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Exploring the reasons leading to software system rejection in MNCs

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ABSTRACT:
This thesis explores the reasons behind the rejection of software systems for strategic management in multinational corporations (MNCs). MNCs are particularly dependent on adopting novel technologies, as it contributes positively to MNCs' revenue growth, reduce risks of globalization, and increases the ability to compete globally. Although the creative use of information technologies (IT) and information systems (IS) is particularly important for MNCs' survival and growth, corporations are noted to be more hesitant in investing in novel technologies, i.e., software systems. As technology rejection can limit MNCs' competitive postures, understanding the reasons leading to technology rejection is vital for overcoming it. By identifying these rejection reasons, both MNCs and technology vendors can reduce the barriers to software system adoption. The existing literature in academia has focused on understanding the reasons leading to technology adoption, and the reasons leading to technology rejection at the organizational level remain unclear for academia. To fill the identified research gap, this research explores reasons leading to software system rejection in MNCs, to reduce the barriers to software system adoption.

This research conducted a comprehensive case study by observing the underlying reasons affecting rejection decisions in 13 case companies. The theoretical framework for the thesis is built on the existing research of digital transformation, technology adoption, and information systems adoption, as the existing academia lack research in technology rejection, and technology adoption and rejection are considered opposite actions in academia. The research adopted critical realism as a research philosophy, as this research aims to explain the underlying causes for the observed phenomenon, which is software system rejection. To explain these underlying causes, the research triangulated two perspectives in case study methodology: MNCs adopting novel software systems and technology vendors.

The reasons leading to software system rejection in MNCs can be classified into five dimensions, which are indistinctly defined business case, inability to respond to the business case, incoherent customer-vendor fit, complex execution process, and incoherency with digital transformation strategies. The findings indicate that MNC's indistinctly defined business case may guide the project in an unwanted direction. As the outcome does not respond to the MNC's need, it will likely be rejected. Secondly, the software system's inability to respond to the business case from organizational, technological, and environmental aspects leads to rejection. Thirdly, incoherency between the customer and technology vendor can lead to rejection if the organization types and ways to operate do not support each other in succeeding in the project. The complex execution process identifies the challenges in the execution phase, i.e., increased risks of execution which the MNC is not willing to take. The final reason indicates that MNCs will reject a software system if it does not support the corporation in executing its' digital transformation strategies. These findings contribute to technology rejection literature by providing the first insights into the reasons leading to software system rejection at the organizational level.

KEYWORDS: Software system, Technology rejection, Multinational corporations

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TIIVISTELMÄ:
Tämä tutkimus tutkii syitä ohjelmistojen (software systems) hylkäykselle kansainvälisissä yrityksissä. Kansainväliset yritykset ovat yhä riippuvaisempia uusien teknologioiden käyttöönotosta, sillä niillä on todettu olevan positiivinen vaikutus liikevaihdon kasvuun, kansainvälistymisen tuomien riskien vähenemiseen, sekä kansainvälisen kilpailuedun luomiseen. Vaikka tietojärjestelmien (IS) ja informaatiotekniikan (IT) monipuolinen hyödyntäminen on erityisen tärkeää kansainvälisten organisaatioiden kilpailukyvyn luomiselle, yritysten on huomattu epäröivän yhä enemmän investoimista uusiin teknologioihin, kuten ohjelmistoihin. Teknologioiden hylkäämisen syiden ymmärtäminen on erityisen tärkeää, sillä se rajoittaa kansainvälisten yritysten kilpailuedun luomista. Näiden syiden ymmärtäminen auttaa kansainvälisiä yrityksiä ja teknologian toimittajia vähentämään hyväksymisen esteitä. Syyt teknologian hylkäämiselle ovat epäselvät akateemisessa tutkimuksessa, sillä akatemia on keskittynyt selittämään syitä teknologian hyväksymiselle organisaatiotasolla. Tutkimusaukon täyttämiseksi tämä tutkimus tutkii ohjelmistojen hylkäämisen taustalla vaikuttavia syitä kansainvälisissä yrityksissä, vähentääkseen esteitä ohjelmistojen hyväksymiselle.

Tutkimus toteutettiin tutkimalla päätöksenteon taustalla vaikuttavia syitä 13 tutkimusyrityksessä. Tutkimuksen teoreettinen viitekehys on rakennettu olemassa olevan tutkimustiedon ympärille digitaalisten transformaatiostrategioista, teknologian ja tietojärjestelmien hyväksymisestä, sillä tieteellinen tutkimus on keskittynyt hyväksymisen selittämiseen ja hyväksymistä ja hylkäämistä pidetään toisistaan vastakkaisina toimintatapoina teoreettisessa kentässä. Tutkimus tarkastelee ilmiötä kriittisen realismin silmin, sillä tutkimuksessa vertaillaan kahden neuvotteluun osallistuvan osapuolen näkökulmia: yritysten ja teknologian toimittajien.

Tutkimuksen perusteella syyt teknologian hylkäämiselle voidaan jakaa viiteen kategoriaan, jotka ovat epämääräisesti määritelty liiketoiminnan tarve, kykenemättömyys vastata liiketoiminnan määriteltyyn tarpeeseen, asiakkaan ja teknologian toimittajan keskinäinen sopivuus, monimutkainen käyttöönottoprosessi, sekä epäsopivuus digitaalisten transformaatiostrategioiden kanssa. Tulokset osoittavat, että epämääräisesti määritelty liiketoiminnan tarve ohjaa hankintaprojektia lopputulemaan, joka ei vastaa yrityksen tarvetta johtaen ohjelmiston hylkäämiseen. Ohjelmiston kykenemättömyys vastata yrityksen organisatorisiin, teknologisiin ja toimintaympäristön vaateisiin johtaa myös hylkäämiseen. Kolmas syy hylkäämiselle on yrityksen ja teknologian toimittajan keskinäinen sopimattomuus, sillä toimintatapojen ja organisaatiomallien eroavaisuus eivät edistä yhteistyötä. Myös monimutkainen käyttöönottoprojekti, jossa yritys tunnistaa mahdollisia riskejä projektin epäonnistumiselle, joita yritys ei halua ottaa, voi johtaa hylkäämiseen. Viimeinen syy on ohjelmiston kykenemättömyys tukea yrityksen digitaalisten transformaatiostrategioiden toteutumista. Tutkimus kuroo teknologian hylkäämistä koskevaa tutkimusaukkoa tarjoamalla ensimmäisen käsityksen syistä, jotka johtavat ohjelmistojärjestelmän hylkäämiseen organisaatiotasolla.

AVAINSANAT: Software system, Technology rejection, Multinational corporations

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Abbreviations

DOI	Diffusion of innovations (Rogers, 1995)
ICT	Information and communication technologies
IS	Information system
IT	Information technology
KYC	Know Your Customer
MNC	Multinational corporation
ROI	Return on investment

TAM	Technology adoption model
TOE	Technology-organization-environment framework (Tornatzky & Fleischer, 1990)
TPB	Theory of Planned Behavior
TRA	Theory of Reasoned Action
UTAUT	United Theory of Acceptance and Use of Technology

1 Introduction

In the 21st century, the fourth industrial revolution driven by digital technologies is progressing exponentially over the globe. The industrial revolution, commonly referred to as Industry 4.0, captured the attention of researchers and practitioners since its publication in 2011 (Ghobakhloo, 2020, p. 2). Since the new era of Industry 4.0, the development and adoption of digital technologies have emerged as one of the most frequently discussed topics in both academic and professional circles (Li et al., 2020, p. 1).

The digital revolution has fundamentally reshaped the lives and work of individuals, organizations, and society in recent decades through digital connectedness and information development and sharing (Ghobakhloo, 2020 p. 1-2). Moreover, as the digital technologies revolution accelerates around the globe and the surrounding business environment becomes more complex and agile, corporations become increasingly dependent on adopting digital technologies to establish their competitive postures in the global business environment (Calantone et al., 2006, p. 1; Mithas et al., 2017). Therefore, regardless of the industry, the industry's expected success depends on how technology has changed, and how it will proceed to change its trajectory (Hecht, 2018).

Establishing these competitive postures often depends on the corporation's ability to manage information effectively within the corporation (Porter & Miller, 1985; DalleMule & Davenport, 2017). The importance of managing information effectively as a competitive advantage has been understood for decades (see, i.e., Parsons, 1983; Rackoff et al., 1985 & Russell & Vitale, 1988). Corporations often manage the increased risks and achieve the aimed level of administrative coordination through managing information with information technology systems (Mithas et al., 2017, p. 430) Thus, technology adoption has been studied extensively in the field of information systems (IS) in the past decades. Numerous studies on technology adoption have aimed to identify, predict, and describe individual and organizational variables influencing adoption behavior and a variety of frameworks and conceptual models were developed to explain these. (Dube et al., 2020, p. 207). Although adopting novel technologies generates rapid technological

advancements for corporations, increasing their competitive postures, it remains unclear why corporations decide to reject technologies in general, and more precisely, information systems like software systems for improving corporate strategic management. Although some have aimed to explain the technology rejection at an individual level in the implementation phase (i.e., Leonardi, 2009; Laumer & Eckhardt, 2010; Murthy & Mani, 2013), academia has not yet determined why corporations reject novel technologies in the first place despite the various benefits for their competitive postures. However, understanding technology rejection, especially software systems rejection at the organizational level, could provide valuable knowledge to adopting organizations and for technology vendors to overcome the barriers to technology adoption that restrict organizations from developing competitive postures. Therefore, this research aims to understand why multinational corporations reject software systems.

1.1 Digital transformation

The conversion from the analog to the digital world has been determined as digital transformation (DT), reflecting the change digital technologies execute for business models, processes, products, and organizational structures (Hess et al., 2016, p. 3). Digital transformation comprises the changes brought by digital technologies to the organization's business models, products, processes, and organizational structure, and the aforementioned changes can be visible in both individual and organizational contexts. Moreover, digital transformation strategies focus on explicitly digital activities by transforming products, processes, and organizational aspects owing to new technologies. As the literature in the field often discusses digital transformation and digitalization as synonyms, it is essential to clarify the definitions of the terms to avoid terminological confusion. Digitalization refers to the conversion of information from the analog to the digital world (e.g., storage) and the automation of processes through information and communication technologies (ICT). To underline the difference between these two terms, digital transformation reflects the change in the whole business model caused by digital technologies, while digitalization manifests itself. (Hess et al., 2016, pp. 3).

The new technologies enabling digital transformation include novel information technologies (IT) and information systems (IS). In academia, information technologies (IT) and information systems (IS) are inextricably linked and often referred to as synonyms (Devett & Jones, 2001, p. 314). However, information technology comprehends the study, design, implementation, support, or management of data within an information system. On the other hand, information systems include various software system platforms and databases, combining the entirety of information: technology, people, and processes (Devett & Jones, 2001, p. 313; The University of Arizona, 2021).

In today's business environment, the creative use of information technology and information systems is necessary for corporations' survival and growth (Aydiner et al. 2019a, p. 168). According to a recent study, digital transformation is corporations' main concern in 2019 because many projects tend to fail and it is a necessity for their survival and growth (Tabrizi et al., 2019). The rapidly changing global business environment and the unprecedented technological advancements force corporations to become more innovative and agile in identifying and responding to their customers' evolving needs and wants (Aydiner et al., 2019b, p. 229). As globalization intensifies the technology diffusion across countries (Skare & Soriano, 2021), especially multinational corporations (MNCs) are strongly dependent on adopting novel information systems.

Information technology and information system expenditures are positively associated with foreign revenues suggesting that information technologies can decrease risks and reduce challenges of globalization and positively contribute to corporations' revenue growth in a global context (Mithas et al., 2017, p. 439). Besides the challenges and risks embedded in globalization, IT/IS expenditures have been noted to be particularly relevant for corporations operating in developed markets with limited growth opportunities due to market saturation, slow population, market growth, and intense competition (Mithas et al., 2017, p. 439). As MNCs tend to operate under such circumstances, executing digital transformation and implementing new information technologies and systems is vital for them.

Although IT and IS provide novel opportunities for corporations to reshape their existing business processes and work practices while enabling organizational change, a constantly growing concern exists among practitioners about whether investments in IT/IS can realize the expected value. According to research in the field, despite the extensive investments in IT and IS, only a limited number of corporations have increased their efficiency and competitive advantage. Significant IT and IS projects are noted to exceed budgets by 45%, surpass allotted time by 7% and generate 56% less value than expected. (Aydiner et al., 2019a, p. 168). Combined with the continually increasing complexity of IT and IS, corporations have constantly grown concern about investing in novel IT and IS.

1.2 Technology rejection

In a recent study, approximately 30% of business leaders admitted their companies lag in adopting new technologies as they are concerned whether the investments in novel technologies can deliver their 'lofty promises' (Pickup, 2022). The view is supported by Aydiner et al. (2019a, p. 168) who have pointed out the increasing concerns about whether IT/IS investments are realizing the expected value given the amount of money and effort invested in them (Aydiner et al., 2019a, p. 168). Therefore, increasing concerns about investing in novel IT/IS projects are acknowledged in business and in academia. Some reasons for technology rejection have been proposed. It has been suggested that reluctance for adopting novel technologies is caused by various financial exploitations in corporations' past, meaning that the previous investments in IT have not realized the expected value (Pickup, 2022). Besides the aforementioned financial exploitation, Wilhelm (2020) has proposed three reasons: the difficulty to integrate novel technologies into existing operations, the adoption of novel technologies requires plenty of time for researching the most suitable solutions, and the corporations' approach which does not see investments on novel technologies as a necessity. In the same vein, Murthy & Mani (2013, p. 5) have identified five main reasons leading to technology rejection at the individual level, which are technological complexity, technology fatigue (referring to users' tendency to use only part of the functionality), lack of flexibility, altering user-base and switching cost and loss aversion.

Although these reasons have been suggested to explain the reluctance for technology adoption, academic research in the field remains under-researched. Researchers have been interested solely in the ever-increasing development of technology and its adoption by corporations for decades. While technology adoption has been well researched and understood, the phenomenon of technology rejection remains unexplored still. (Murthy & Mani, 2013, p. 2) In 2005 Lapointe & Rivard conducted a multilevel, longitudinal approach and reviewed the existing literature in the field to better understand the existing literature in the field of information technology non-adoption, rejection, or resistance to adoption (Laumer & Eckhardt, 2010, p. 2). According to the authors, despite literature acknowledge the significance of resistance, "most treat it as a black box." Based on their review, including 43 articles, only 9 defined the concept of resistance, while four articles aimed to open the "black box." These four articles focused on understanding how technology resistance by individuals affects IT implementation in organizations. (Lapointe & Rivard, 2005, pp. 462). Being limited to understanding why individuals reject technologies, these articles are not practical in explaining software system rejection at organizational level. As technology rejection, resistance or non-adoption at individual level takes place after the technology is introduced to organizations, reluctance at organizational level takes place prior to individual rejection. Since the appearance of these articles, no other similar literature of technology rejection at the organizational level has appeared.

Aside from the fact that academic research in technology rejection is limited to the individual level, terminological confusion exists because of a lack of consensus on how to define technology rejection. This research has adopted the widely used definitions of technology rejection by Murthy & Mani (2013, p. 2) and Adéle & Brangier (2013). According to Murthy & Mani (2013), rejection of technology refers to a phenomenon where a society, ranging from individuals to community groups to nations, capable of using a particular technology, refrains from using it (Murthy & Mani, 2013, p. 2). The definition by Murthy & Mani is practical in this research, as it identifies the rejection at the organizational level. However, Murthy & Mani (2013) ponder whether the rejection and

adoption should be considered as distinct or as a negation of each other. On the other hand, Adéle & Brangier (2013) consider, that technology rejection refers to the opposite action from adoption. In this study, technology rejection refers to the phenomenon where an organization, capable of utilizing a particular technology, refrains from doing so by rejecting it.

1.3 Motivation for the study

Emerging from the previous chapters, digital transformation and adopting novel technologies is vital as corporations must remain innovative and agile to meet the demanding needs and expectations of customers as the global business environment continues to rapidly change (Aydiner et al., 2019b, p. 229). As corporations' functional units require novel technologies to ensure the inter-functional information flow for effective strategic decision-making (Appandairajan et al., 2012, p. 56), technology rejection of IT and IS can limit corporations' competitive advantage.

Corporations' previous experiences from financial exploitation combined with the IT/IS investment failures have brought the provision and value of adopting technologies into question (Pickup, 2022; Aydiner et al., 2019a). Corporations are increasingly concerned about whether investments in IT and IS can generate the expected value, and therefore, they are more hesitant in adopting novel technologies (Aydiner et al., 2019a; Pickup, 2022). Despite some explanations for technology rejection have been proposed (i.e., Pickup, 2022; Wilhelm, 2020; Murthy & Mani, 2013), academia has been interested in technology adoption by corporations for decades, and technology rejection remains under-researched (Murthy & Mani, 2013, p. 2). Therefore, it remains unclear for academia and practitioners in business, why corporations decide to reject novel technologies. Understanding the reasons leading to technology rejection in organizations is particularly important for multinational corporations, as they are strongly dependent on adopting novel information technologies and information systems to their operations for reducing risks and positively contributing to revenue their growth (Mithas et al., 2017, p. 439)

This research aims to fulfill the identified research gap and explore the reasons leading to software system rejection. In this new era of automation, mobile apps, and post-pandemic life, the reliance on software continues to grow (Reshko, 2020). Software systems are intangible programs managing information system functions (Master's in Data Science, 2020). While the markets possess increasingly growing expectations for software systems, the industry is fundamentally dynamic (Reshko, 2020). The increased dependency on software systems in the new era of automation makes understanding software system rejection necessary for overcoming the barriers to software system adoption. Knowledge of the reasons leading to software system rejection is valuable information for both counterparts, for multinational corporations and technology vendors to overcome the concerns and challenges which may occur when considering investing on novel software systems.

1.4 Research question and objectives of the study

As a strong motivation for understanding software system rejection in a multinational context, this research will respond to the question:

Why do multinational corporations reject adopting IT software system that supports their corporate management?

Moreover, two research objectives were set to define the specific steps that the research will take to answer the research question in-depth.

1. To understand the reasons and the motivations for adopting technology for corporate management in MNCs.

2. To explore the reasons and motivation for rejecting technology for corporate management in MNCs.

1.5 Research structure

This research begins with an introduction, guiding the reader to the topic, outlining the identified research gap, and presenting the research question and objectives. The theoretical framework follows the introduction. As the existing academia lacks research on technology rejection in general and software system rejection in particular, the theoretical framework provides an extensive overview of existing theories in digital transformation, diffusion of innovations, technology, and information systems adoption. The theoretical framework will begin from a broader aspect (digital transformation strategies) to the narrowest (information system adoption).

After the theoretical framework, the research will outline the methodological choices of this research. Then, research findings from the empirical part follow the methodology. Finally, the discussion will respond to the research questions and objectives, evaluate the findings' synthesis to the theoretical contribution, outline the theoretical and managerial implications and present the limitations and suggestions for future research.

2 Theoretical framework

This chapter presents the theoretical framework for the research. As mentioned in the introduction, existing academia lack research in understanding information systems rejection, including software systems rejection as well as technology rejection in general. However, as rejection and adoption can be considered opposite actions, understanding technology adoption is vital. Therefore, the theoretical framework provides an extensive overview of academic literature on relevant theories discussing adoption.

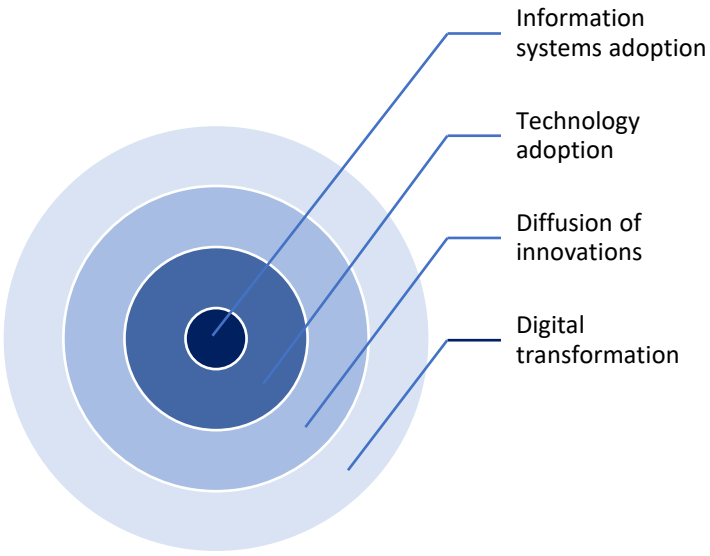

Figure 1. Overview of the theoretical framework.

The theoretical framework will begin from the broadest term digital transformation, continuing to the diffusion of innovations, technology adoption, and eventually information Fsystems adoption, as presented in Figure 1.

2.1 Digital transformation

During the past two decades, digital transformation has been guiding organizations to adopt novel technologies to improve their existing operations. Therefore, digital transformations have been the CEOs' and other senior executives' main concern in recent years (Tabrizi et al., 2019). As the shift from the industrial revolution to the new

economic domination of information technology has accelerated during the 21st century, organizations have exploited the potential of digital technologies for developing new products and services, implementing new business processes, and exploiting new business models (Legner et al., 2017; Downes & Nunes, 2013).

As the literature in the field discusses *digitalization* and *digital transformation* as synonyms, it is essential to clarify the difference between the terms to avoid terminological confusion. Although the terms have evolved in the literature, the definition by Hess et al. (2016) has been generally accepted in academia. According to the authors, digitalization refers to either the conversion of information from the analog to the digital world (e.g., storage) or the automation of processes through information and communication technologies (ICT). On the other hand, digital transformation (sometimes used as a synonym for digitalization) is concerned with the changes that digital technologies can bring to organizations' business models, products, processes, and organizational structure. These changes can be visible in both individual and organizational contexts. To underline the difference between these two terms, the authors point out that while digital transformation reflects the change in the whole business model caused by digital technologies, digitalization manifests itself. (Hess et al., 2016, pp. 3)

Digital transformation strategies have a business-centric perspective and focus on explicitly digital activities by transforming products, processes, and organizational aspects owing to new technologies (Matt et al., 2015, p. 339). Digital transformation strategies go beyond the process paradigm by not focusing on process optimization but include changes to and implications for the product, services, and business models. Consequently, digital transformation strategies assist corporations to govern transformations occurring after integrating digital technologies, as well as in their operational processes following a transformation. (Matt et al., 2015, p. 340) Therefore, it is essential to understand the relationship between the digital transformation strategy and other corporate strategies. The connections are presented in Figure 2, whereas digital transformation

strategies cross along the different business strategies and are aligned with them. (Matt et al., 2015, p. 339).

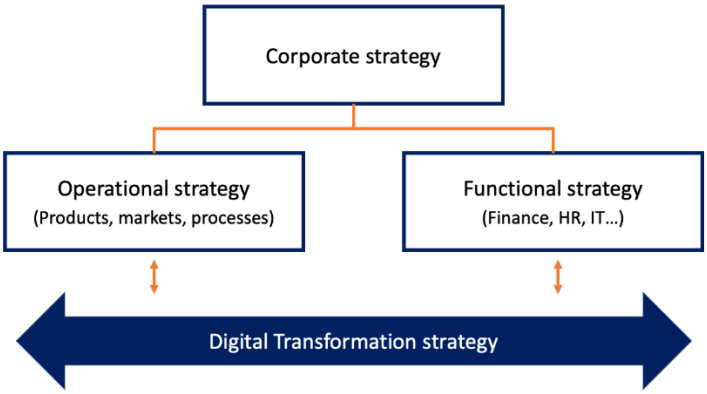

Figure 2. Relation between digital transformation strategy and other corporate strategies. (Matt, et al., 2015, p. 340)

Although digital transformation provides extensive possibilities for organizations to improve their operations, recent academic studies have raised concerns about the lack of guidance on digital transformation for organizations (Hess et al., 2016, p. 3-4). To support corporations in building digital transformation strategies, Matt et al. (2015, p. 341) have created a holistic approach for developing a company-wide digital transformation strategy. The authors created four dimensions to describe the common elements of digital transformation strategies, presented in Figure 3.

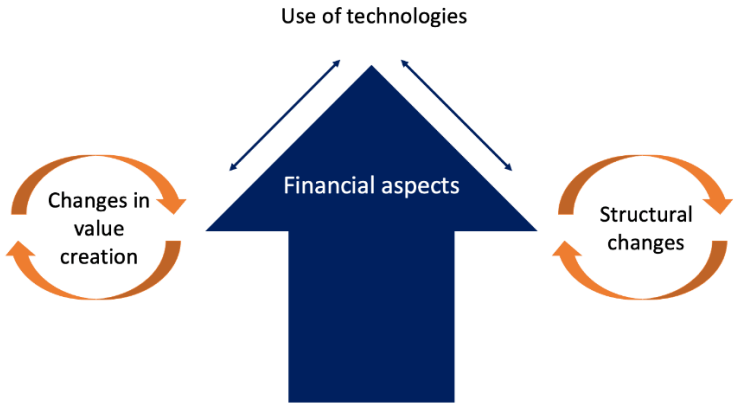

Figure 3. Digital transformation framework: balancing four transformational dimensions. (Matt et al., 2015, p. 341)

The first element of the digital transformation framework is the use of technologies addressing the organization's attitude towards using novel technologies and the organization's ability to exploit them. This first dimension indicates the organization's future technological ambitions and the current strategic role of IT. It indicates whether an organization wants to be a market leader in technology usage or whether it intends to use already established technology standards and use technology to achieve its objectives. (Matt et al., 2015, p. 342) Furthermore, the use of technologies implies changes in value creation, which is the second dimension. The focus here is on how digital transformation strategies impact organizations' value chains: how far the new products and services deviate from the core business, which is often still analog. The changes in value creation can provide better possibilities to expand and improve product and service portfolios. However, these often require higher technological and product-related competencies and increase the risks. Furthermore, different technologies and value-creation methods often require structural changes to provide a proper basis for new operations. The third dimension, structural changes, refer to new organizational setups needed to support the use of novel technology. (Matt et al., 2015, p. 342)

However, financial aspects must be carefully considered before these three dimensions are applied. The final dimension, the financial aspect, is a driver and bounding force for digital transformation. Lower financial pressure may reduce the perceived need to act, and companies under financial pressure may lack external ways to finance digital transformation. Thus, organizations should prepare themselves for the need to transform their businesses digitally and explore their options openly and early. (Matt et al., 2015, p. 342)

The potential of digital transformation to drive better operational performance is significant for every organization, particularly for multinational corporations (MNCs). According to Andersen and Foss (2005, p. 294), MNCs' business environment exposes to a higher level of complexity and uncertainty due to the different locations and the need to integrate and coordinate activities within the whole corporation, despite the cross-

cultural differences. Moreover, various organizational costs are higher for MNCs as the organizational structure is more complex. (Andersen & Foss, 2005, p. 294)

Authors argue that academia lacks research to understand how MNCs could influence the attendant tradeoff to affect performance for their advantage, despite the various distinct benefits and costs of the MNCs. Information and communication technologies (ICT) have been argued to influence this tradeoff since multinationalism may provide strategic opportunities associated with higher economic performance with MNCs' internal use of ICT (Andersen & Foss, 2005, p. 294). In the same manner, Legner et al. (2017) have argued that the hype about digital transformation has placed information technology (IT) and information systems (IS) in more visible positions in business and society compared to the past. Previously, IT/IS has been acknowledged as a basic supporting function improving the effectiveness of data integration, communication, and collaboration in the organization (Legner et al., 2017).

The notable impact of IT on MNCs is also supported by Mithas et al. (2017, p. 430), arguing that MNCs often manage the increased risks and achieve the aimed level of administrative coordination through information technology (IT) systems. IT expenditures assist MNCs in generating additional revenues and profits from their foreign operations (Mithas et al., 2017, p. 430). Moreover, senior managers' absence of personal involvement in IT-related decisions might affect the likelihood of underinvesting in IT systems. Thus, underinvestment would decrease their organizational capabilities and ability to compete globally. (Mithas et al., 2017) As globalization is a key component of an MNCs' firm-level strategy, causing a more complex and uncertain business environment, IT systems can provide a strategic opportunity and increase an organization's competitive advantage (Mithas et al., 2017). Therefore, it is essential to understand the underlying motivations and reasons for adopting or rejecting new IT systems.

In the complex and continuously changing business environment, MNCs are continually encouraged to adopt novel digital technologies to their operations for establishing new

products and services, implementing new business processes, or operateing new business models (Legner et al. 2017; Nambisan et al. 2017). Therefore, new business requirements from the business environment and the appearance of novel digital technologies create pressure on corporations to adopt digital innovations (Wiesböck & Hess, 2019, p. 76). The effect of new business requirements and novel digital technologies is presented in Figure 4.

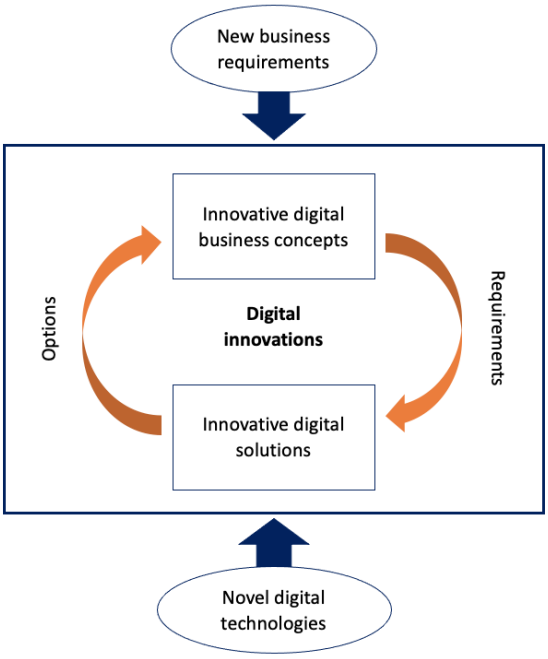

Figure 4. Technology push-pull model of digital innovations. (Wiesböck & Hess, 2019, pp. 77)

Although the drivers are presented indistinctly, the authors point out that both drivers work in harmony: new business requirements are implemented through developing a digital solution (i.e., sales database) that promotes searching for novel digital technologies, known as technology pull. On the other hand, the emergence of novel digital technologies increases the corporation's interest in new business opportunities, referred to as the technology push. (Wiesböck & Hess, 2019, p. 76) Thus, organizations may have multiple drivers leading to technology adoption. As the previous chapters explained how digital transformation, especially in MNCs, creates the need to adopt novel technologies, the next chapters present how these novel innovations are diffused in organizations.

2.2 Diffusion of Innovations

To describe the process of adopting innovations, Rogers (1995) developed a widely accepted theory of Diffusion of Innovation (DOI). By using the term “innovation”, the author describes technological innovations. According to the author, the terms “innovation” and “technology” can be considered synonyms (Rogers, 1995, p. 12). By this, the theory comprehends innovations as new technological solutions to the organization. Theory suggests that diffusion refers to a particular type of communication involving new ideas. Although individuals or other decision-making units may have some knowledge of the innovation of the matter, it includes some level of newness, providing innovation its’ unique character. According to the theory, diffusion occurs when a specific message about innovation is communicated through certain channels to members of a social system over time. Emphasizing social interaction, Rogers argues that diffusion of innovations is a type of social change when novel innovations are invented, diffused, adopted, or rejected, leading to certain consequences. (Rogers, 1995, p. 5-6).

As innovations include a certain level of uncertainty, the aim of social change in the diffusion of innovations is to seek and process information to decrease the uncertainty of adopting novel innovations. As information represents the primary means of reducing uncertainty, Rogers has conceptualized the innovation-decision process to have five stages: knowledge, persuasion, decision, implementation, and confirmation. In the first stage of the innovation-decision process (knowledge), the individual or other decision-making unit becomes aware of the innovation’s existence and creates an understanding of its function. The first stage aims to increase awareness of the cause-effect relationship of innovation to solve certain matters. In the second stage (persuasion), the decision-making unit refines favorable or unfavorable perceptions of the innovation. The third stage (decision) generates activities that lead the individual or decision-making unit to adoption or rejection. The fourth stage (implementation) takes place when the individual or decision-making unit exploits the innovation in use. The final stage (confirmation) appears when an individual or decision-making unit seeks reinforcement of an innovation decision to consider the need for a reverse decision if conflicting messages occur.

(Rogers, 1995, p. 20-21). As this research aims to understand the reasons leading to rejection in the first place and not after implementation, the research focuses on the first three stages: knowledge, persuasion, and decision.

In his theory, Rogers argues innovativeness is one of the main factors affecting the diffusion of innovations at individual and organizational levels. According to Rogers, individuals have five degrees of willingness to adopt innovations. The degrees are innovators, early adopters, early majority, late majority, and laggards (Rogers, 1995, p. 242). On the other hand, Oliveira & Martins have pointed out that exploring innovativeness at an organizational level is more complex since the population in the innovation-decision process may have both supporters and opponents of an innovation (Oliveira & Martins, 2011, p. 111). As this research focuses on creating an understanding of the potential reasons for technology rejection at the organizational level, the research focuses on the factors affecting organizational innovativeness in the theory of diffusion of innovations.

Innovativeness at the organizational level depends on three independent variables: individual (leader) characteristics, internal characteristics of organizational structure, and external characteristics of the organization. The first variable, individual (leader) characteristics, refer to the leader's perception of the innovation. The second variable, internal characteristics include centralization, complexity, formalization, interconnectedness, slack, and size of an organization. According to the author, centralization describes the degree how power and control are concentrated in the organization among a few individuals. Complexity represents the degree to an organization's personnel's expertise and knowledge. Formalization refers to the degree an organization emphasizes its members follow the rules and procedures. Interconnectedness presents the degree how interpersonal networks link the social system and its units. Organizational slack refers to the degree to which uncommitted resources are usable in the organization. The size refers to the number of members in the organization, and the final variable, external characteristics of the organization, refers to the system's openness. The system openness indicates whether the system can be extended and re-created in various ways later. (Oliveira &

Martins, 2011, p. 111; Rogers, 1995, p. 359-361). Although innovations and technology are often considered synonyms, diffusion of innovations is a comprehensive theory to explain innovation adoption in general. Therefore, the next chapter provides an extensive overview of technology adoption theories.

2.3 Technology adoption

Over the decades, an extensive body of literature has been dedicated to exploring technology adoption (Murthy & Mani, 2013). A growing interest in technology adoption is evident as technology can significantly affect organizations' productivity. Technology can improve an organization's functions in various ways, such as automating tasks, facilitating business processes previously unimaginable and simplifying work (Laumer & Eckhardt, 2010, p. 2).

Over the decades, an extensive body of literature has been dedicated to exploring technology adoption (Murthy & Mani, 2013). Existing literature in the field has widely accepted the Technology Acceptance Model (TAM) by Davis from 1989 which can be considered a groundbreaking theory for later research (Davis, Bagozzi & Warshaw, 1989; Wahid, 2007; Calantone, Griffith & Yalcinkaya, 2006; Venkatesh & Davis, 2000; Chuttur, 2009; Marangunic & Granic, 2015, p. 81). Despite the later emergence of various alternative models, TAM has kept the attention of the Information Systems community by being parsimonious and theoretically justified (Chutter, 2009; Davis et al., 1989). In the model, perceived ease of use and perceived usefulness are regarded as the mediating factors in a complex relationship between system characteristics (external variables) and potential system usage (Marangunic & Granic, 2015, p. 81; Davis et al., 1989, p. 985). According to the author Davis, an individual's attitude towards the system significantly influences whether a system is used or rejected. Davis argues that the users' attitudes were influenced by perceived usefulness and perceived ease of use, while perceived ease of use also directly affects the perceived usefulness of the system. The system design characters directly influence both beliefs, perceived usefulness, and perceived ease of use. (Davis et al., 1989, p. 985).

TAM originates from psychological theories and is an adapted version of its' predecessor, the Theory of Reasoned Action (TRA). TRA was presented by Ajzen & Fishbein in 1975, becoming the first widely accepted theory to explain technology acceptance. TRA posits a versatile behavioral theory and models for attitude-behavior relationships. TRA addresses those behavioral intentions which are direct antecedents to certain behavior and are a function of salient information or beliefs about the likelihood that performing a certain behavior will lead to a specific outcome. Authors Ajzen & Fishbein divide the beliefs antecedent to behavioral intentions into two conceptually distinct sets, which are behavioral and normative. (Madden, Ellen & Ajzen, 1992, p. 3). In contrast to TRA, TAM is specifically tailored to model use acceptance of information systems (Samaradiwakara & Gunawardena, 2014; Davis et al., 1989).

Besides TAM, other widely accepted technology adoption theories which have created the base for technology adoption research are the Theory of Planned Behavior (TPB) by Ajzen and the Unified Theory of Acceptance and Use of Technology (UTAUT) by Venkatesh et al. in 2003. The Theory of Planned Behavior (TPB) is also a widely accepted extension of TRA, addressing the limitations of the TRA in dealing with non-volitionally controlled behaviors (Ajzen, 1991). Both models, TRA and TPB, propose that the ability to understand an individual's intentions and attitudes about a certain behavior is influenced by the individual's behavioral and normative beliefs and social norms. (Ajzen, 1991; Conner & Armigate, 1998). In contrast to the predecessor, the TPB model's central factor is the individual's intention to perform a given behavior. The TPB model perceives intentions to reflect the motivational factors that influence behavior, and these intentions indicate the strength of the willingness to perform a particular behavior. Therefore, TPB emphasizes that human behavior is jointly a function of intentions and perceived behavioral control (Azjen, 1991).

In its' literal sense, the Unified Theory of Acceptance and Use of Technology (UTAUT) by Venkatesh et al. (2003) aims to provide a united and comprehensive overview of the eight widely accepted technology adoption theories in academia. UTAUT is a

combination of the Theory of Reasoned Action (TRA) (Fishbein & Ajzen, 1975), the Technology Acceptance Model (TAM) (Davis, 1989), the Motivational Model (MM) by Davis et al. (1992), the Theory of Planned Behavior (TPB) (Ajzen, 1991), the combined theory of TAM & TPB (C-TAM-TPB) by Taylor & Todd (1995), Model of Utilization (MPCU) by Thompson et al. (1991), Diffusion of Innovations (DOI) (Rogers, 1995) and Social Cognitive Theory (SCT) (Bandura, 1986). (Attuquayefio & Addo, 2014, p. 249-250).

UTAUT merges the constructs from the eight models into four determinants indicating the predicted attitudes and usage, behavioral intention to use the technology, use of behavior, and four moderators which demonstrate the key relationships (gender, age, awareness, and voluntariness of use). As a result of these relationships, the determinants: Effort Expectancy, Performance Expectancy, and Social Influence impact Behavioral Intention (BI) and subsequently Use Behavior (UB). (Attuquayefio & Addo, 2014, p. 76). The first determinant, performance expectancy, describes the degree to which the individual considers the system's ability to improve performance at work. The second, effort expectancy, indicates the system's ease of use. Social influence, the third determinant, points to the degree to which the individual comprises that authorities believe they should use the new system. The final determinant, facilitating conditions, define the degree to which the individual perceives that organizational and technical infrastructure supports the use of the system. (Attuquayefio & Addo, 2014, p. 250).

As mentioned, the existing literature has extensively addressed the technology adoption by various researchers. However, technology adoption can comprehend a variety of technological solutions. In the following chapters, the theoretical framework will present the widely accepted theories addressing information technology systems adoption more in detail.

2.4 Information technology adoption

Technology-organizational-environment framework (TOE) is created by Tornatzky & Fleischer in 1990. Although the primary purpose was to explain technology innovation

adoption in general, the theory was adapted later to explain IT adoption theories (Oliveira & Martins, 2011, p. 11). The theory has been widely accepted in academia, for instance, in a study of open systems (Chau & Tam, 1997), enterprise resource planning (ERP) (Pan & Jang, 2008), and internal integration of e-business (Oliveira & Martins, 2010). (Oliveira & Martins, 2011, p. 114-115). In addition, the theory has been widely noted to be complementary to the previously mentioned theory of Diffusion of Innovations (DOI). Nevertheless, the TOE framework includes the environmental context, which is not included in the DOI. Therefore, the TOE framework has been argued to be providing constraints and opportunities for technological innovation also from an environmental perspective (Oliveira & Martins, 2011, p. 112; Low et al., 2011, p. 1010).

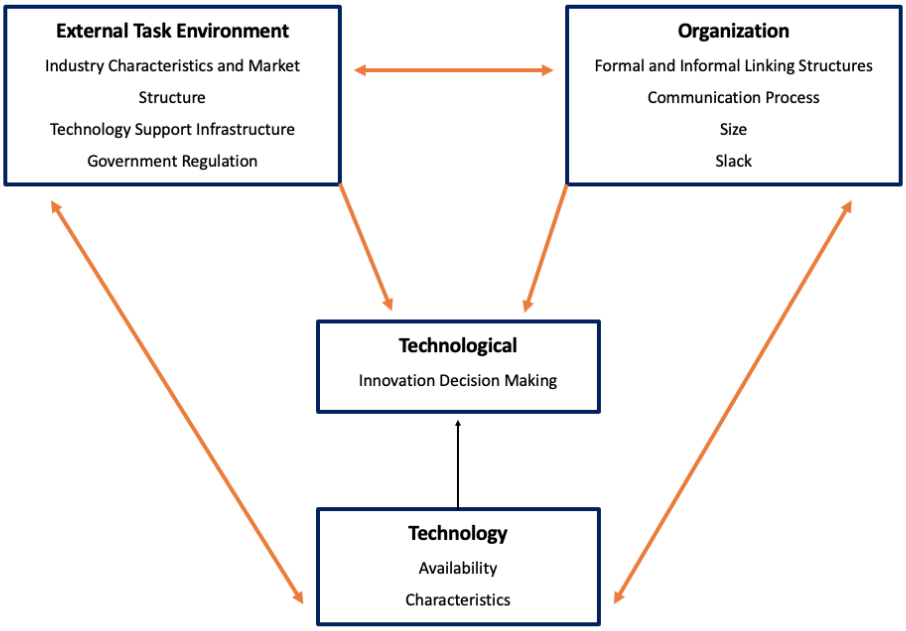

Figure 5. The Technology-Organization-Environment framework. (Baker, 2012; Tornatzky & Fleischer, 1990)

TOE framework describes the process of adopting a technological innovation at an organizational level (Baker, 2012, p. 11; Oliveira & Martins, 2011, p. 112). TOE framework identifies three contexts: technological, organizational, and environmental context (See Figure 5). (Baker, 2012, p. 11). In the technological context, availability emphasizes the

internal technologies already in use and external technologies which the organization could adopt. The internal, existing technologies that the organization is currently using set the scope of what is possible in the organization. Through external technologies, referring to technologies that are not adopted yet, the organization can evaluate the possibilities to develop the organization in terms of technology. (Baker 2012, p. 11)

Organizational context includes the characteristics and resources of an organization affecting the adoption of IT innovations. These characteristics and resources include formal and informal linking structures, internal communication processes, size, and the number of slack resources in the organization. For instance, organizational links between the internal subunits, cross-functional teams, and employees with informal or formal linking to other departments promote the adoption of innovations in the organization. On the other hand, the lack of organizational links prevents the adoption. The existing communication processes are also noted to either promote or prevent the adoption of IT innovations. Moreover, top management's approach to innovations can promote or prevent innovation adoption in the organization. According to the theory, top management can foster innovation in the organization by building skilled executive teams which can create visions for the organization's future, engaging innovation as a part of corporate strategy, and emphasizing the history of innovation within an organization. In addition, large organizational size has been argued to promote the adoption of innovations. (Cyert & March, 1963; Kamien & Schwartz, 1982; Scherer, 1980; Baker, 2012). Although big organizations often have increasingly more resources, the aspect has faced criticism as the organizational size does not necessarily promote adoption (Baker, 2012, p. 11)

Environmental context refers to the external conditions in the organization's environment, such as industry characteristics and government regulations. Environmental factors, such as intense competition in the business environment, can increase the willingness to adopt new technologies and expedite IT innovation adoption in organizations. (Oliveira & Martins, 2011, p. 112; Baker, 2012). Another environmental aspect impacting adoption is the 'support infrastructure,' referring to a situation where organizations with

skilled employees tend to innovate more to cut labor costs as it is necessary for them. In addition, the availability of skilled employees and technology service suppliers seem to foster innovation in the environment. Moreover, the effect of government regulation cannot be overlooked. Through novel constraints, organizations are often required to adopt innovations, such as GDPR. On the other hand, government regulations, for instance, privacy regulations, can also prevent organizations from adopting innovations if the organization is not convinced of the IT system's privacy and cyber security. (Baker, 2012, p. 12)

To explain the wide acceptance of the theory, Baker (2011) has argued that the TOE framework's generic nature makes it editable to suit different contexts, increasing the TOE framework's explanatory power in adopting information technology systems. For instance, the theory can explain the adoption at both, individual and organizational levels. Moreover, the author has argued that the TOE framework has received little critique and relatively few modifications after its initial development. Researchers have also noted that the TOE framework supports DOI theory in explaining the intra-organizational diffusion of innovation (Hsu et al., 2006, p. 11; Low et al., 2011, p. 1010).

2.5 Overview of the existing literature

The chapter began by outlining how digital transformation strategies support the implementation of corporate strategies, indicating the importance of technology adoption for corporations. The theoretical framework also presented the motivators for adopting innovations. New business requirements initiate the corporation for searching novel technological opportunities as a ´technology pull´. On the other hand, the impetus for digital innovations often originates from the emergence of novel digital technologies, inducing novel business opportunities as a ´technology push´. (Wiesböck & Hess (2019, p. 77).

The existing literature provides a variety of models and theories explaining technology adoption. Widely accepted theories to explain technology adoption at individual level includes theories of TAM, TAM 2, and UTAUT, for instance. The TAM model evolved from

the psychological TRA and TPB to become the key tool to understand human behavior toward potential adoption, and its' wide applicability across various technologies has been confirmed by numerous studies (Marangunic & Granic, 2015). Since most adoption theories are derivatives of one another, there are numerous similarities between them. The mutual agreement in theories explaining adoption in the individual level emphasizes the perceived benefits and usefulness of the system for the system user, the perceived performance expectancy, and overall, the user experience and user behavior in the implementation system. The overview of the existing theories of technology adoption is presented in Table 1.

Theory	**Main author(s)**	**Individual**	**Organizational**
Diffusion of Innovations Theory	Rogers (1983, 1995)	X	X
Perceived Characteristics of Innovations	Moore & Benbasat (1991)	X	
Social Cognitive Theory	Bandura (1986)	X	
Technology Acceptance Model	Davis (1989)	X	
Technology Acceptance Model 2	Venkatesh et al. (2003)	X	
Theory of Planned Behavior	Ajzen (1991)	X	
Theory of Reasoned Action	Fishbein & Ajzen (1975)	X	
Unified Theory of Acceptance and Use of Technology	Venkatesh et al. (2003)	X	
Diffusion/Implementation Model	Kwon & Zmud (1987)		X
Tri-Core Model	Swanson (1994)		X
TOE Framework	Baker (2012)		X

Table 1. Theories used in individual and organizational technology adoption research. (Adapted from Jeyaraj, Rottman & Lacity, 2006, p. 3)

Striking from Table 1, only a limited number of theories explain technology adoption at the organizational level. Since theories of Diffusion of Innovations (DOI) and Technological-organizational-environmental framework (TOE) are widely accepted in academia to

explain technology adoption at organizational level (Oliveira & Martins, 2011), the theoretical framework focused on explaining these theories in-depth. As outlined in the Diffusion of Innovations (DOI) by Rogers in 1983, innovations are subject to a certain amount of uncertainty, and social change aims to diminish the uncertainty by seeking and processing information. Innovativeness at the organizational level depends on three independent variables: individual (leader) characteristics, internal characteristics of organizational structure, and external characteristics of the organization.

Similar to DOI, TOE framework by Tornatzky & Fleischer in 1990 explains how technological, organizational, and environmental context influence the adoption of technological innovations in organizations. (Baker, 2012) In the technological context, availability emphasizes the internal technologies already in use and external technologies which the organization could adopt. The organizational context includes the characteristics and resources of an organization which affect on the adoption of IT innovations. The characteristics and resources include formal and informal linking structures, internal communication processes, size, and the number of slack resources in the organization. Finally, the environmental context refers to the external conditions affecting on the adoption of technologies, such as the industry characteristics and government regulation.

3 Methodology

This chapter presents the methodological choices applied for this research. The methodological choices of this research are emphasized in the form of research onion by Saunders et al. (2008) in Figure 6.

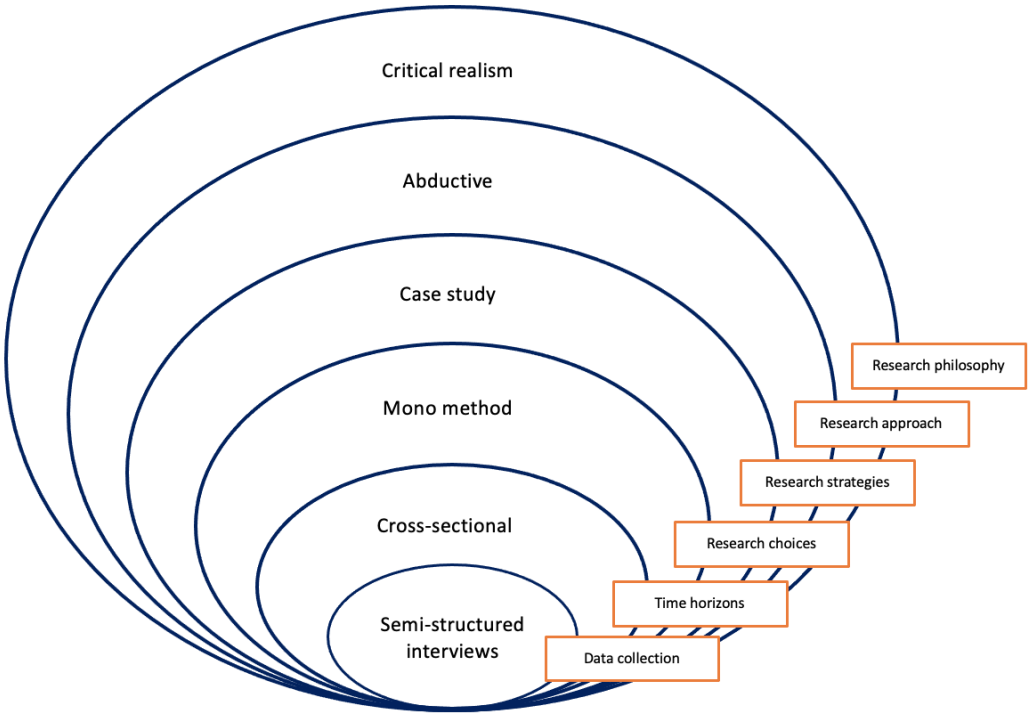

Figure 6. The research onion. (Adapted from Saunders, Lewis & Thomhill, 2008, p. 108)

The chapter begins by outlining the research philosophy, including the assumptions of the research, as these assumptions guide the methodological choices later in the research. The research philosophy is followed by addressing the research approach, whether the research is theory-building or theory-testing. Next, the chapter outlines the research strategy, providing the overall direction of how the research is conducted. The research strategy is followed by determining the research choices and time horizons. The final layer of the research onion addresses the chosen approach for the data collection. Finally, the credibility of the research is discussed.

3.1 Research philosophy

In the research onion, the first layer *of research philosophy* provides a basis for the further methodological choices of the research. Therefore, for conducting consistent research, it is necessary to identify and outline the research philosophy and the philosophical assumptions as the set of assumptions will develop a credible research philosophy guiding the methodological choice, research strategy, and data collection techniques and analysis methods later. Research philosophy refers to the system of beliefs and assumptions about knowledge development. While several research philosophies exist, and each philosophy contributes a particular way of seeing the organizational world, there is no philosophy better than other philosophies. (Saunders et al., 2008) The different philosophies contribute in different ways, and the most suitable research philosophy depends on the research question (Saunders et al., 2008, p. 109). *Positivism, critical realism, interpretivism, postmodernism,* and *pragmatism* are widely used research philosophies in business and management research. To distinguish the research philosophies, three research assumptions exist *ontology, epistemology,* and *axiology* (Saunders et al., 2008, p. 133). In the following chapters, the chosen research philosophy for this research is presented, and evaluated from the ontological, epistemological, and axiological aspects.

Traditionally, positivism and interpretivism have dominated information systems research for decades (Tsang, 2014; Orlilowski & Baroudi, 1991; Myers & Klein, 2011; Wynn & Williams, 2012). Despite positivism and interpretivism's wide acceptance in information system research, neither of these philosophies provides an appropriate approach for this research. Positivism creates law-like generalizations through scientific methods, observable and measurable facts that human interpretation has not affected. While this research aims to understand why organizations reject software systems in MNCs, the human effect cannot be overlooked, as humans conduct the decisions in the organizations on whether to adopt or reject the software system. Moreover, as the rejection decisions strongly depend on the organizations and the circumstances are unique, making law-like generalizations is not appropriate. On the other hand, as interpretivism is developed based on the critique of positivism, it emphasizes that humans create meanings

that distinguish them from physical phenomena and different social realities inhibit making law-like generalizations. Interpretivism focuses on narratives, stories, perceptions, and interpretations. Moreover, the axiological assumptions of interpretivism posit value-bound research, where researchers are part of the process. (Saunders et al., 2008). Therefore, the researcher's interpretations are essential, and the researcher posits a reflexive role in the research. However, this research critically observes the interpretations, perceptions, narratives, and stories to understand the underlying reasons for software system rejection. Further, when organizations reject a software system, they might exclude their counterparts from the negotiations for multiple reasons, and they might not disclose the real reason. As this research aims to dive into the underlying reasons for software system rejection, the researcher cannot apply for a reflexive role in the research to obtain criticality.

This research has applied critical realism to research philosophy. During the latest years, critical realism has gained more attention in information system research and other social science disciplines (Tsang, 2014, p. 176). Critical realism was appropriate for this research as it intends to explore the underlying causes and mechanisms that shape organizations' everyday lives to explain observable organizational events (Saunders, 2008, p. 114) Moreover, critical realism's most fundamental aim is to explain the question, "what caused those events to happen?" (Easton, 2010, p. 121). As this research explores the underlying reasons leading to rejection, critical realism was the most suitable choice for the research.

From its' ontological perspective, critical realism emphasizes reality as complex, rich, and with multiple meanings occurring through culture and language, which is essential in a multinational context. Critical realism's epistemological approach recognizes that knowledge is historically situated and transient, meaning that knowledge is a product of time and specific to it. The axiological assumptions of critical realism posit value-laden research, where the researcher's role is to be as objective as possible, trying to minimize bias and errors (Saunders, 2008, p. 144). Moreover, critical realism integrates a realist

ontology with an interpretative epistemology. It identifies that despite the existence of the real world, our knowledge of it is socially constructed and fallible (Archer, 1995; Bygstad & Munkvold, 2011, p. 1). As individuals representing corporations decide whether a corporation rejects a software system, considering knowledge socially constructed and fallible makes critical realism an appropriate research philosophy to understand the underlying reasons for rejection.

3.2 Research approach

The second layer of the research onion was the research approach, determining whether the research focuses on building theory or testing theory. (Saunders et al., 2008, p. 160). The two mainly used research approaches are *deduction* and *induction*. A deductive approach is concerned with developing propositions from current theory, and the research strategy aims to test these propositions in the real world. On the other hand, the inductive approach systematically generates theory from the collected data through data analysis. However, *an abductive approach* combines the deductive and inductive approaches. It is an appropriate choice whether the researcher intends to discover new information about other variables and relationships of the discussed matter. (Dubois & Gadde, 2002, p. 559).

The chosen approach for this research was the abductive approach. In an abductive theory construction, the research uses iterative data collection to develop a viable explanation for a particular phenomenon (Janiszewski & Osselaer, 2022, p. 176). As this research uses iterative data collection to develop an explanation for the underlying reasons leading multinational corporations to reject software systems, an abductive approach is justified. The abductive approach encourages a researcher to create an original theory distinct from the existing one. Further, an abductive approach does not involve testing extensions or confirming hypotheses of existing theories. (Janiszewski & Osselaer, 2022, p. 176). As an abductive theory construction does not have a basis in the existing literature, and the current academia lacks an understanding of software system rejection and technology rejection in general, the abductive approach is an appropriate research approach.

Nevertheless, an abductive approach does not have a base on the existing theories, it enables cross-fertilization from established theoretical models and new concepts derived from the confrontation with reality (Dubois & Gadde, 2002, p. 559). Although the existing literature lacks research on software system rejection and technology rejection, the theoretical framework of adoption theories provides a possibility for cross-fertilization. The existing theories of IT systems adoption, technology adoption, and digital transformation increase understanding of adoption. Although academia does not share a common sense, of whether adoption and rejection can be considered opposite actions, understanding the reasons for adoption decisions is vital in understanding the reasons for rejection.

The abductive research approach is also an appropriate choice with critical realism. Critical realism considers that the world includes two steps: the experienced sensations and events and the mental processing that takes place after the experience, 'reasoning backward' from an individual's experiences to the underlying reality that may affect it. Critical realists call the process of reasoning backward "retroduction," which is fundamentally abductive. Thus, the approach aims to make probable conclusions from the existing knowledge. (Tsang, 2014, p. 176). In that sense, through an abductive approach, the research provides the most probable conclusion of the reasons leading to the rejection from the collected data.

3.3 Research design

Moving forward in the research onion, the next three layers: *research strategies*, *research choices,* and *time horizons* formulate the research design of the study. Research design outlines how the research question is turned into a research project to answer the research question. Outlining the research design begins with determining the research strategy, followed by research choices. Finally, the time horizon of the research is determined.

3.3.1 Case study as research strategy

The next layer in the research onion is research strategy. The research strategies used for business research are an experiment, survey, case study, action research, grounded theory, ethnography, and archival research (Saunders et al., 2008, p. 141). This research adopted a case study as the research strategy. According to Robson (2002, p. 178) case studies involve empirically examining a contemporary phenomenon in its real-life context using multiple sources of evidence. A case study is also argued to be an appropriate choice for research strategy if a research's central purpose is to emphasize why a decision or set of decisions was made, how it was implemented, and what resulted from them (Yin, 2009, p. 17). As a case study is an appropriate choice to emphasize why a decision was made, and this research explores the underlying reasons leading to software system rejection in multinational corporations, choosing a case study for the research strategy is justified.

Moreover, according to (Saunders et al., 2008, p. 141), research strategy is determined by the research question(s), objectives of the research, the extent of existing knowledge, time, and other resources available, as well as the philosophical foundation for the study. As a case study is a preferred method when a *why* question is asked (Saunders et al., 2008, p. 146), and this research question began with "why" over a topic over which the investigator has little or no control, the case study is an appropriate choice. In addition, a case study is argued to be a strongly recommended research method for critical realism (Wynn & Williams, 2012), which this research has also adopted.

Similarly, case studies were an appropriate approach when the purpose of the research was to obtain a deep understanding of the context in which the research is taking place and the processes involved (Morris & Wood, 1991). Additionally, as this research aims to create a general understanding of the reasons leading to software system rejection without having to present any individual case studies separately, a case study is regarded as a suitable alternative (Saunders et al., 2008, p. 147). Choosing multiple case studies, is a preferred strategy compared to a single case study to provide generalized findings (Yin,

2003; Saunders, 2008, p. 147). As this research aims to create a generalized understanding of the reasons leading to software system rejection, choosing multiple case studies is recommended. The selected cases are discussed more in detail in chapter 3.4.1.

3.3.2 Mono-method as research choice

The next layer, research choices, determines whether the research will conduct mono or multiple methods for the data collection. This research was conducted as a mono-method approach, using one data collection technique. The mono-method data collection technique can be either qualitative or quantitative. In qualitative studies, the data is non-numerical, whereas quantitative data generates numerical data for the research. (Saunders et al., 2008, p. 151). The qualitative approach is an appropriate research choice to gather in-depth information on motives for actions (Flick et al., 2004, p. 203). As this research aims to understand the underlying attitudes and opinions leading to software system rejection in multinational corporations, this research was conducted as mono-method qualitative research.

3.3.3 Cross-sectional approach as a time horizon

The final layer of research design, time horizons, identifies the time frame intended for completing the research. According to the research onion by Saunders et al. (2008), the existing time horizons are *cross-sectional* and *longitudinal*. While the cross-sectional studies' time horizon represents a "snapshot" of a particular phenomenon taken in a specific time, longitudinal studies' time horizon observes the change and development in people or events over time. (Saunders et a., 2008, p. 155).

The chosen time horizon for the research is a cross-sectional study for practical reasons. As the time frame for conducting the research is limited, cross-sectional is an appropriate choice for the research. As the research aims to provide a general understanding of the reasons leading to software system rejection in multinational corporations, a cross-sectional study enables involving multiple interviewees from both sides, corporations,

and technology vendors, increasing the research validity (Yin, 2002; Eriksson & Kovalainen, 2015, p. 331). Furthermore, cross-sectional is an appropriate choice for the time horizon as it is widely accepted in case studies (Saunders et al., 2008, p. 155). While the existing academia lack understanding of software system rejection and technology rejection in general, exploring the current reasons leading to rejection in the presence is justified as only the current reasons for rejection are applicable. Thus, providing an understanding of the reasons leading to software rejection in the present has better managerial implications.

3.4 Data collection and interviewees

After several layers of the research onion, the core part represents the data collection. The chapter begins by providing the criteria for selecting the cases for the research. After outlining the cases, the chapter describes the data collection technique. Finally, the data analysis method, Gioia, is presented.

3.4.1 Case selection and interviewees

This research was conducted as a multiple case study, aiming to provide generalized findings of the reasons leading to software system rejection at an organizational level. The research included 13 cases. As the research combined critical realism for explaining why certain events occur, and an abductive research approach, methodological choices required rigorous explanations of the reasons leading to rejection. Interpreting only one side of the negotiation table may provide a limited perspective on the reasons leading to software system rejection. To provide rigorous analysis, the research uses data source triangulation. The research triangulates two perspectives: multinational corporations adopting these software systems and technology vendors participating in the negotiations and providing these software systems for MNCs. Besides conducting multiple case studies, triangulating two opposite approaches in the research increases the possibility of identifying more comprehensively similar patterns and atypical data (Thurmond, 2001, p. 254).

The case companies selected for the research are multinational corporations (MNCs) or corporations providing software services for MNCs. According to a definition of a multinational corporation, a company must do operations at least in one other country than the company's home country (Investopedia, 2022). In the ideal generalization, the research findings do not apply solely to similar cases but can apply to many dissimilar types of cases (Bennett, 2004, p. 50; Yin, 2014). To strengthen the generalizability of this research's findings, the research selected cases from dissimilar industries, such as a MNC from traditional manufacturing to the chemical industry. Moreover, the research included various dissimilar types of technology vendors, based on their organizational size, offerings, and the customers they work with.

As individuals are conducting the decisions in organizations whether to adopt or reject, this case study interprets executives from case companies. The units of observation are in executive positions as executives maintain a broad experience in negotiations from software system projects and in-depth knowledge of the reasons for rejection. In addition, the units of observation chosen for the research have extensive IT experience. Their experience in IT industry ranged from 10 to almost 30 years. In addition, although the research had already included triangulation by including customer and vendor perspectives, nearly all of them had worked on customer and vendor sides during their careers in IT. The previous experience from working on both sides improved the possibility of comprehending the underlying reasons for software system rejection more in-depth.

Interviewee	**Position in the company**	**Case company description**	**Perspective**	**Interview length**	**Language**
1	Lead Cloud Advisory	providing cloud-based software systems and consultancy, turnover 38 million EUR (2021)	Vendor	1h 7 min	Finnish
2	CEO & Founder	providing a cloud-based strategic management tool, turnover and countries not available (early stage start up)	Vendor	37 min	English

3	Senior Partner Development Manager	providing software, electronics, and computers, turnover 168 billion USD (2021), operating in 190 countries	Vendor	47 min	English
4	Head of Data Management and Data Platform	one of the largest producers of renewable and circular products and services in polymer and chemical industries, turnover 15 billion EUR (2021) and operating in 14 countries	Customer	59 min	Finnish
5	Business Unit Director	providing cloud and information security solutions, data, and artificial intelligence in IT industry, turnover 49 million EUR (2021), operating in 6 countries	Vendor	1h 4 min	Finnish
6	Senior Vice President	providing software and service solutions for various industries, turnover 156 million EUR (2021), operating in 3 countries	Vendor	1h 2 min	Finnish
7	Account Director	providing technology, data and design services in IT industry, revenue 125 million EUR (2021), operating in 6 countries	Vendor	1h 5min	Finnish
8	Head of Information management	providing technology, data and design services in IT industry, revenue 125 million EUR (2021), operating in 6 countries	Vendor	1 h 18 min	Finnish
9	Global IT Service Director	manufactures electrical distribution systems, electronics and components for commercial vehicle industry, revenue 1037 million USD (2021) operating in 13 countries	Customer	57 min	Finnish
10	Director of Data Sales	providing technology, data and design services in IT industry, revenue 125 million EUR (2021), operating in 6 countries	Vendor	1 h 13 min	Finnish
11	Head of Information management	providing tires for cars, trucks, buses, and other heavy-duty equipment, turnover 1.7 billion EUR (2021), operating over 60 countries	Customer	56 min	Finnish
12	CEO &	providing IT services, cloud computing and artificial intelligence	Vendor	1h 1min	English

	Co-founder	solutions, turnover 1.6 million EUR (2021), operating in 2 countries			
13	Sales Director	providing technology, data and design services in IT industry, revenue 125 million EUR (2021), operating in 6 countries	Vendor	1h 3min	Finnish

Table 2. Summary of interviews.

Multiple case studies are the preferred choice to ensure the trustworthiness and generalizability of the research findings. Moreover, the research should indicate literal and theoretical replication to provide generalized and trustworthy results (Nielsen et al., 2020). To ensure literal replication, the case companies are working in a multinational environment. Moreover, the units of observation are in executive positions with extensive experience in IT and almost all of them have been working on both sides, on the customer and technology vendor sides. On the other hand, theoretical replication is used to indicate contrasting yet predictable outcomes (Ebaneyamini & Moghadam, 2018). In terms of theoretical replication, the chosen case companies represent different industries. As different industries set dissimilar needs and requirements for these MNCs, it can provide contrasting findings. Moreover, MNCs have dissimilar organizational structures, organizational size and they operate in dissimilar countries, affecting their requirements and reasons for rejection. The dissimilarities between technology vendors also generate contrasting results. The technology vendors differentiated notably on their organizational size. The research included multinational and large technology vendors but also small, entrepreneurial technology vendors. Moreover, technology vendors' offerings differentiated, as some of them provided a limited scope of software systems, while others had various solutions. Also, technology vendors differentiated in geographical coverage. Some vendors had operations in three countries while another vendor in 190.

3.4.2 Data collection

As discussed in the research design, the data was collected in qualitative research methods. The chosen qualitative research method was semi-structured interviews to answer

the research question. As the units of observation were executives, the most suitable way was to interview, as managers are not intrigued filling out questionnaires if they find the topic relevant and interesting for them (Saunders et al., 2008) The semi-structured interview was a reasoned approach for the research, as it is used to gather data which will be analyzed qualitatively, and the data collected will likely be used for to explore the 'what' and the 'how' but also for places increased emphasis on explaining the underlying 'why' (Saunders et al., 2008, p. 321). As the research question was formulated as "why do multinational corporations reject adopting software system that supports a corporation's strategic management? "semi-structured interviews were a justified approach for the research. Moreover, semi-structured interviews are the most suitable for explanatory studies aiming to understand the relationships between the variables in a descriptive study (Saunders et al., 2008, p. 322).

Semi-structured interviews can be conducted as one-to-one or one-to-many types of interviews. Although group interviews could have provided interesting discussions between IT professionals, they were conducted as one-to-one interviews. The reasons leading to software system rejection can vary notably between organizations, and to gather all these dissimilar aspects, the interviews in this research were conducted as one-to-one interviews. Moreover, conducting the interviews one-on-one ensured that the results are not dependent on the opinions of other interviewees (Saunders et al., 2008)

According to Adams (2015, p. 496), a semi-structured interview guide must be conducted for the interviewees to outline the planned topics and questions to be addressed in their tentative order. The semi-structured interview guides were sent in advance for executives to enhance their possibilities to provide the most important in-depth information in the interviews. The interview questions were divided into three themes: *background information of interviewees and the organization they work for, reasons and motivations for adopting new technologies that they observed when working with customers and technology vendors,* and *the adoption/rejection process of a software*

system. The first theme, background information of the interviewee and the organization, aimed to create an understanding of the interviewees' perspective and experience on the discussed topic. The second theme, reasons, and motivations for adopting new technologies, addressed the research objectives and aimed to understand what drove corporations to adopt new technologies and which aspects were vital for them to adopt these software systems. The last theme addressed the adoption and rejection process of a software system and why multinational corporations decided to reject a software system.

The questions were formulated based on preliminary discussions of the topic with three IT professionals. Moreover, to ensure the functionality of the questions, the material was peer-reviewed and adjusted by an IT professional in advance. The potential interviewees were contacted through email for an agreement on whether they would like to be interviewed for the research. Additionally, the material for interviewees was sent with the first email to provide a brief overview of the research in advance. Besides the themes and questions, the material disclosed the research purpose, including research questions and objectives and interview practices, such as the platform and length of the interviews. Moreover, the material emphasized the high confidentiality of the discussions, ensuring that data collected during the interviews is entirely anonymous in the research.

The interviewees were conducted between the 30th of March and to 29th of April in 2022, in English and Finnish depending on the interviewee's preference. The interviewee length varied between 37 minutes to 1h and 18 minutes. All interviews were conducted as online interviews in Zoom, as the software does not require participants to have an account or a downloaded program (Gray et al., 2020, p. 1294). In addition, online interviews were a practical option for interviewing executives, as it does not provide time and financial constraints, geographical dispersion or physical mobility boundaries (Janghorban et al., 2014, p. 1). Therefore, online interviews provide flexibility for timing and interview length, and executives can participate in the qualitative study in their convenient space but still feel connected with the interviewer (Gray et al., 2020, p. 1297) In addition,

the quality of online interviews have argued to be similar with face-to-face interviews (Gray et al., 2020, p. 1294). The online interviews also provided the possibility for recording the interviews for later data analysis (Gray et al., 2020, p. 1297). The recordings were stored in Zoom's cloud storage first, and later on the researcher's computer. As Zoom automatically provided video and voice recordings as separate recordings, both of these were stored on the researcher's computer for automatic transcription.

Once the semi-structured interviews were conducted, the stored voice recordings were transcribed automatically in Microsoft Word by pasting the voice recording into the file. After transcribing the voice recordings, the researcher watched the video recordings to refining the automatic transcriptions. As the transcriptions were conducted and refined, the responses for questions were copied from the separate transcriptions into a new document under each semi-structured interview question. The responses were identified by interviewee numbers in the document. Once the responses from different interviewees were collected under each question, the data was ready for further analysis.

3.4.3 Data analysis

The interview data was analyzed based on the Gioia method as it provides a comprehensive and systematic way to structure the data. However, as the chosen research philosophy of this research was critical realism, the Gioia methodology follows the interpretivism research philosophy. Therefore, Gioia is commonly used to analyze a single case in-depth. Although Gioia's philosophical approach is not aligned with critical realism, the research has adopted the Gioia data analysis method, as the method provides a comprehensive and systematic way to structure the data. Thus, the entire Gioia methodology is not adopted.

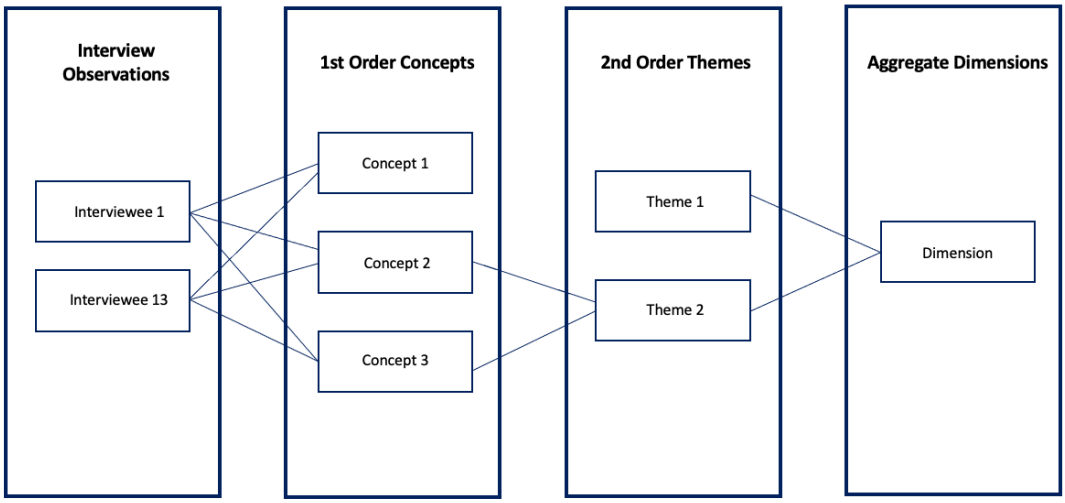

Figure 7. Data structure. (Adapted from Gioia et al., 2013)

Presented above, the figure visualizes the progression of data structure from raw interview data to aggregate dimensions. The pivotal step of the Gioia method is to gather the interview observations together for categorizing them into the 1st order concepts. The pivotal step includes similarities to Strauss & Corbin's open coding. In the first phase of the method, the observations from interviews are collected. Then the researcher seeks similarities and differences from these observations. (Gioia, 2021, p. 24). Based on these similarities and differences, the 1st order concepts are formed. During this phase, these observations are reduced from 50-100 to 20 different categories, for instance. In the second phase, phrasal descriptions or labels are given for the concepts. (Gioia, 2021, p. 25). According to Gioia itself, the researcher should aim to answer the key question of "what's happening here?" (Gioia, 2021, p. 25). In this 2nd order analysis, the concepts are named based on the aspects in which corporations evaluate the software's ability to respond to their expectations, formulating 2nd order themes. Eventually, the themes were synthesized into aggregate dimensions, which describe how the main concepts emerge from the interview data. (Gioia et al., 2013, p. 20).

After constructing the data into the 1st order concepts, 2nd order themes and aggregate dimensions, the data is structured for further analysis. As the data is structured into

visualized form, it provides the researcher the possibility for understanding how the concepts and dimensions relate to each other. Therefore, structured data is key to ensuring researchers (and demonstrating to readers) that qualitative research can be rigorous. (Gioia, 2021, p. 26). Following the visualization of the data into a graphic presentation, the research continues to analyze the data. From the sight of critical realism as a research philosophy and abductive research approach, the research continues to analyze the data. In the abductive research approach, the structured data is used for developing a viable explanation for the particular phenomenon (Janiszewski & Osselaer, 2022, p. 176).

Nevertheless, an abductive approach does not have a base on the existing theories, it enables cross-fertilization from established theoretical models and new concepts derived from the confrontation with reality (Dubois & Gadde, 2002, p. 559). Although the existing literature lacks research on software system rejection and technology rejection, the theoretical framework of adoption theories provides a possibility for cross-fertilization. The existing theories of IT systems adoption, technology adoption, and digital transformation increase understanding of adoption.

The abductive approach encourages a researcher to create an original theory distinct from the existing one. Further, an abductive approach does not involve testing extensions or confirming hypotheses of existing theories. (Janiszewski & Osselaer, 2022, p. 176). As an abductive theory construction does not have a basis in the existing literature, and the current academia lacks an understanding of software system rejection and technology rejection in general, the abductive approach is an appropriate research approach.

Nevertheless, an abductive approach does not have a base on the existing theories, it enables cross-fertilization from established theoretical models and new concepts derived from the confrontation with reality (Dubois & Gadde, 2002, p. 559). Although the existing literature lacks research on software system rejection and technology rejection, the theoretical framework of adoption theories provides a possibility for cross-fertilization. The existing theories of IT systems adoption, technology adoption, and digital

transformation increase understanding of adoption. As the academia considers adoption and rejection as an opposite action, understanding the reasons explaining adoption is vital in understanding the reasons for rejection.

3.5 Validity and reliability of the research

Evaluating the quality of research is vital for ensuring the trustworthiness of the research and that the research is considerable. Historically, qualitative research has received criticism for lack of scientific rigor (Cope, 2014, p. 89). A fundamental question for IB research is the extent to which research is rigorous or not, although no right and wrong answers seem to exist. Welch & Piekkari have pointed out that the quality of qualitative research in IB is based on social artifacts produced by the community itself. Therefore, the quality standards are a product of socialization, habit, and convention, as well as conscious reflection and debate. (Welch & Piekkari, 2017, p. 714)

To evaluate the quality of empirical research, Yin (2014) has determined four widely referred to and accepted aspects: construct validity, internal validity, external validity, and reliability. According to Yin, the researcher must respect these aspects throughout the research to ensure the quality of the research (Yin, 2002, p. 19). Therefore, in the following chapters, the credibility of this research is evaluated based on construct validity, internal validity, external validity, and reliability.

According to Eriksson & Kovalainen (2015, p. 305), validity aims to guarantee the research results' accuracy in measuring the phenomenon and that the results are supported by evidence. The validity of this research is evaluated by the three aspects determined by Yin (2014), which are construct validity, internal validity, and external validity. The construct validity of this research is guaranteed by using multiple sources of evidence (Yin, 2014). As the empirical part of this research included 13 interviewees and the units of observations were selected to include both customer and vendor representatives, the research includes multiple sources of evidence, increasing the generalizability of the findings. According to Yin (2002, p. 83), another aspect of increasing the construct

validity of the research is the chain of evidence in the research, referring to the explicit links between the questions, the collected data, and the findings drawn from it. These explicit links assist the reader in following the genesis of research findings, increasing the construct validity of the research. The methodological choice of using Gioia for structuring the data increases the construct validity as the method provides a visual representation of the research findings' derivation step by step.

The second aspect, internal validity, refers to the trustworthiness and accuracy of the research results and that the effect of other variables is minimal for the research (McDermott, 2011, p. 28). The internal validity of the research addresses the methodological choices of critical realism as research philosophy and the Gioia method for data structuring. Although the Gioia methodology is interpretive research philosophy and is often used for analyzing a single case in-depth, this research adopted critical realism for the research philosophy and the Gioia method for analyzing data. Even though the methodological choices suit the nature of the research, the combination is not widely accepted. However, since critical realism has interpretative epistemology, the Gioia method is highly suitable for analyzing the observations obtained via interviews.

Another aspect of Yin is external validity, which determines whether research results can be generalized to other situations (Yin, 2014; McDermott, 2011, p. 35). As in the ideal generalizability, the research findings are applicable in many dissimilar types of cases (Bennett, 2004, p. 50; Yin, 2014) this research chose cases representing the MNC perspective from dissimilar industries, such as from the chemical industry to electrical manufacturing. As the cases represent dissimilar types of cases and they do now represent a specific sample, the findings are applicable to dissimilar types of cases, increasing generalizability. Furthermore, the empirical part of the research includes 13 case studies, which can be considered a great number of cases in qualitative research, increasing the generalizability of the research findings (Yin, 2014).

In addition to construct, internal and external validity, using multiple forms of triangulation increases the research validity (Yin, 2002; Eriksson & Kovalainen, 2015, p. 331). According to Yin (2002), in case studies, researchers should review relevant literature and include theoretical propositions regarding the case being studied before conducting any data collection, distinguishing it from grounded theory and ethnography, for instance. Before the empirical part of this research, an extensive theoretical overview was conducted on adoption theories for data source triangulation. As the absence of existing academia lack research in IT and technology rejection in the organizational level, the theoretical framework was extended to explore technology adoption and rejection. Data triangulation before conducting the empirical part of the research assures accurate data interpretations (Yin, 2014). In addition to data source triangulation, the research increased validity through perspective triangulation (Yin, 2014), as empirical part triangulated two perspectives of rejection reasons: technology vendors and MNCs adopting software systems and evaluated these critically and compared the perspectives to another.

The final aspect of Yin (2014) is reliability. An objective measure of reliability is whether the techniques or procedures used to collect or analyze your data will consistently produce the same results (Eriksson & Kovalainen, 2015, p. 305; Saunders et al., 2008, p. 156). Replicating similar studies requires an explanation of the design and context of the research in depth (Saunders, 2016). The research onion was presented at the beginning of the methodological part to provide an in-depth explanation of the methodological choices of this research. The research onion (Figure 6) provides a visual representation of the methodological choices of this research in terms of research. Such an in-depth explanation of the methodological choices of the research increases the replicability to provide similar results, increasing the reliability of this research. Nonetheless, Saunders et al. (2016) have noted that complete replication is not necessary while reflecting social interpretations as social interpretations cannot be fully replicated.

4 Findings

This chapter presents the findings of this research. As the complexity of IT has increased, IT projects require plenty of resources, and the targets for IT projects are strict, MNCs evaluate several aspects affecting the evaluation of whether the software system project can deliver the expected outcome. Based on the interview data, five main dimensions are noted to lead to rejection: indistinctly defined business case, the software system's inability to respond to the business case, incoherent customer-vendor fit, complex execution process, and the software system's incoherency with MNC's digital transformation strategy. In the following chapters, the dimensions, and detailed reasons for software system rejection within each dimension are discussed in depth.

4.1 Indistinctly defined business case

The foremost reason for software system rejection originates from the beginning of the process, as the findings from the interviews indicate strong support between software system rejection and indistinctly defined business case (Appendix 1.). According to several interviewees representing vendor perspectives, the complexity of IT solutions has increased notably during the past decade. The complexity of IT challenges MNCs' abilities in comprehending their technological needs and defining clear aims and objectives for upcoming IT projects. These indistinctly defined business cases of the aimed outcomes guide the software system projects, generating unwanted or unexpected outcomes which do not respond to the MNCs' expectations, leading to software system rejection.

Indistinctly defined business case seems to relate to the challenge of determining the scope of the ambitions and expected outcomes. The majority of interviewees identified the challenge of finding the proper scope for the need, as the scope is often either too narrow or broad. However, interviewees did not share a similar approach to which extent the business case should be defined. The wide scope, including various needs and features that can be prioritized and narrowed later, was appreciated by interviewees

representing MNCs' perspectives. Especially this occurred in MNCs operating in traditional industries. On the other hand, almost all interviewees representing vendor perspective pointed out that the wide scope of the business case often leads to an indistinct business case, leading to rejection as the needs are not prioritized and the software system does not respond to the MNC's need. Although dissimilar perspectives occurred, findings indicated the importance of controlling the scope and prioritizing MNCs' needs.

> *"If the scope is not controlled and the needs are not prioritized, which are the most important features and which are like nice-to-have, the outcome can be a ragbag which the customer will definitely reject as it does not respond to their primary need." (Interviewee 13)*

Interview data indicate two main factors causing indistinctly defined business case: the form of the steering group and the steering group participants' position in MNC. In terms of the **form of steering group**, interview data indicated that the outcomes of defining a business case leading the software system negotiations, may not respond to the need as well as when the business unit is leading or being at least a part of the steering group. As the business case does not respond to the MNC's need, the software system will be more likely rejected. On the other hand, as the steering group identifies and defines the business case, their impact on the outcome of the business case is notable. Interview data indicate that no general form of steering group exists as MNCs have different approaches to how it is formed. Previously, the steering groups were mostly led by IT representatives, and the business unit of the matter participated relatively little in it. However, after several unsuccessful IT projects where the outcomes did not respond to the need, the business unit of the matter began to participate more in the business case definition. Nevertheless, according to interview data, some MNCs still prefer the centralization of the decision-making for IT. In the same vein, the outcomes of defining a business case do not respond to the business case as well as when the business unit is leading or being at least a part of the steering group.

Another factor causing the indistinctly defined business case is the **steering group participants' position in MNC**. According to interview data, as IT development projects are

expensive investments, MNCs aims to generate as wide benefits as possible for the MNC, not only for a single business unit. Therefore, business unit representatives' position in MNC affects the width of the business case. Participants higher in MNCs can have an extensive comprehension of the business and generate broader benefits from the software project to the MNC. On the other hand, interview data indicates that if the business representative position focuses on a narrow part of an MNC, the business case definition will more likely have a limited scope, and the benefits may be more centralized within the MNC. As MNCs seek software systems generating value broadly in the corporation, they may reject software system projects for narrow benefits, caused by steering group participants' position in the MNC.

4.2 Inability to respond to the business case

The second dimension of software system rejection is the software system's inability to respond to the business case, and to the MNC'S need for the software. The rejection decision is executed if the MNC is not persuaded of the software system's ability to respond to the business case.

> *"It's crucial to show the value (for a customer), and that's the difficult part. And if there is no business case, they will reject it." (Interviewee 3)*

Based on the interview data, a software system's ability to respond to the business case is evaluated from organizational, technological, and environmental aspects. The second dimension of rejection reasons is presented in Appendix 2, with the 2nd order themes and 1st order concepts of the Gioia method. The organizational, technological, and environmental aspects are discussed further in the following chapters.

4.2.1 The software system's inability to respond organizational needs

MNCs reject software systems for their inability to respond to MNCs' organizational needs. The findings indicate that general expectations for software systems from industry to industry are to optimize performance, provide financial benefits, increase

customer engagement, and increase employee engagement. Therefore, the software system's inability to optimize performance, provide financial benefits, increase customer engagement and employee engagement are identified reasons for rejection.

The first organizational need outlined in the business case is the software system's ability to optimize performance in the MNC. Nearly all interviewees identified the same ambitions relating to optimizing performance, which are increased sales, decreased costs, and optimizing production. As almost all software system projects aim to optimize performance, MNCs reject software systems for their **inability to optimize performance** in the MNC.

> *"Increasing efficiency, cost savings, finding new business opportunities, and increasing sales are all kind of what IT projects ultimately aim for, which are the same from company to company." (Interviewee 7)*

The second aspect of organizational drivers is the software systems **inability to provide financial benefits**. Interview data indicate that the software systems' inability to increase the comparability and flexibility of corporate finance is identified as a reason for software system rejection. Based on the interview data, the most typical financial benefits MNCs aim to reach through software system adoption are the transformation from capital expenditure (CapEx) investments to operating expenses (OpEx), and the total cost of ownership. MNCs aim to avoid capital-heavy investments as they present a notable record in the financial statements, decreasing the corporation's comparability in the eyes of shareholders, compared to corporations using software systems as operating expense investments.

Additionally, software systems as capital expenditure investments may create a lock for the MNC to use outdated IT solutions, MNCs are willing to prefer software systems with operating expenses. As investments in on-site solutions have a longer return on investment (ROI), compared to software systems with operating expenses, MNCs who have

invested in on-site, capital-heavy solutions may wait until the investment's ROI is received, before investing in novel solutions.

The total cost of ownership was another expectation from financial benefits. The interview data indicate that MNCs reject software systems if it does not increase predictability of financial factors. Novel IT solutions, like SaaS-based software systems, are more predictable on their cost base compared to CapEx investments, as these on-site assets can include various shadow costs from maintenance and storage. As shadow costs might be challenging to track, the total cost of ownership is also more complicated to determine for MNCs. Therefore, MNCs reject solutions, which do not improve cost predictability.

In addition to optimizing performance and financial attributes, findings indicate that a software system's **inability to increase customer engagement** can lead to rejection. Customer engagement is often increased through improved customer experience by improving the online purchase platform, providing more accessible omnichannel customer service, and responding faster to customers' continuously changing needs. Therefore, a software system is expected to support the MNC in creating new and developing existing business models, and the inability to increase customer engagement can lead to rejection.

> *"Optimizing performance, creating new business models, and new products and services are these kinds of general themes that organizations aim for, but also ambitions relating to customer experience goals that want to enhance that customer-experience but also employee experience. "(Interviewee 6).*

The fourth aspect of organizational need which can lead to rejection is the software system's **inability to increase employee engagement**. MNCs aim to increase employee engagement as it, directly and indirectly, increases customer engagement through engaged personnel obtaining ownership of their work. Additionally, several interviewees addressed employee engagement and their experiences of corporations' software systems

as a crucial aspect from the perspective of talent attraction as digital natives will more likely work for corporations using novel technologies and modern systems.

> *"I could say that smart entrepreneurs and companies see that it is also a kind of competitive advantage for them, that they have modern systems because it attracts the right kind of employees." (Interviewee 5)*

Although the research does not focus on how rejection decisions differ between industries, interview data indicates that the inability to increase employee engagement will more likely lead to rejection in MNCs having more specialists and experts compared to MNCs focusing on manufacturing, for instance.

4.2.2 The software system's inability to respond technological needs

In terms of technological needs, four reasons will lead to rejection, which are the software system's limited updateability, limited scalability, threats to cyber security, and fit to the overall IT infrastructure**.** As the business environment changes rapidly, a software system is expected to serve the current need of the corporation, increasing the importance of the updateability of a software system. The interview data strongly indicates that **limited updatability** can lead to software system rejection as the MNC cannot utilize the novel features available. Under such circumstances, a MNC may not respond to their customers' current needs, which restrict their agility and competitive advantage.

The main factor restricting a software system's updateability is customization. Although customization is often seen as a benefit, findings indicate that MNCs will more likely reject a software system requiring customization as it restricts the updatability. According to most interviewees, previously, technological solutions have been customized to fit corporations' unique needs. Customization has been reasonable as the technological solutions responded comprehensively to the organizational needs, the speed of development was relatively slow, and the additional costs from customization had a quick return on investment. However, as the development of technologies and software systems is exponential today, customization inhibits software systems' updateability. The findings

indicate that MNCs favor the 'generic building blocks' with relatively little customization to ensure the updateability of a software system.

> *"In other words, the aim is to make most of such generic building blocks whereas previously they were always customized to the needs of the company, and at worst, the modifications were done based on the previous system or software system's needs. So, in that sense, the same crap was copied to the new. (…) If it is customized too much, it is way more challenging to update it, and it is customers', and our benefit that the system is not too customized. "(Interviewee 5).*

Besides updatability, **limited scalability** is another factor affecting the software system's ability to respond to current needs. The findings indicate that MNCs tend to reject software systems that do not enable the possibilities to scale up and down their demands. As unpredictable changes and the speed of development in the business environment have increased the importance of scalability, MNCs' needs are continuously changing. Therefore, MNCs prefer software systems as on-demand services, and the inability to scale can lead to rejection, as the cost savings can be notable.

Moving forward in technological needs, **cyber security threats** represent the third aspect of technological needs that may lead to rejection. The findings indicate that concerns about the software system's cyber security often led to rejection as any threats to cyber security posit a notable strategic risk for the MNC if sensitive information is leaked. According to interview data, four concerns were identified relating to cyber security threats: data origin, open-source code software systems, public cloud, and competitors using the same software system. As MNCs' competitive advantage in the business environment is based on their sensitive information, concerns about cyber security are apparent. While MNCs execute their digital transformation strategies and transform from on-site solutions to SaaS-based solutions, threats to cyber security are expanded. MNCs have concerns relating to the origin of the data, as they may posit a threat to the competitive advantage of the corporation:

> *"It is a strategic decision; what is the origin of the data? Even though the name of the software system can relate strongly to English, and it may feel like its origin is*

> *in U.S or Europe, I have to figure out very carefully where it comes from, on what source code is built, to prevent the software system is installed to our operations and the code relates strongly to countries that do industrial espionage, because we have things that make us the global leader in the field. "(Interviewee 4)*

Evaluation of the data origin relates to a MNC's procurement guidelines to minimize possible threats. According to the interviews, organizations implement security audit trails to track, for instance, the origin of the data. The second identified cyber security threat relates to open-source software systems developed by open-source developer communities. Open-source software systems posit an increased threat to data security as the accessibility for the code is open, increasing the risk of hacking. The third concern relates to the public cloud. Although the public cloud provides various benefits, such as scalability and cost reductions, and its technological advancements have reduced security concerns, the findings still indicate a strong concern about the cyber security threats of the public cloud. A possible security threat can also relate to the competitors using the same system:

> *"We then must be careful that the kind of software system we use. In other words, is there an insecurity that if they use the same service, that information could leak to a competitor somewhere, even if there is a software system or technology vendor in between? These are the kind of things that are like strategic threats that can lead to rejection of a software system or technology project." (Interviewee 4).*

The final aspect of technological evaluation which can lead to rejection is the software system's **fit to IT infrastructure**, comprehending the three elements: integration to existing software systems and processes, modification, and the existing competencies in the organization. To deliver the expected value, the software system must be integrated into the overall IT infrastructure and work with existing systems. According to interview data, incompatibilities in the integration may require modifications or add-ins to enable the integration. However, many interviewees pointed out the challenge of modification and add-ins as it increases the additional costs for the project, risking the whole business case's profitability which leads to rejection.

> *"So, when new software system is purchased, it needs to be considered how to integrate it to existing information systems and environments. Or is the case that it cannot be integrated needing more manual work transferring the information between these different systems, which risks the whole business case." (Interviewee 6)*

MNCs' existing competencies can also decrease the fit to the overall IT infrastructure. Findings indicate that MNCs will more likely reject software systems in which the corporation does not have internal competencies already. Investing in novel internal competencies increases the costs of the software system adoption notably, which often decreases the business case profitability. As an interviewee put it:

> *"If we have competences for example in Microsoft systems and from cloud technologies in Azure systems, it is quite challenging to make the decision that we will now implement for instance AWS system. So, we need to understand our employees, not only the technology, because if we invest in new technology, we also need to invest to the internal competences." (Interviewee 11)*

4.2.3 The software system's inability to respond organization's environmental needs

Based on the interview data, three environmental aspects were identified to promote software system rejection. These environmental aspects were competitors' software systems, disruptions in the markets, and governmental regulation. As corporations aim to create a competitive advantage and stand out from the crowd, they may reject software systems, **used by MNC competitors.**

> *" It depends strongly if the software system creates competitive advantage or not. If the system creates competitive advantage and competitors are using the same system, organization is most likely reluctant to adopt same system. However, if the system supports some basic operations, then it does not matter. "(Interviewee 6)*

The findings indicate that corporations are rejecting software systems that their competitors use for value creation as well. Moreover, some corporations seem to reject software systems building a competitive advantage that their competitors are not using either. Thus, MNCs are building these solutions internally rather than adopting them externally.

According to interview data, corporations aim to have internal capabilities to code these systems internally to enable rapid changes and build competitive advantage.

Another aspect promoting rejection from the environmental aspect is **disruptions** in the business environment. Disruptions and their effect are particularly important for multinational corporations. As various disruptions exist, the effect strongly depends on the nature and extent of the disruption. For instance, interview data indicates that COVID-19 or Ukraine's invasion has restrained but also promoted the willingness to invest in novel software systems. While some corporations discontinued negotiations for investments, others saw these unpredictable times as an opportunity to improve the existing functions. However, some industries and corporations were increasingly willing to improve their existing business model to respond to the recent changes in the business environment. Thus, the effect of disruptions on MNCs is challenging to predict explicitly.

On the other hand, some interviewees pointed out that the effect of disruptions relates to a corporation's innovativeness and the ability to tolerate risks and uncertainty. Therefore, corporations that innovate more and have better abilities to tolerate risk often see disruptions as opportunities to develop existing functions rather than threats. On the other hand, corporations from traditional industries tend to innovate less. Furthermore, in uncertainty, such corporations reject novel software systems as they cannot comprehend their organizational needs for the future.

The final environmental aspect leading to rejection is the software system's **inability to respond to governmental regulation.** Corporations reject a software system if the system does not respond to the governmental regulation they must respect. According to the interview data, especially multinational corporations must evaluate the software system's ability to meet governmental regulations of all the countries they operate in. As the software system must meet the entirety of the governments' regulations the corporation must respect, it can often lead to rejection if the software system can respond only to a few governmental regulations. The less the software system meets the entirety

of governmental regulations the organization must meet, the more likely organization will reject the software system.

4.3 Incoherent customer-vendor fit

The third main dimension promoting rejection is the MNC's and software system vendor's incoherent customer-vendor fit. Based on the findings, both MNCs and technology vendors reject counterparts for potential threats that may cause challenges in their collaboration. Therefore, counterparts can reject each other for reasons affecting on this fit. The factors affecting this fit are divided into four themes: incoherent vendor characteristics, vendor's lack of relevant references and dissimilar future directions, dissimilar organizational cultures, and the threat of vendor lock (Appendix 3.)

> *"Is this the vendor that can meet the requirements, do they have the needed competence, do they have the right people on board, do they have capacity to deliver such projects, it this the kind of partner that we can count on, and do they have similar experiences on the field? These are the kind of concerns from us." (Interviewee 9)*

The findings indicate the vital importance of customer-vendor fit. Emerging from the interview data, the fit between customer and vendor is essential in every project even though the product is same. As an interviewee put it:

> *"… and then some of the projects succeed and some fail really badly, even though the basic product that for example, Microsoft delivers, is exactly the same." (Interview 5)*

4.3.1 Incoherent vendor characteristics

Incoherent vendor characteristics identified to promote rejection were vendor size, geographical area, and security threat. The first vendor characteristic to promote rejection is **incoherent vendor size** compared to MNC's needs. The findings from the interview data indicate that MNCS will more likely reject small-sized vendors. Typically, small vendors have considered agile and flexible partners providing benefits for big corporations

as they may have more power over small vendors. However, findings indicate that MNCs have multiple concerns for small vendors. For instance, MNCs may reject a small vendor for being the vendor's biggest customer, as financing the development of software systems is often on the shoulders of the biggest customers. Most interviewees agreed to be among the few big customers, to access the product development and share the development financing with other corporations rather. Contradictory, findings also indicate that MNCs can also reject a software system and the vendor if the corporation is a customer of a vendor having several big customers:

> *"Therefore, the size of the vendor is such a significant strategic risk what we need to validate, that if there is a company of three men making excellent software, what if they have sold the same software to 15 big customers? How well they can serve all these big customers 24/7 in 365? "(Interviewee 4).*

Thus, the size of the vendor is a contradictory question. Another concern relating to small vendors is the risk of becoming sold to big IT companies. The findings indicate that MNCs may reject the vendor for the risk of becoming sold to a bigger IT company as such changes often cause significant changes to the project.

> *"With small vendors, there is always a risk that the vendor will be sold, like couple of times has happened. It increases the risk for the future collaboration. For instance, if some key persons leave the company (vendor) because of that, it can affect a lot to the success of the project." (Interviewee 9)*

Changes in the ownership of the vendor seem to be a significant factor, as several interviewees pointed out the risk of key persons' resignations due to the vendor's organizational changes. The findings indicate that MNCs may be hesitant to take the strategic risk with small vendors as the information and competencies of key persons from small vendors do not transfer to the new participants, causing a significant risk to the project's success. The effect of key persons is also addressed in the next chapter 4.3.2.

Besides the vendor size, another factor of incoherent vendor characteristics leading to rejection is the vendor's **narrow geographical area**. Emerging from the interviews,

narrow geographical coverage can lead to rejection, as building additional supporting operations is complex and risky compared to choosing a vendor with either similar geographical coverage or broader.

> *"At least most of the countries should be covered, that we operate in. If the vendor cannot cover the countries that we operate in, we should build some support for it. Because of that, the vendor coverage should be at least the same as ours, because we do not go for vendors with smaller coverages." (Interviewee 9)*

Another reason for rejection in terms of the vendor's geographical area is the location of the data centers. According to interviewee 3, the importance of data centers has increased since Ukraine's invasion. Therefore, threats to vendors' geographical locations are strategic risks that may lead to rejection.

The **security threat** is the final aspect of incoherent vendor characteristics leading to rejection. Based on the interview data, counterparts may reject each other for concerns about counterparts' security. According to interviewees, counterparts often conduct various security checks. For instance, to ensure the vendor's financial stability, MNCs conduct health checks to minimize financial risks, such as the risk of the vendor's bankruptcy. Moreover, both counterparts often require KYC processes to ensure that no relations to sanctions lists occur:

> *"It does not matter whether we speak about customer or vendor, it is exactly the same: we need to know all the backgrounds, like other partners and ownerships. These sanction lists are now more important than ever. We cannot do any co-operations with companies with people on sanction lists, and of course, we need to monitor these changes constantly. We also need to monitor these relations continuously with existing partners." (Interviewee 11)*

As the interviewee pointed out, relations to the sanction list will directly lead to rejection. Moreover, several other interviewees pointed out that background transparency is crucial. Therefore, even though MNCs or vendors would not have straight relations to sanctions lists, counterparts may decide to reject them if the backgrounds are not transparent and traceable.

4.3.2 Vendor's lack of relevant references and dissimilar future ambitions

The second theme is the vendor's lack of relevant references and dissimilar future directions. Emerging from the interview data, the **lack of relevant references** from successful projects or unsuccessful references from a particular vendor leads to rejection. According to interviewees, a lack of references from similar cases is one of the most critical aspects of rejecting vendors. MNCs are actively following ongoing projects in the industry and looking for references. According to a majority of interviewees, references from unsuccessful projects often reach the audience quickly in the industry. As IT projects are expensive investments, MNCs rely highly on these references to avoid similar mistakes.

According to interview data, vendor references are also evaluated on an individual level. As key persons impact the project's success widely, MNCs may reject vendors for not having key persons with relevant experience from similar projects. Findings indicate that key persons' participation greatly impacts the decision-making on whether to adopt or reject a vendor and its' software system. As pointed out during the interviews, IT projects are complex and expensive. Therefore, MNCs aim to ensure project success by rejecting vendors for not having key persons with excellent references from similar cases.

> *"… sometimes we are buying key persons in these. Like choosing certain vendor to make sure that we get that one person to this project." (Interviewee 11)*

Besides vendor references, findings indicate that MNCs may end up rejecting vendors and their software systems for **dissimilar future ambitions** or if the vendor's competencies in executing these future ambitions do not seem realizable. As MNCs aim to build lasting partnerships, they tend to reject vendors with dissimilar future aspirations. When evaluating the fit of future directions and the competencies in executing them, MNCs often require a road map from the vendor:

> *"… a clear vision or road map for the vendor for their coming years for how to develop the services. If there isn't one who crazy dares to go along with that, even if it's this famous cloud service. They may not have the money to develop and the vision for development. So that is important, which can lead to a situation where*

> *the project is rejected. If the technology vendor can demonstrate a two-year plan for the future and I can identify with my colleagues that these important features are coming within two years, that definitely affects the decision-making." (Interviewee 4)*

However, interviewees also pointed out that the extent of the shared information about the road maps is often shared exclusively. The extent of shared information on future direction depends on the relationship between the vendor and customer, as more information is revealed to existing or new and highly potential partners. Therefore, MNCs may end up rejecting potential vendors as the vendors do not see the customer as a potential partner, they wish to share information extensively.

4.3.3 Notable differences in organizational cultures

The third main theme of incoherent customer-vendor fit explaining the rejection is notable differences in organizational cultures. While similar organizational cultures and communication tend to improve collaboration and promote success in the project, notable differences in organizational cultures decrease the possibilities of success. Usually, MNCs reject software and technology vendors, but notable organizational differences may result in that technology vendor rejecting the MNC as well if they don't see opportunities for collaboration. The aspects of organizational culture differences that lead to rejection are different ways of communicating and high power distances, which are discussed further in the following chapters.

The first aspect is **different ways of communicating**. A majority of interviewees pointed out that counterparts' inability to transparent and honest communication in the negotiation phase often leads to rejection as communication plays an essential role in succeeding in the project. Especially between MNCs and vendors, the different ways of communication, originating from cultural differences may be notable and prevent trust-building. In addition to different ways to communicate, findings indicate that MNCs may reject vendors for not having the possibility to communicate in their mother tongue. As software system projects may aim for significant organizational change, communicating in

the mother tongue may be a considerable aspect for the MNC to avoid challenges occurring from communication challenges.

> *“When adopting new systems or technologies, the projects are often declined because of the communication.” (Interviewee 4)*

The counterpart's **high power distance** is the second aspect of different organizational cultures that promotes rejection. Almost all interviewees representing vendor perspectives pointed out the challenge of high power distance, which indicates the extent of the issue in the industry. Results suggest that MNCs often consider themselves higher in power distance, which creates an overbearing position for themselves. Therefore, vendors often withdraw from the project because the overbearing approach between counterparts does not promote collaboration.

> *"Some customers see this traditionally, that they accept some vendor to make commands for them and mistreat the vendor. So, there are still organizations and organizational cultures where you can command, embarrass, and insult the vendor. It's absurd and does not promote building collaboration." (Interviewee 8)*

Interview data indicate that such culture often originates in a corporation's top management and their unsuccessful experiences in IT projects. Based on their unsuccessful experiences, the top management aims to avoid similar unsuccessful experiences by taking control of the situation.

> *“There are some traditional CEOs who have driven to that same mine previously and then share the wisdom that hopefully you have now put a ball and chain for the vendor and extent sanctions if the project does not meet the schedule. (Interviewee 5)*

The findings indicate that overbearing culture is often caused by the need for control, originating from a lack of trust in the project. There seems to be a consistency that corporations from traditional industries (i.e., mechanical engineering) often execute overbearing culture for vendors. On the contrary, corporations from more innovative and quickly changing industries can trust the vendor better. The ability to trust seems to

originate from conducting various innovative projects. The cumulative learning and experiences seem to increase their ability to trust the vendor, requiring less project control to achieve the aimed change.

4.3.4 Threat of vendor lock

The fourth theme is the threat of vendor lock. Vendor lock occurs as adopting organization's ability to change the vendor later is restricted. Based on the interview data, three main concerns of creating the vendor lock emerged, leading to rejection. The concerns are contractual vendor lock and the access to use the code in the future.

Organizations may end up rejecting the vendor and its' software system for the concerns of **contractual vendor lock**, in which the customer's ability to change the vendor is limited through legal agreements. Based on the interview data, even though the vendors' ambition is to be as transparent as possible, contractual vendor lock seems to be still a threat for organizations that they evaluate closely. This may relate to the MNC's previous experiences with vendor locks. However, the findings suggest that the threat of contractual vendor lock has decreased as it strongly leads to rejection by the adopting MNC, and counterparts have identified this notable factor for overcoming this barrier for adoption.

Another reason leading to rejection is MNCs' concerns of **access to use software system's code in the future** if they decide to change vendor. MNCs reject vendors and the software systems if access to the code is restricted in the future. The findings from the interviews indicate that eternal access to the code reduces the risk of vendor lock, promoting adoption. However, even if the vendor provides eternal access to the code, customers may reject the vendor and software system if they are not secure that it can be integrated into other vendors' software systems in the future. If the software system cannot be integrated into other vendors' systems in the future, it may create a vendor or technology lock for MNCs as they are forced to use that one system, which cannot be updated anymore.

4.4 Complex execution process

The fourth dimension of software system rejection is complex execution process. Despite the execution process takes place after the decision whether to adopt or reject the software system, MNCs evaluate this aspect as it has a notable effect on the success and profitability of the project. Two main themes emerged from the interview data promoting the rejection, which are change management's inability to meet expectations and exceeded risk tolerance. The dimension is presented in Appendix 4.

4.4.1 Change management does not meet expectations

According to interview data, MNCs reject software systems if it does not meet their expectations on change management. In terms of change management, three aspects were identified to promote rejection. These aspects are the project schedule, resources needed for the execution process, and changes in organizational structure. First, MNCs seem to reject software system projects if the **schedule** does not meet expectations, or the schedule does not seem realistic. MNCs set targets for the projects when the software system must be integrated and bring value for them. Extended schedule in large software system projects is problematic primarily for MNCs, as the changes in the business environment are exponential, and corporations must respond to these changes rapidly. MNCs also expect fast ROI on their investments, as extended schedules in software system projects increase the total costs notably, endangering the whole investment's profitability. Thus, significant extensions in the schedule may cause a software system's inability to respond to the need no longer, as new, improved versions of software systems are already in the market. Furthermore, some interviewees noted that software system projects with long schedules are more likely to become rejected. On the other hand, projects with short schedules are practical, since feedback is easier to receive, and making changes is easier if something does not work as wanted.

Another aspect leading to rejection is the **resources needed for the execution process.** The findings indicate that MNCs tend to avoid software systems requiring resources

extensively compared to alternative options. The resources required are evaluated to comprehend the overall profitability of the investment. According to interview data, the required resources, i.e., internal promotion and internal training, depend strongly on the corporation itself. However, interviewees from both sides add, that evaluating the resources needed for execution is challenging in the beginning of the project.

The final aspect focuses on **changes in organizational structures,** caused by the software system. The findings from the interviews indicate that MNCs reject software systems requiring significant organizational changes. As notable organizational changes increase the complexity and risks of succeeding in the project, MNCs aim to minimize these risks and choose software systems requiring only minor organizational changes. However, interviewees from the vendor side pointed out the contradictory nature of it, as at the same time, MNCs aim to choose software systems that are generic building blocks with high updateability. These generic building blocks often require more organizational change, compared to software systems that are modified to their needs. Therefore, MNCs prefer using these general solutions, which require organizational changes almost every time.

> *"Especially in these SaaS software systems the order is that we need to adapt to the software and its' requirements and in that sense, the ownership is very important so that we can communicate actively and understand well, how we need to change." (Interviewee 9)*

Thus, MNCs are often quite hesitant to make changes to their organizational structure. According to several interviewees, the vendor aims to support the customer in predicting these changes but points out that it's a complex issue and depends strongly on the MNC and its unique needs. Even though notable organizational changes can improve the corporations' operations, less innovative, traditional MNCs are hesitant to adopt such software systems because they lack experience managing notable organizational changes.

4.4.2 Exceeded risk tolerance

After identifying the aspects of change management in the execution process, MNCs evaluate the potential risks embedded in the software system project. According to several interviewees, corporations evaluate the possible risks and their ability to manage them. When these risks are not manageable, corporations will reject the software system as it exceeds the risk tolerance. In the following chapters, the factors causing exceeded risk tolerance are discussed more in detail.

> *"Organizations and people cannot tolerate failure. It's a big concern and therefore, innovations are a big question mark because of the risk they include." (Interviewee 13)*

The first aspect is the human effect. Although the focus is on the organizational factors impacting the rejection decisions, the human effect cannot be overlooked. Executives in corporations reject software systems for **fear of failure**. As top management demands success and failed projects are not an option when it comes to IT projects, it increases decision-makers' fear of failure. Increased fear of failure decreases the willingness to take risks, leading to rejection. Although less innovative options often generate less value, executives rather play it safe. Surprisingly many interviewees pointed out the risk of getting fired, indicating the importance of the personal benefit's effect on rejection decisions. The findings point out, how strict targets and high expectations seem to reduce MNCs' innovativeness when it comes to IT projects.

> *"Once, a Head of Innovations told me that I cannot fail because it looks bad on my CV. It's this kind of corporation game that they (executives) are also playing." (Interviewee 13)*

The second aspect is **disagreements on legal** aspects if the counterparts cannot agree on the terms and conditions of the project for managing the project's risks. Risk management is done via legal aspects, and MNCs may withdraw from projects if they cannot reach an agreement in legal aspects, exceeding their risk tolerance. Especially after the global pandemic and the war in Ukraine, global risks have been more apparent than ever.

Counterparts may share different perspectives, which are considered as force majeure circumstances and what procedures will follow. The finding indicates that disagreements on legal aspects may lead to rejection if the counterparts cannot reach an agreement on how to proceed under certain circumstances and which circumstances are the ones requiring special procedures. As these unexpected events like Covid-19 and war have increased the importance of force majeure aspects in legal agreements, it seems that some corporations have taken advantage over it to reduce the risk of vendor lock. According to vendors, some customers may want to include the right to withdraw from contracts under any unexpected events. However, it should be carefully evaluated, which kind of events will directly or even indirectly affect MNCs' operations and create force majeure circumstance.

4.5 Incoherency with digital transformation strategies

The final main dimension explaining the factors behind the rejection is incoherency with the MNC's digital transformation strategies. According to findings, MNCs reject software systems for their incoherency with digital transformation strategies that support other corporate strategies. The findings proposed two reasons leading to software system rejection: inability to improve information management, and inability to build digital ecosystems (Appendix 5.). Although incoherency with digital transformation strategies was identified as a reason for rejection, the findings indicated that building these digital transformation strategies and considering whether these are aligned with novel software systems is not widely accepted yet in the industry as approximately 30% of customers evaluate the coherency. However, increasing interest in building digital transformation strategies was identified during the interviews and these aspects are expected to have more importance in the future. Therefore, the incoherency with digital transformation strategies is acknowledged also in this research.

The findings indicate that software system projects are often conducted as separate projects rather than building a comprehensive digital transformation strategy. Although building comprehensive digital transformation strategies increases MNCs' competitive

advantage, the bottleneck seems to be the top management. As top management often determines strict schedules and budgets, assigns limited resources for IT projects, and is unwilling to build comprehensive digital transformation strategies, the software system projects are conducted as individual projects, rather than a part in building a digital entirety. However, interview data indicate an ever-increasing interest in building comprehensive digital transformation strategies to support other corporate strategies. Thus, if corporations aim to develop digital transformation strategies, they evaluate the software system's coherency with a digital transformation strategy. Therefore, corporations reject software systems for two main reasons, discussed further in the following chapters.

4.5.1 Inability to improve information management

MNCs reject software systems for their inability to improve information management. The findings indicate that software system is expected to increase the information flow in corporations by increasing the information accessibility internally. Therefore, the inability to increase information accessibility will lead to rejection. According to findings, through increased information accessibility MNCs can make better and faster decisions with more accurate information. Improved decision-making increases MNCs' strategic agility which supports them in responding to the existing business environment and improving their competitive postures. Strategic agility is important for every corporation, but especially crucial for MNCs, as they can have subsidiaries and acquisitions over the globe and responding to competition is challenging and smaller competitors have often more strategic agility.

Moreover, through increased accessibility to relevant information, MNCs expect software systems to increase information transparency as increased information transparency improves the decision-making in the MNC. However, an interesting finding from the interview data is that despite MNCs aim to increase information accessibility for improving decision-making in MNCs and reject software systems that cannot improve information transparency, top management may also reject software systems if it increases accessibility and transparency and threatens their power in the organization.

> *"The concern is often in the top management that the more you increase the transparency for the organization, the more you may reduce your own power and the weight of your opinion in the decision-making. Sometimes executives fear this as they do not want to reduce their power." (Interviewee 13)*

Thus, MNCs are willing to improve their information management, as it increases information accessibility and transparency, enhancing the decision-making in the corporation and they will decide to reject the software system if it does not fulfill these expectations. Therefore, the software system's inability to increase accessibility and transparency leads to rejection. On the other hand, the top management may reject a software system if it increases the information transparency too much and threatens their power in decision-making.

4.5.2 Inability to build digital ecosystems

The software system's inability to build digital ecosystems can also lead to rejection in MNCs. According to interviewees, although the idea of building digital ecosystems is not widely accepted yet, MNCs are increasingly interested in it. In this manner, they are assessing the software systems' capability to build digital ecosystems. Digital ecosystems can include for instance 'touch-ups' for stakeholders to receive the information they need, which would decrease the number of contacts and manual work, as a stakeholder, i.e., authorities have direct access to the relevant information, increasing the efficiency of the MNC.

Although MNCs are increasingly more interested in building digital ecosystems to serve corporations and their stakeholders better, findings indicate that software systems building digital ecosystems face concerns relating to cyber security. Despite building digital ecosystems that can improve the existing operations, corporations are concerned as these touch-ups for stakeholders can increase their cyber security risks. The cyber security risks seem to be one of the main reasons why some corporations are still hesitant to build these digital ecosystems.

4.6 Summary of the findings

The results of this research are summarized in Figure 8. The reasons leading to the software system's rejection in MNCs can be classified into five categories, which are indistinctly defined business case, inability to respond to the business case, incoherent customer-vendor fit, complex execution process, and incoherency with digital transformation strategies.

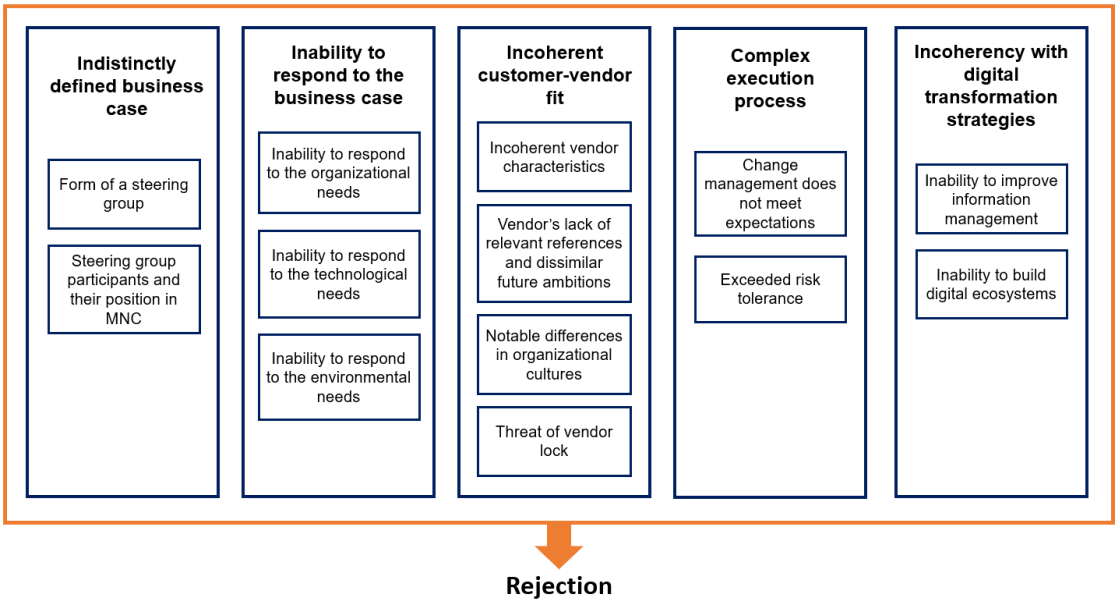

Figure 8. Reasons for software system rejection in MNCs.

According to the findings, an indistinctly defined business case may generate unwanted or unexpected outcomes which do not respond to MNC's expectations, leading to rejection. The form of the steering group defining the business case and the steering group participants' position in the corporation are the main factors causing an indistinctly defined business case. The second classification of rejection reasons, the software system's inability to respond to the business case refers to the software system's inability to respond to MNCs' expectations and needs in organizational, technological, and environmental aspects. From an organizational aspect, MNCs reject software systems for their inability to optimize performance, provide financial benefits, and increase customer and employee engagement. In terms of technological aspects, rejection reasons are limited

updateability, limited scalability, cyber security threats, and fit to the overall IT infrastructure. From an environmental aspect, MNCs reject software systems creating competitive advantage which are used by their competitors, environmental disruptions (i.e., war, Covid-19), causing uncertainty for a business environment, and if the software system does not respond to the governmental regulation(s), which the MNCs must respect.

The third classification refers to the MNCs and software system vendors' incoherent organizational fit. As IT projects are a notable investment, MNCs and technology vendors must evaluate their possibilities and potential for building successful partnerships. Therefore, incoherent vendor characteristics (size, geographical area, and security threat), vendor's lack of relevant references and dissimilar future ambitions, notable differences in organizational cultures, and the threat of vendor lock for MNCs have identified rejection reasons.

In the fourth classification, MNCs reject software systems for complex execution processes. MNCs may reject software systems if the change management (schedule, needed resources, and changes in organizational structure) does not meet the expectations. Moreover, MNCs may reject software system if it exceeds their risk tolerance. Factors causing exceeded risk tolerance is MNC decision-makers' fear of failure, as expectations are high and failed projects are not an option when it comes to IT projects. Another reason of exceeded risk tolerance is disagreements on legal aspects when the counterparts cannot reach an agreement on how to manage risks from a legal perspective.

The final classification of rejection reasons is the software system's incoherency with digital transformation strategies. MNCs reject software systems if it is not aligned with their digital transformation strategies, supporting other corporate strategy execution. In terms of the digital transformation strategy, software systems are rejected for their inability to improve information management, which has a direct effect on MNC's strategic agility. Through improved information accessibility, MNCs expect that information transparency will be improved, as better information transparency improves decision-making

in MNCs. However, top management may reject software systems if the increased information transparency threatens their power in decision-making. Moreover, software systems can be rejected for their inability to build digital ecosystems, which serve the whole MNC and its' stakeholders by building touch-ups for counterparts to effectively change the information they both need.

5 Discussion

In this final chapter, the findings from the empirical part of the research are summarized and reflected with the theoretical framework. The chapter begins by answering the research question and objectives and reflecting on key findings with the theoretical framework, followed by the theoretical contributions and managerial implications. Moreover, to ensure the transparency of the research, the chapter interprets the limitations of the research and proposes directions for future studies.

5.1 Responding to the research question and objectives

The research was carried for answering to the research question "why do multinational corporations reject adopting software systems that support their corporate management?" Moreover, two objectives were chosen for the research, which is “to understand reasons and the motivation for adopting technology for corporate management in MNCs” and “to explore the reasons and motivation for rejecting technology for corporate management in MNCs”. In the following chapters, the research will respond to research questions and objectives.

5.1.1 The reasons for MNCs to reject software systems

The reasons leading to rejection can be classified into five categories, which are indistinctly defined business case, software system’s inability to respond to the business case, incoherent customer-vendor fit, complex execution process, and software system’s incoherency with MNC’s digital transformation strategies. According to the findings, an indistinctly defined business case may generate unwanted or unexpected outcomes which do not respond to MNC’s expectations, leading to rejection. The definition of a business case was noted to be vital for succeeding in software system projects, as it leads the project, defines priorities, and the expected outcomes. The form of the steering group defining the business case and steering group participants’ position in the corporation are the main factors causing indistinctly defined business case. The software system

projects may not respond to the need as well if a business unit is not leading or being at least a part of the steering group. In addition, if the steering group's participants lack a comprehensive understanding of the MNC and cannot generate broader benefits for the corporation, this leads to rejection as the value generated from the software project seems insufficient to justify the investment.

The second classification of rejection reasons, the software system's inability to respond to the business case refers to the software system's inability to respond to corporations' expectations and needs in organizational, technological, and environmental aspects. From an organizational aspect, MNCs reject software systems for their inability to optimize performance, provide financial benefits, and increase customer and employee engagement. In terms of technological aspects, rejection reasons are limited updateability, limited scalability, cyber security threats, and fit to the overall IT infrastructure. From an environmental aspect, MNCs reject software systems creating competitive advantage which are used by their competitors, environmental disruptions (i.e., war, Covid-19), causing uncertainty for the business environment, and if the software system does not respond to the governmental regulation(s), which the corporations must respect.

The third classification refers to the MNC's and the software system vendor's incoherent fit. As IT projects are notable investments, MNCs and technology vendors strive to develop long-term partnerships and successful software systems and IT projects require fluent collaboration. Therefore, both counterparts evaluate their compatibility. MNCs reject technology vendors for incoherent vendor characteristics (size, geographical area, security threats), vendors' lack of relevant references and dissimilar future ambitions, notable differences in organizational cultures, and the threat of vendor lock. Moreover, technology vendors can reject MNCs if they do not see possibilities for fluent collaboration. Collaboration is essential for a successful software system project since the nature of the collaboration determines whether a project will succeed.

In the fourth classification, MNCs reject software systems for complex execution processes. Although execution takes place after the decision whether to adopt or reject is done, MNCs evaluate the expectations of the execution process: what kind of risks are involved in it, as risks' realization may threaten the project's profitability. MNCs may reject software systems if the project schedule, budget, and other organizational resources needed for the project do not seem realistic or meet expectations. Moreover, MNCs may reject software system if it requires changes in organizational structures, which the MNC is unwilling to conduct. MNCs may also reject software system if it exceeds their risk tolerance: decision-makers in MNCs can reject software systems for their personal fear of failure, as expectations for software system projects are high and failure is not an option. MNCs also reject software systems when they cannot agree on how to manage risks from a legal perspective with counterparts.

The final classification of rejection reasons is the software system's incoherency with digital transformation strategies. Digital transformation strategies are expected to increase strategic agility, improve information management, building digital ecosystems which serve the whole corporation and its stakeholders by building touch-ups for counterparts to effectively change the information they both need. A software system's inability to increase strategic agility, improve information management for better decision-making, and build digital ecosystems does not support the execution of a digital transformation strategy, leading to software system rejection.

5.1.2 The reasons and motivation for adopting technology for MNC

The research also responded to the chosen research objectives. The first research objective was to understand the reasons and motivations for adopting technology for corporate management in MNCs. From the research findings, rejection reason classifications 4.2 Inability to respond to the business case and 4.5 Incoherency with digital transformation strategies provide reasons and motivations for adopting technology for MNCs.

Chapter 4.2 explains the need and requirements for the software system from organizational, technological, and environmental aspects. From an organizational aspect, the reasons for MNCs to adopt technology are to optimize performance, including increased sales, decreased costs, and improved production. Moreover, MNCs are seeking financial benefits as novel technologies can enable the shift from capital-heavy investments to operating expenses and increased customer and employee engagement through modern and efficient software systems. From a technological standpoint, MNCs adopt technology to increase scalability allowing MNCs to pay for the usage of technology. They also adopt novel technologies for faster updateability, as faster updateability of the technology enables quick implementation of novel features. Moreover, MNCs aim for improving cyber security and harmonizing technology infrastructure as harmonized technology infrastructure provides seamless operations within MNCs.

MNCs adopt technologies also for environmental reasons and motivations. First, MNCs adopt novel technologies for standing out from their rivals and for creating a competitive advantage. However, the findings indicated, that MNCs are willing to develop technologies to create a competitive advantage within the corporation, rather than buying them, as it is more challenging to be replicated. Moreover, findings indicated that disruptions in the business environment tend to increase the motivation for adopting novel technologies in MNCs that tolerate risks and are innovative. Finally, MNCs may adopt novel technologies for fulfilling the governmental regulations they must respect if the existing technologies do not fulfill the regulations.

Emerging from chapter 4.5, MNCs adopt novel technologies for building coherent digital transformation strategies, supporting the implementation of other corporate strategies. MNCs adopt novel technologies which are aligned with the digital transformation strategy and support the implementation of other corporate strategies. MNCs adopt novel technologies to increase strategic agility which increases MNC's responsiveness to changes in customer preferences, improves information management for better decision-making, and builds digital ecosystems, serving the corporation and its stakeholders.

The reasons and motivations for adopting technology in MNCs are consistent with the technology push and pull model (Figure 4) presented by Wiesböck & Hess (2019, p. 77). According to research findings, the reasons and motivations for technology adoption originate from both, new business requirements (technology pull), which are implemented through novel technologies, and from the emergence of new digital technologies (technology push) providing novel business opportunities for corporations (Wiesböck & Hess, 2019, p. 76). For instance, optimizing performance, responding to governmental regulations, and increasing strategic agility for responding better to customers' preferences are new business requirements (technology pull) to which MNCs respond by adopting novel technologies. On the other hand, novel digital technologies provide various benefits for MNCs, such as financial benefits, scalability, improved updateability, improved cyber security, and harmonizing technology infrastructure, which provides business opportunities. Moreover, the findings support the claim by authors, that both drivers work in harmony and are aligned (Wiesböck & Hess, 2019, p. 76).

5.1.3 The reason and motivation for rejecting technologies in MNC

The second research objective was to explore the reasons and motivations for rejecting technology for corporate management in MNCs. Interview data indicated that MNCs reject technologies, if the technology does not meet the expected outcome in schedule, within the budget and if it requires more other organizational resources than expected. As MNCs are concerned about whether the technology investments can generate the value given the resources for the project, the guidelines for measurable indicators (expected outcome, budget, schedule, and other organizational resources) are clear and the technology must meet them. These reasons for rejecting novel technologies in general, relate strongly to the target settings in MNCs. As adopting novel technologies is vital for MNCs in remaining innovative and agile to meet the demanding needs and expectations of customers (Aydiner et al., 2019b, p. 229), the expectations for novel technologies are high.

Findings indicated that technologies are expected to solve various challenges for corporations, and they require plenty of resources to be implemented. According to findings, top management sets strict project frameworks to avoid similar unsuccessful experiences they have had in the past by determining strict frames for new technology adoption projects (schedule, budget, and other resources). In addition, top management seems to be unwilling to build and execute digital transformation strategies, rather than completing individual projects with strict target setting. The findings are aligned with academia, as top management's approach to innovations can promote or prevent innovation adoption in the organization. Top management can foster innovation in the organization by building skilled executive teams which can create visions for the organization's future, engaging innovation as a part of corporate strategy, and emphasizing the history of innovation within an organization. (Cyert & March, 1963; Kamien & Schwartz, 1982; Scherer, 1980; Baker, 2012) However, the findings indicate that if top management does not leave room for innovation and target settings are strict and failure may lead to getting fired, these structural aspects promote rejection as decision-makers cannot be completely sure whether the targets are met.

5.2 Research's synthesis to DOI and TOE framework

The findings of the research have synthesis with DOI and TOE frameworks, which explain technology adoption at an organizational level. The DOI theory comprehends three variables affecting the organization's innovativeness: individual (leader) characteristics, internal characteristics of organizational structure, and external characteristics of the organization (Oliveira & Martins, 2011, p. 111; Rogers, 1995, p. 359-361). According to DOI, the first variable, individual (leader) characteristic refers to an attitude towards change. The findings indicate strong support for the effect of individual characteristics in rejection decisions. The first aspect is that software systems can become rejected by executives for their fear of failure. Executives do not want to be associated with unsuccessful projects, so they reject software systems that go beyond their comfort levels in terms of risk and uncertainty. Furthermore, the findings suggest that top management's strict target setting may lead to a decrease in innovativeness, as innovative software systems

involve more risk and uncertainty threatening the target achievement. In that sense, top management's limited attitude toward change promotes rejection and prevents adoption and organizational innovativeness.

Moreover, the second variable, the internal characteristics' effect of DOI was supported partly by the research. First, the effect of power centralization of DOI was supported, as steering group form affects how the steering group will perceive the factors of software systems. If the power in the steering group is centralized to a business unit representative, the focus of the software system project seems to be more business and organization centralized. In that sense, software system projects seem to generate more value for the organization, promoting adoption. On the other hand, if the power is centralized to IT representatives, technical aspects seem to affect more on the decision-making and value for MNC and their business is limited, which promotes rejection.

Second, MNC's complexity was noted to promote rejection and negatively affect the diffusion of innovations. Adopting novel software systems is more complicated for MNCs as they comprehend big and complex entireties operating in various countries and continents and must respect multiple countries' regulations. Therefore, the organization's complexity increases rejection. According to DOI, the fifth aspect, organizational slack promotes adoption. The research findings were consistent with the theory, as MNCs with limited organizational slack will more likely reject various projects, as the adoption of software systems require often a great amount of time, money, and other organizational resources. With strict target setting, the projects are likely to be rejected. For the last, DOI identifies the organization's external characteristics effect, which refers to system openness. Based on the empirical findings, the lack of software system openness promotes rejection decisions. System openness refers to whether it can be extended and reimplemented in various ways in the future. The findings strongly support the theory, as the software system's updateability was a crucial factor to ensure that the software system responds to the current and future needs of an MNC. Therefore, the lack of system openness promotes rejection.

Moreover, the findings support the TOE framework as TOE identifies three aspects of the corporation's context, which influence the decision whether to adopt (Oliveira & Martins, 2011). These three aspects are technological, organizational, and environmental. The research findings are aligned with TOE, as MNCs reject software systems if it does not fulfill the expectations on technological, organizational, and environmental matter. The technological aspect includes the internal and external technologies of the organization. In MNCs software system's fit is evaluated to the overall IT infrastructure of the organization, which relates to TOE's existing internal technologies. According to the theory, the existing internal technologies set the scope for future technological innovations. Therefore, MNCs will reject software systems if it is not aligned with the IT infrastructure, referring to the existing internal technologies that set the scope for future technologies.

The findings are also aligned with TOE's organizational aspect. According to TOE, organizational innovativeness in the organizational culture and corporate strategy increases the adoption of innovations. The research findings indicate a similar outcome, as innovative MNCs who have adopted various innovations tend to reject software systems less as they tolerate risk better and know how to conduct successful IT projects. Thus, MNCs lacking experience in adopting innovations, are likely to avoid risk and uncertainty notably. According to findings, strict target setting promotes rejection, as innovations include risk and uncertainty and MNCs are not sure, whether the novel software system can meet the targets. Therefore, the strict target setting promotes rejection and reduces innovation, which is aligned with TOE. Findings are also aligned with the TOE framework, as MNCs reject software systems if it does not support their operations from an environmental aspect. MNCs reject software systems if it is used by their competitors and do not support their competitive postures. Moreover, MNCs reject software systems for unexpected disruptions in the environments, such as Covid-19 or other disruptions that increase uncertainty. Moreover, software systems must fulfill various governmental regulations, as MNCs are operating in various countries. Therefore, they reject software systems that do not fulfill all governmental regulations they must respect.

In addition to DOI and TOE framework, the findings also supported the digital transformation framework by Matt et al. (2015). Although Matt et al. (2015) determined four dimensions to support corporations to build digital transformation strategies, the model (Figure 3) seems to be consistent with the reasons leading to software system rejection as well. The four dimensions of the model were the use of technologies, changes in value creation, financial aspects, and structural changes. The use of technologies refers to the current state of IT in the model. The research findings indicated that MNCS rejects software systems for their inability to respond to technological needs, including the fit to the overall IT infrastructure (chapter 4.2.2). The second dimension of the model by Matt et al. (2015) is changes in value creation. Based on the findings, MNCs expect software systems to deliver various benefits affecting value creation by responding better to their customer's and their own evolving needs and requirements. As discussed in the findings (chapter 4.2), software systems are expected to deliver various changes in value creation; increased customer engagement, increased employee engagement, and optimized performance, for instance. The third dimension of the model is financial aspects. The findings indicated that MNCs aim for receiving financial benefits by reducing costs and prefer software systems with operating expenses rather than capital expenses. The final dimension is structural changes, which were not supported by findings. According to findings, MNCs seek innovative solutions bringing value to the whole organization. However, they are not willing to conduct notable structural changes in the organization and rather reject software systems that require structural changes.

5.3 Contributing to fill the identified research gap

Before this study, it was difficult to predict reasons for technology rejection in general, reasons for IT/IS rejection, and neither software system rejection. The findings of this research contribute to technology rejection literature by providing the first insights into the reasons leading to software system rejection at the organizational level. Although technology adoption has been widely researched (i.e., Rogers, 1995; Davis, 1989; Fishbein & Ajzen, 1975; Baker, 2012) technology rejection remains under-researched (Murthy & Mani, 2013, p. 2). As MNCs are increasingly dependent on the creative use of

IT/IS (Aydiner et al. 2019a, p. 168; Mithas et al., 2017), and reliance on software continues to grow (Reshko, 2020), proven, theoretical knowledge in the field is crucial for explaining software system rejection. Therefore, this research provided the first overview of the reasons leading to software system rejection in MNCs.

As the research did not focus on the technical reasons for rejecting the software system, it provides a view for understanding technology rejection in general and IT/IS rejection. Moreover, the research to date has focused on understanding technology adoption in an individual context, rather than in an organizational (see Table 1). Understanding the reasons leading to rejection in an organizational context is vital, as the reasons leading to adoption and rejection at the individual and organizational levels are different. Therefore, this research contributes to existing knowledge of technology rejection and software system rejection by providing the first comprehensive investigation of software system rejection reasons in an organizational context.

5.4 Managerial implications – what the findings mean in practice

The research provides multiple managerial implications. Although some reasons explaining IT/IS rejection have been provided (i.e., Pickup, 2022; Wilhelm, 2020), a comprehensive understanding of rejection reasons has lacked. The research's main managerial implication is that it opened curtains between counterparts to understand better the reasons leading to software system rejection. The managerial implication is particularly important for technology vendors for overcoming the barriers to adoption. Through these five classifications of rejection reasons, vendors can understand MNCs' concerns, ambitions, and priorities for providing better outcomes in software system projects, which promotes adoption. Knowledge of the customer's concerns and ambitions creates the possibility of open discussions. This leads to a greater degree of trust and shared understanding between the parties involved in the software project. As a result, it reduces the chance of rejection, builds collaboration, and forms long-term relationships.

The second managerial implication relates to target setting for IT projects in MNCs. The research indicated that strict target setting reduces innovativeness. As targets are strict and failure can lead to termination of employment, executives rather play it safe. Thus, innovative software projects building competitive advantage may become rejected if a project includes more risks and uncertainty than MNC is willing to take. As the MNCs' competitive postures are depending particularly on the creative use of IT and IS (Aydiner et al. 2019a, p. 168; Mithas et al., 2017), innovation plays an important role in building competitive postures. As strict target setting reduces innovativeness, MNCs must evaluate closely whether the target setting in MNCs prevents innovation, rather than encourages it. Moreover, caused of strict targets, MNCs are not able to build and execute digital transformation strategies supporting the execution of other corporate strategies. As strict target setting reduces innovativeness, software system projects are often projects, where the technology in the system is changed, but changing the technology merely did not bring any value to MNC.

5.5 Limitations and propositions for future studies

Addressing the limitations of research is an ethical element of scientific research, ensuring the transparency of the research and researcher, and providing transferability and reproducibility of methods. Limitations are addressed to ensure readers can discern the credibility of conclusions and generalize it accordingly. (Ross & Bibler Zaidi, 2019) Therefore, in this chapter, the limitations of this study are discussed and followed by propositions for future studies.

5.5.1 The lack of existing literature in technology rejection

The main limitation of this research is the lack of literature explaining technology rejection in general and software systems particularly at an organizational level. As noted in the introduction and theoretical framework, academia has been extensively interested in technology adoption, and the field of technology rejection has remained under-researched (Murthy & Mani, 2013 p. 2). Considering that the motivations and reasons

affecting rejection at individual and organizational levels differ, literature explaining technology rejection at the organizational level would have provided a better theoretical framework for this study. Therefore, theories explaining technology rejection at the organizational level could have provided better insights for understanding software system rejection in MNCs. The first proposition for future studies is to focus on understanding and explaining technology rejection at the organizational level. As mentioned in chapter 1.2, the definition of technology rejection varies in the literature and terminological confusion exists. Thus, the pivotal step is to create definitions for technology rejection and other relevant terms (i.e., technology resistance, non-adoption), which are often used interchangeably and without precision.

After defining definitions for relevant terms, a future study proposition is to fulfill the identified research gap in theories explaining technology rejection. Fulfilling the identified research gap in the literature explaining technology rejection is crucial as corporations are more hesitant in adopting novel technologies (Pickup, 2022), and MNCs' competitive postures are depending particularly on the creative use of IT and IS (Mithas et al., 2017, p. 439; Aydiner et al. 2019a, p. 168). While the research up to date has not been able to explain technology rejection nor software system rejection at an organizational level, this study aims to contribute to this growing problem of software system rejection, limiting MNCs' ability to build competitive postures by exploring the reasons leading to rejection. Literature explaining technology rejection is required for understanding the reasons explaining rejection and overcoming hesitations about adopting novel technologies, such as IT and IS.

Proposing approaches for future studies, researchers could benchmark from the field of technology adoption, as the Technology Adoption Model (TAM) was published already in 1989 and is considered a groundbreaking theory for later research on technology adoption (Davis, Bagozzi & Warshaw, 1989; Wahid, 2007; Calantone, Griffith & Yalcinkaya, 2006; Venkatesh & Davis, 2000; Chuttur, 2009; Marangunic & Granic, 2015, p. 81). As mentioned in the theoretical framework, TAM has kept the attention of the Information

Systems community by being parsimonious and theoretically justified (Chutter, 2009; Davis et al., 1989). Similarly, the field of technology rejection requires a comprehensive, parsimonious, and theoretically justified model to explain technology rejection. To become a widely accepted theory in academia, the theory explaining technology rejection should be adaptable to fit different contexts, technologies, and industries, as TAM has been. However, the future challenge in creating a comprehensive model of technology rejection is the rapid development of technology in the 21st century. Consequently, to gain widespread acceptance, pivotal theories explaining technology rejection must be both relevant to diverse contexts and explanatory despite rapid technological developments over the years.

Researching unsuccessful IT investments more closely could be another practicable approach for building theories explaining technology rejection in the field of IT and IS. As noted in the introduction, corporations are hesitant in adopting novel technologies as they are concerned whether the projects could deliver the expectations (Pickup, 2022). In addition, Aydiner et al. pointed out that significant IT and IS projects are noted to exceed budgets by 45%, surpass allotted time by 7%, and generate 56% less value than expected (Aydiner et al., 2019 p. 168). The findings by Aydiner et al. point out the identified challenges to managing successful IT projects, causing doubts for corporations whether the investment in IT. Moreover, the findings indicated that increased fear of failure decreases the willingness to take risks, leading to rejection. Consequently, determining what leads to failed IT projects could provide vital insight into overcoming similar challenges, and decreasing fears of failure when investing in novel software systems.

Future studies could also focus on investigating a single outcome, such as an exceeded budget or surpassing the allotted time, which factors caused the extension, and how budgets or schedules are managed in successful projects. Researching these unsuccessful IT projects has a strong managerial implication, as corporations are often making decisions based on their previous experiences. Therefore, identifying the factors which will

most likely lead to challenges could increase the MNCs' and technology vendors' ability to avoid them, leading to better outcomes in IT projects.

5.5.2 Sample form limits the findings' generalizability

The second limitation of this research identifies the sample form of this case study. As this research aimed to understand the underlying reasons explaining rejection in-depth, the case study included a limited number of cases (Yin, 2014). On the other hand, a small sample size may limit the research findings' generalizability (Yin, 2014). However, the findings of this research can be further strengthened by repeating the same findings in a second or third case study with a larger sample size (Yin, 2014). Conducting research with a larger sample size could provide more generalized findings, which is vital for fulfilling the identified research gap in the literature. Future studies could be also conducted as quantitative research to understand technology rejection characteristics within a certain population. However, the focus must be narrowed clearly, and it will require rephrasing the research question from 'what', 'how', and 'why' to 'how many' or 'how much', which will be answered by quantitative methods (McCusker & Gunaydin, 2015).

Another limitation relating to sample form limiting the findings' generalizability is the selection of studied cases which do not represent a known, less unknown sample form from a larger set of cases (Yin, 2014). This research selected cases from dissimilar industries to strengthen the generalizability of the findings (Bennett, 2004, p. 50; Yin, 2014). Despite technology drives a notable change in every industry (Hecht, 2018), the business environment and technology requirements vary between industries, affecting the reasons leading to rejection. Although this research did not focus on understanding industry influence on the results, some differences across the industries occurred. As the sample was relatively small and no consistent conclusions cannot be made, it warrants the call for studies on rejection within specific industries when focusing on industry specificities and their influence.

Therefore, a future study proposal could investigate the reproducibility of this research's results in a certain context. Future studies could choose cases from a known, larger set of cases and research whether the findings are replicable in a certain context, which can further strengthen this research findings' generalizability and provide information on how industry characters affect rejection decisions. Focusing on researching the industry characteristic's effect on the rejection has notable managerial implications as technology vendors can understand better the corporations in a certain industry for providing better solutions for their needs. In ideal generalization, the selected cases should not be completely identical but apply to dissimilar types of cases within a known sample from a larger set of cases (Bennett, 2004, p. 50; Yin, 2014).

5.5.3 Researching the dimensions, themes, and concepts more in-depth

This study provided the first classification of rejection reasons. The classification should be further tested and enhanced by future studies. The third limitation is the findings' wide scope, including these five main classifications of rejection reasons. The research adopted a wide scope as the aim was to provide the first classification of the rejection reasons. However, it limited the possibilities to gain an in-depth understanding of the classifications. Understanding these classifications in-depth is vital information for both corporations adopting software systems and technology vendors for overcoming the hesitations of technology adoption. Therefore, indistinctly defined business cases, inability to respond to the business case, incoherent customer-vendor fit, complex execution process, and incoherency with digital transformation strategies could be researched further for understanding more comprehensively the reasons leading to rejection among these dimensions.

Explained by examples, the incoherent customer-vendor fit, for instance, could be further researched by focusing on which factors increase or decrease the fit between the counterparts. The research could provide theoretical modeling of what kind of vendors can respond most effectively to certain corporation types' needs and requirements. In other words, which kind of counterparts have the least fit, and which kind of

counterparts have the most effective fit for building long-lasting partnerships. For instance, data security threats could be further investigated by focusing on which kind of concerns adopting corporations have in terms of data security. Although researching the dimensions, 2nd order themes and 1st-order concepts could provide more in-depth information on the reasons leading to rejection, the research should provide a general overview of the reasons leading to rejection, to provide a managerial contribution.

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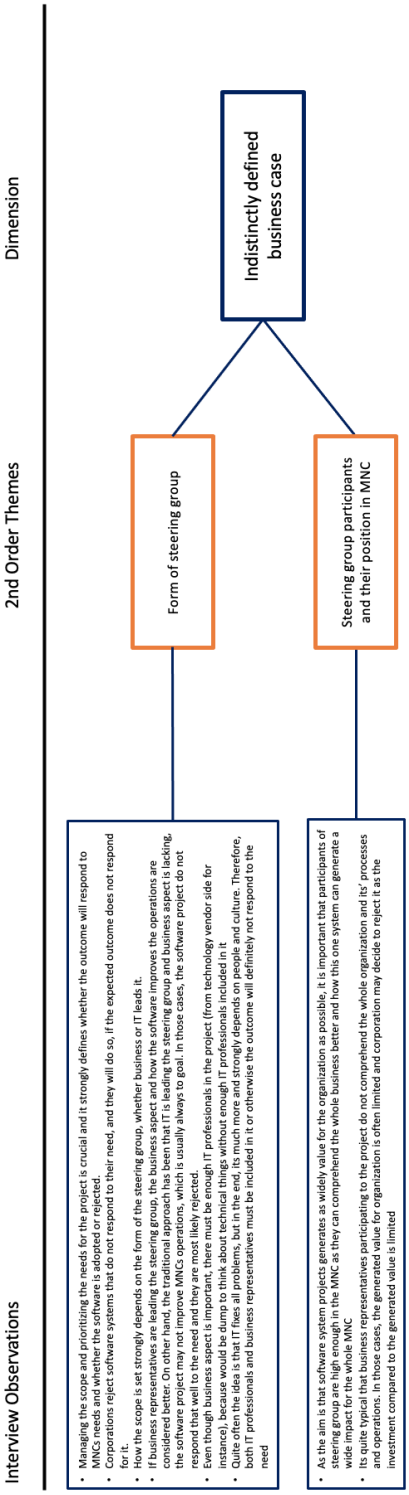
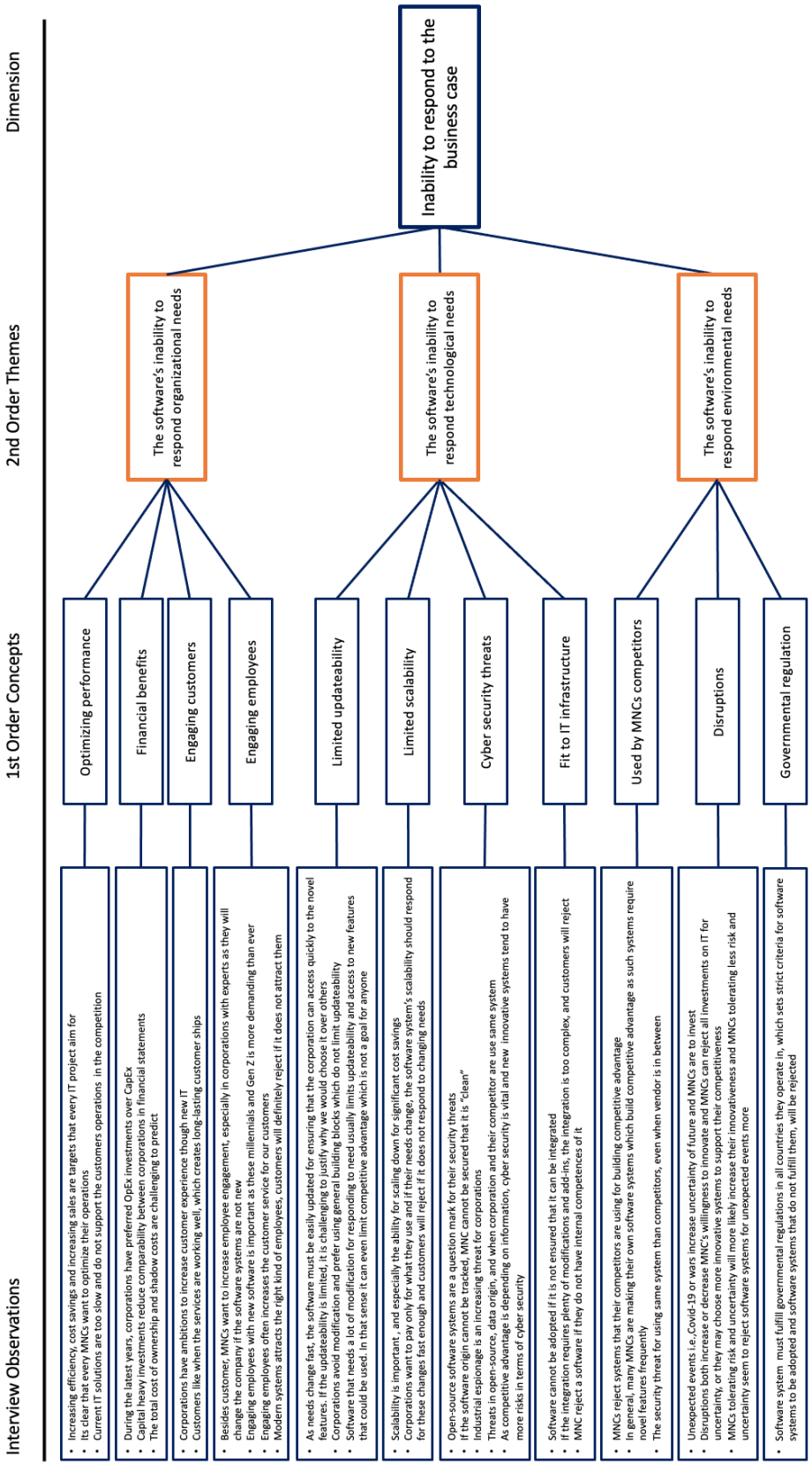
Appendices

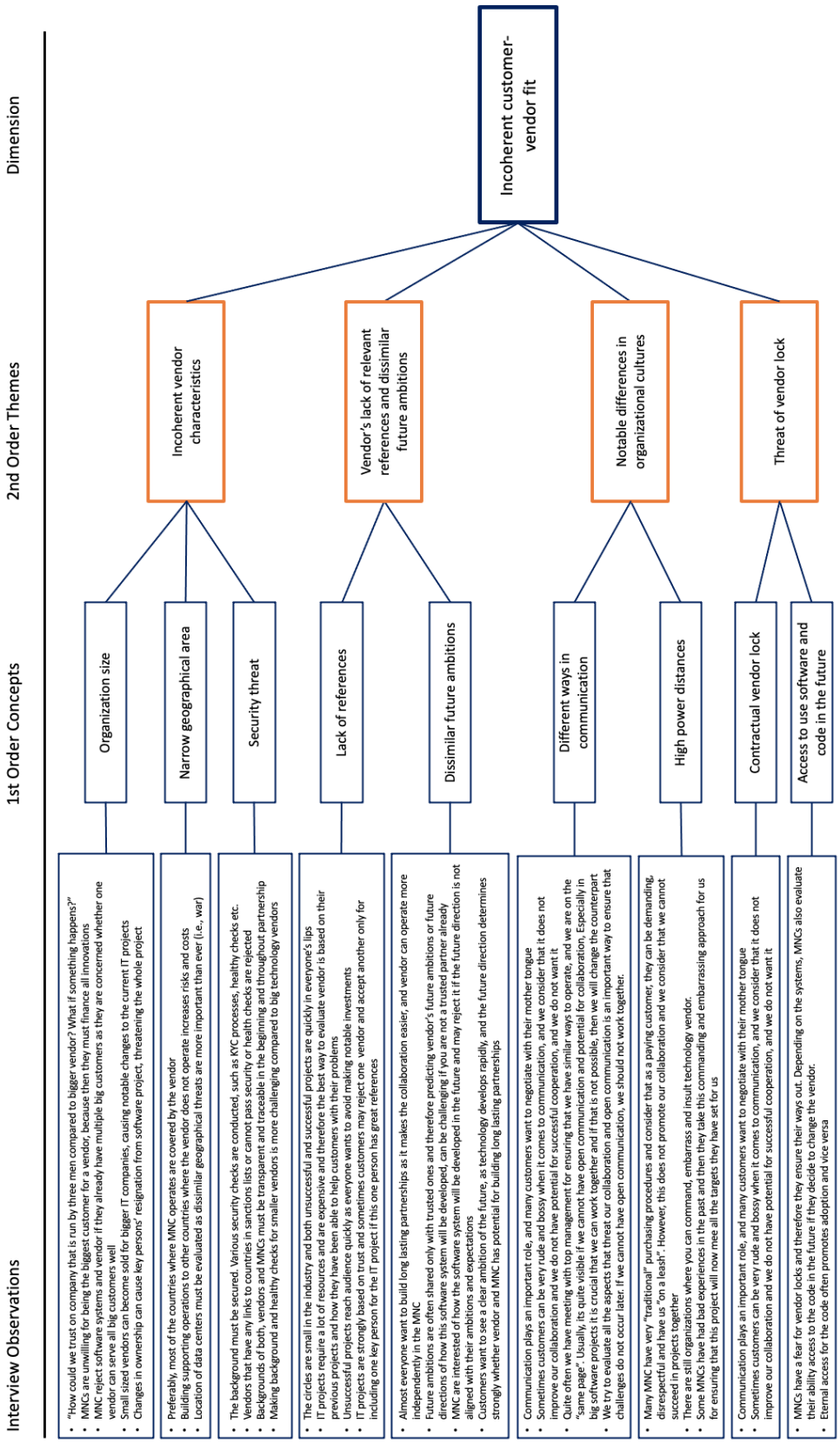
Appendix 1. Indistinctly defined business case



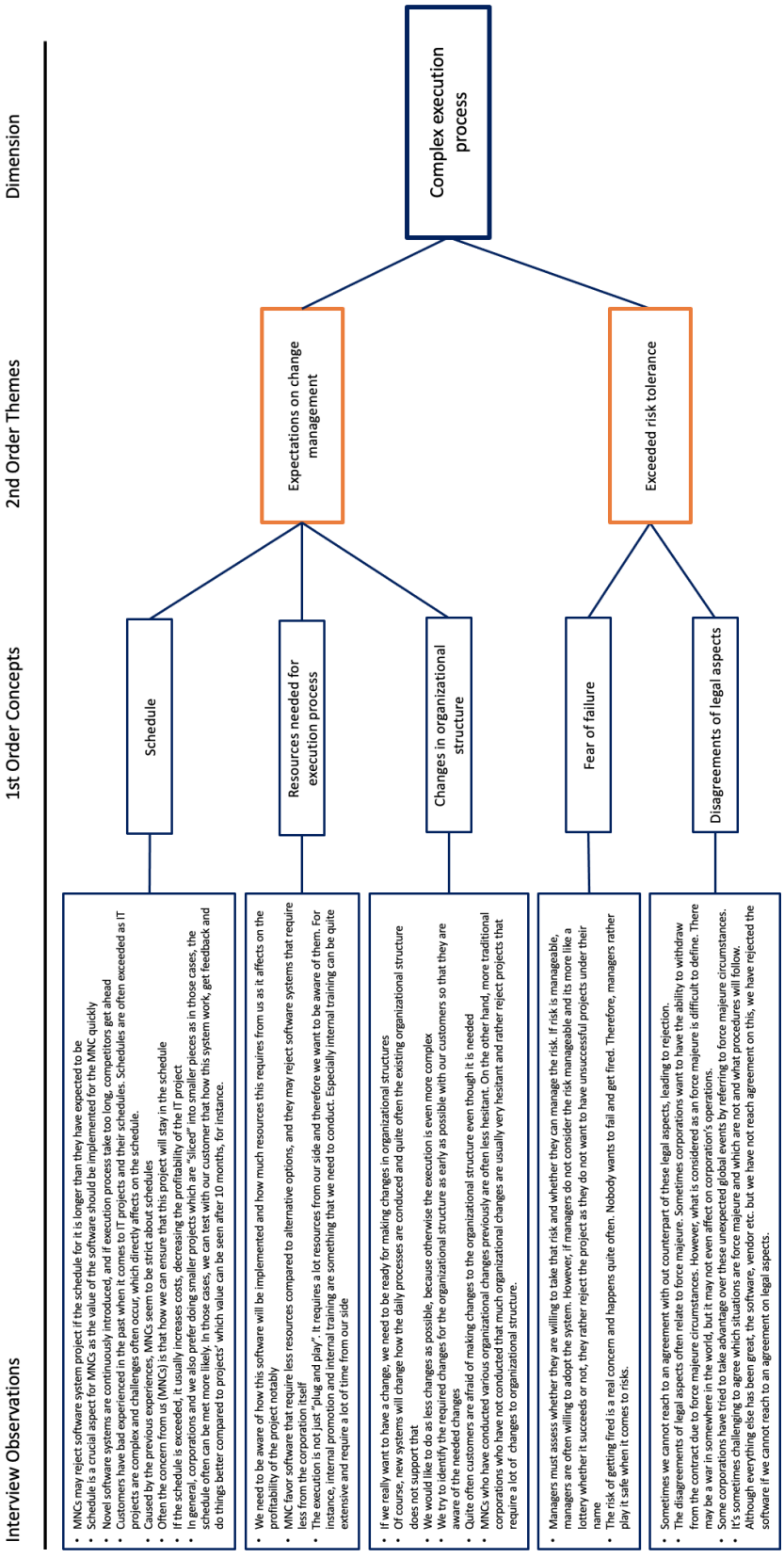
Appendix 2. Inability to respond to the business case.



Appendix 3. Incoherent customer-vendor fit



Appendix 4. Complex execution process



Appendix 5. Incoherency with digital transformation strategies