chance of a successful implementation of CDR. First, when it comes to the opportunities, managers and consultant can communicate the "perceived benefits", positively influencing the attitude to the behavior, and ultimately stimulate the digital responsible behavior of the employees. Second, the negative influences on employees' commitment, i.e., the perceived drawbacks and the complexity of CDR, can be reduced in future implementations, or attention can be paid to reduce the impact that it has on employees. For example, by making CDR implications easy to understand, employees will be more likely to adopt the CDR behavior, eventually raising the chance of a successful implementation.

5.4 Limitations

As with any research, there are limitations at place in this research. Qualitative research is often subject to limited generalizability of the results to other contexts. Although, effort was put in the diverse selection of organizations from different industries, the limited number of organizations and interviewees reduced the generalizability. Furthermore, the identification of the "existing organizational culture", which was found in each organization, had a positive effect on the commitment of employees, this suggests that organizations' context influences the results of this study. The inclusion of organizations that have less favourable organizational

cultures, could increase the generalizability of the findings. Differences were found between the cases regarding the existing organizational culture. However, due to the chosen research design, this research could not identify which factors or situations were more favourable for the institutionalization of CDR and the individual adoption of digital responsible behavior. The chosen interpretive research design allowed for the detection of the strategies that are part of the CDR culture and influence digital responsible behavior. But, as previously mentioned, it was not possible to "test" the effectiveness of these strategies. Other factors such as national culture or leadership might have been of influence on the effectiveness of these strategies. Thus, this research provides the initial conceptual framework, which may support future research to the investigation of the institutionalization of CDR. In addition, although this research aimed to describe how the CDR culture is affecting employees' digital responsible behavior, the current research design allowed for limited insights, and did not allow to "measure" employees' commitment to digitally responsible behavior, as would be possible with survey-based research, including a larger sample size. Another limitation relates to the sample group, although the researcher tried to reduce selection bias by aiming for different types of organizations and interviewees from different departments, selection bias was not fully avoided. Due to the limited willingness to participate on both organizational as employee level of which the latter was mostly caused by a language barrier between the researcher and respondent, there was little room to influence the selection of participants. Therefore, as is common in qualitative research, generalizability is limited. Furthermore, a limitation is related to the perceived drawbacks, negative emotions towards CDR and the negative effect on commitment. Although the interviewees were able to identify these topics, it was not or limitedly experienced by the interviewees. It would take further research to identify the extent to which these topics are present in the organizations.

In addition, the chosen research design, where interviewees were shown an overview

of possible CDR practices, structured through the ESG-framework, allowed participants to provide a comprehensive elaboration of CDR practices. However, the table could have steered the participants to think only of practices, that fitted this framework. To reduce the steering effect, the researcher made sure to explicitly ask for practices that did not fit this framework, which did not result in the discovery of new CDR practices. Further research is needed to identify if a different approach would lead to the discovery of different CDR practices.

Lastly, the chosen interview questions were formulated in such a way that they pushed the interviewees in a certain direction. First, when the non-managerial employees were asked what has influenced their commitment towards CDR, this suggested a direct relationship, which resulted in the absence of the intention from the TPB. Second, in the interviews with managers, this question was formulated differently. Managers were asked about the general commitment of employees, and the influences on this commitment. This has pushed managers to approach this question from a managerial perspective, hinting towards strategic and general influences. This has resulted in significant differences in the perceived benefits and perceived drawbacks. Further research is needed to discover the extent to which the formulation of the questions has influenced the results.

5.5 Direction for future research

The first suggestion for future research is to "test" the conceptual model presented in this study. This research design allowed to explore the influences on employees' digital behavior, but it did not allow to measure the strength of the influence. Neither did this research allow to detect an order in the strategies or their interrelationship. Future research could measure these influences and relationships. Second, this research took an institutional lens to explore the implementation and adoption of the CDR culture. Although, this lens was useful to detect drivers, barriers and opportunities and strategies on institutional work, future research could consider the role of leadership. Leadership is an important variable in the organizational

context, having significant impact on employee's attitudes and behaviors (Zhao & Sheng, 2019). Thus, it is interesting for future research to explore the effect of leadership on the adoption of CDR behavior of employees. Besides leadership, national culture is another avenue for future research to consider. In this research most organizations were based in Germany, however it was beyond the scope of this research to consider the effect of culture on the institutionalization and individual adoption of CDR. Future research, could include organizations from other countries, and take a cultural lens to investigate this influence. Moreover, to enhance the possibility of a comprehensive discussion on the CDR culture, this research included organizations that promote CDR. Future research could also include organizations that do not promote CDR, as the marketing department was found to be one of the drivers to implement CDR. Therefore, including organizations that do not promote CDR, might result in different results on e.g., the attitudes of employees towards CDR. Lastly, this research opens avenues for future research in the evolving landscape of corporate digital responsibility. Future research should explore how the institutionalization of CDR translates to other industries and regions.

6. Conclusion

The purpose of this study was twofold, first to find how the institutionalization of a CDR culture takes place. Second, how the CDR culture influences employees' digital responsible behavior. As CDR is still in the early stages of conceptualization, there was no real framework yet as to how a CDR culture is institutionalized, nor the influence on employees' commitment. Therefore, an inductive qualitative research design was chosen, with semi-structured interviews. From institutional theory, it was expected that there would be different actors involved in the institutionalization of CDR. The CSR literature found that CSR managers engaged in several strategies for the further institutionalization of CSR within the organization. Similarly, this study found five strategies used by managers, to institutionalize a CDR which

are part of the CDR culture: (1) creating legitimacy, (2) a sense of ownership, (3) employee ambassadors, (4) awarding employees and (5) continuous informing. From the interviews it became clear that a CDR culture can positively contribute to employees' digital responsible behavior, and that there is internal support for CDR. However, it is of critical importance to be aware of the (potential) threats and drawbacks of a CDR culture, that could reduce employees' commitment. For example, CDR can be perceived as "complex" which reduces employee's willingness to engage in CDR. Thus, to answer the research question, managers can engage strategies to institutionalize a CDR culture, which can positively influence employees' commitment to digital responsible behavior. However, managers should be aware of the negative implications of CDR on employees.

This research found an extensive list of CDR practices. In line with Herden et al. (2021), these practices could have been framed according to the ESG-framework. Thus, organizations can adopt these practices to become more digitally responsible. In addition, this paper found that the institutionalization of CDR, is initially triggered by internal and external actors and circumstances. For example, it is often the board of directors, or individual members of this board, who express the importance of CDR. Without this initial trigger, organizations are likely not to engage in CDR.

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8. Appendices

Appendix A: Interview guide for C-level Managers

General themes	Questions	Probing questions
Introduction	1. Why did you decide to work for [Company X]?	General: - Why do you think so?
	2. What does corporate digital responsibility mean to you?	- That is interesting, do you have more examples?

		- Can you describe a situation where this happened?
CDR drivers	1. What were the drivers to implement corporate digital responsibility?	- Can you elaborate more on this? - Can you explain why?
The interviewee is presented with the supplementary table from Herden et al. (2021), see appendix C	**CDR is a very broad term, to better understand the scope of CDR I have the following framework, with some examples of potential CDR practices.**	**Question specific:**
CDR practices in the organization	2. Can you fill in this framework with CDR practices at [Company X]? 3. Is there anything the organization does which you cannot place in the framework?	4. What does the organization do to reduce negative impacts of digital technologies? 5. Could you give examples?
Overall CDR assessment	4. What could be improved, or is currently lacking, as a CDR practice?	
Barriers and opportunities to CDR// Institutionalizing CDR	5. Which factors influenced the implementation of CDR? (positive and negative)	7. How did these factors influence the implementation?
	6. How do you communicate the CDR vision with employees? 7. Which behavioural reactions did employees show to the current CDR practices?	8. What is the effect on the commitment towards CDR of employees? 9. How do you cope with resistance to CDR?
Closing	8. Is there anything you would like to add that is of relevance to this study that was not discussed?	

Appendix B: Interview guide nonmanagerial employees

General themes	Questions	Probing questions
Introduction	1. Why did you decide to work for [Company X]?	General:
		- Why do you think so?
	2. What does corporate digital responsibility mean to you?	- That is interesting, do you have more examples?
		- Can you describe a situation where this happened?
CDR drivers	3. What were the drivers to implement corporate digital responsibility?	- Can you elaborate more on this?
		- Can you explain why?
The interviewee is presented with the supplementary table from Herden et al. (2021), see appendix C	**CDR is a very broad term, to better understand the scope of CDR I have made the following framework, with some examples of potential CDR practices.**	**Question specific:**
CDR practices based on the ESG framework	4. Can you fill in this framework with CDR practices at [Company X]?	4. What does the organization do to reduce negative impacts of digital technologies?
	5. Is there anything the organization does which you cannot place in the framework?	5. Could you give examples?
Overall CDR assessment	6. What could be improved, or is currently lacking, as a CDR practice?	
Barriers and opportunities to CDR// Institutionalizing CDR	7. Which factors influenced the implementation of CDR? (positive and negative)	7. How did these factors influence the implementation?
	8. How is the CDR vision communicated to you and your colleagues?	8. Did this influence your commitment to CDR, and how?

	9. What were your responses to the CDR vision or to specific practices?	
	10. Are you more committed to behave responsible?	10. What has had the largest influence?
Closing	11. Is there anything you would like to add that is of relevance to this study that was not discussed?	

Appendix C: CDR practices categorized according to the ESG framework (Herden et al., 2021)

Environmental (How the environment is affected by digital technology)	**Social** (How stakeholders are affected by digital technology)	**Governance** (How an organization is managed, and what internal control exists)
1. Recycling program for the digital technologies 2. Using renewable energy 3. extending obsolescence cycles of technology 4. ……	1. Training (non-digital natives) on the use of digital technologies 2. Removing pronouns from emails 3. Providing technology to digital have-nots 4. ……	1. Training about Data Privacy 2. Setting up a digital Ethics Board 3. Limiting the flow of data across borders 4. …….

Appendix D: Gioia figure of the CDR practices

Mentioned CDR practices	1st-order themes	2nd-order themes	Aggregate dimensions
-Cloud based computing / -Energy efficient website / -Reduce data in emails / -Remove technologies / -Compensate the carbon effect of customers / -Digital documents / -Green data center / -Use Renewable energy	Energy and Carbon footprint	Environmental practices	CDR practices
-App for carpooling / -Home office / -Limited allowance for travel / -Virtual reality to reduce travel	Travelling		
-Digital cleaning / -Recycling Mobibile devices/phones / -Reduce food waste / -Using tech longer	Waste		
-Use drones for inspections / -Use drones for reforestation / -Assess impact Environment	Nature things		
-Training on IT solutions / -Training on social media usage / -Training use of tech / -Hands-on with tech / -Explain how tech works / -Rescaling of employees / -Explaining digital assistans / -Hacker school for students	Digital competence	Social practices	
-Focus times / -Meditation / -Psychologist / -Training digital well being / -Leg and stomach sessions / -Create social interaction in digital sphere / -Digital coffee kitchen / -Networking before online meetings	Digital well-being		
-Adding alternative pronouns / -Removing pronouns / -Accessible website / -Keep analog version for people who need it / -IT day Girls / -Give mobile devices	Digital inclusion		
-Anti Hate program / -Campaign against digital hate/crime / -Counter fake news / -Avoid certain social mediat / -Training fake news	Positive digital influence		
-Donate hardware / -Donate percentage of working hours / -Donare digital tools / -Invest in tech for good cause	Charity		
-Cant use USB / -Security app on every device / -Forcing updates, to get access / -Dont use private phones / -Personal measures / -Securing employee devices / -Cybersecurity center / -Limited software allowed	Data security	Governance practices	
-Digital ethics guidelines / -Training digital ethics / -Stimulate reporting on data leaks / -Emergency crisis teams / -Guidelines for AI / -Label AI / -Helpline for behavioral advice	Digital ethics		
-Privacy rules home office / -Privacy team / -Data privacy Board / -Training Data Privacy	Data ownership and privacy		
-Ethical assessment product/service / -Sampling products / -Quality gate Product/service / -Quality check for bias	Reliable systems		
-No cameras in the office / -Limiting data flow	Data collection and storage		
-Communicate data leaks / -Helpline/whistleblower hotline / -CDR report	Transparency		