Success Factors in Digital Transformation: A Case Study of an Information Technology Company in Sweden

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Abstract

In today's digital era, Digital Transformation (DT) is crucial in empowering businesses to maintain competitiveness. However, many firms find it difficult to successfully implement DT projects, and many have had unsatisfactory results. As a result, Information technology (IT) organizations offer advisory services to assist other businesses in their DT efforts. There haven't been many empirical studies looking at digital transformation projects within IT organizations, despite the fact that IT companies are quite knowledgeable about the success elements required for the digital transformation projects of their clients to succeed. This study will answer the question, *what are the success factors in digital transformation in an IT Company in Sweden*. The research strategy was a case study that was applied at a Swedish IT Company. Semi-structured interviews with seven staff members who were involved in DT projects that had been successfully completed at the company were used to get the primary data. The participants in the study were chosen using a non-probability sampling method, and the results were analyzed using thematic analysis. The framework for technology-organization-environment (TOE) was used to categorize the success factors for DT that were identified in the literature. The study's conclusions identified seven potential DT success factors. The findings were categorized using TOE framework. Two of the potential DT success factors discovered are related to the technological context, five are related to the organizational context, and two are related to the environmental context. The identified potential success factors in DT are also categorized into ten different sub-themes, of which seven sub-themes are similar to those identified during the literature review in chapter two, while three of the sub-themes are newly identified. The newly identified sub-themes are *presence of skilled IT professionals, flexible goals towards digital transformation, and Access to Information and communication technologies (ICT) infrastructure.* The outcomes of this study have the potential to provide valuable insights for IT companies in Sweden that are currently involved in or planning digital transformation initiatives. The identified success factors can assist these companies in their digital transformation journey by offering guidance and direction.

Keywords: Digital Transformation, Success Factors of Digital Transformation, Information Technology Digitalization, Technology, Organizational, Environment, Framework, TOE framework, IT Company, Sweden

Synopsis

Background	*Digital transformation is the application of technology to significantly increase an enterprise's performance and reach. It is driven by the shift in the role of technology within an organization, allowing for new innovative business models, promoting sales growth, and providing a competitive advantage. Companies need to go beyond investing in technology and upscale their business models to be consistent with their digital transformation business strategies. A clear vision from the company's managers is essential for successful digital transformation. Companies must invest in an operational backbone to provide transaction transparency, access customer data, and support standardized business processes.*
Problem	*Digital transformation has become a popular approach for companies to improve their performance and value, but its implementation can be challenging. Mielli & Bulanda (2019) found that there is a disconnect between the potential benefits of digital initiatives and their successful implementation. McKinsey (2018) and Westerman & McAfee (2011) argue that only 20% of digital transformation projects are successful. Studies have been conducted on success factors in digital transformation, but no studies have been found specifically in Sweden. There is need for more empirical research to confirm and build upon these findings, especially within IT Companies. Academics and industry professionals can learn lessons that will help IT organizations successfully navigate digital transformation programs.*
Research Question	*What are the success factors in digital transformation in an IT Company in Sweden?*
Method	*A case study research strategy was applied during the study. Seven interviews were conducted with employees from the company who were selected using non-probability sampling. Interviews were conducted remotely using Google meet and later transcribed to allow for thematic analysis. To identify and classify the success factors in digital transformation, thematic analysis was used as the data analysis method.*
Result	*Ten potential success factors in digital transformation were identified as a result of the thematic analysis of the data collected from Company DB. Seven of the identified potential success factors in DT are similar to those identified during the literature review, while three of the success factors in DT were newly identified. The newly identified success factors in DT are presence of skilled IT professionals, flexible goals towards DT, and Access to ICT infrastructure.*
Discussion	*The thesis aimed to identify success factors in digital transformation at an IT Company based in Sweden. The research was constrained to a single case study conducted at a Sweden-based IT company. The study identified ten success factors in digital transformation, seven of the identified success factors in DT were similar to those identified in literature, while three of the factors in DT were newly identified. The study also included societal and ethical consequences, limitations, and future research, the quality of the conducted research as well as significance and originality.*

Acknowledgment

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List of Abbreviations

CAGR   Compound Annual Growth Rate

CAQDAS   Computer Assisted Qualitative Data Analysis Software

CDO   Chief Digital Officer

CEO   Chief Executive Officer

CIO   Chief Information Officer

CTO   Chief Technology Officer

DT   Digital Transformation

ICT   Information and Communications Technologies

IoT   Internet of Things

IT   Information Technology

PwC   PricewaterhouseCoopers

SEK   Swedish Krona

TOE   Technology, Organization, Environment

UI   User Interface

USD   United States Dollars

UX   User Experience

1 Introduction

This chapter offers a brief introduction to the background of the research topic, provides an argument for the research problem, states the research questions and delimitations. It ends by outlining the structure of the thesis report.

1.1 Research Background

Westerman, Bonnet & MacAfee, (2014, p.1) define "digital transformation as the application of technology to significantly increase an enterprise's performance and/or reach". Managers across all industries are using various digital technologies, including analytics, social media, smart embedded technologies among others to revamp their relations with customers, internal processes as well improve their value propositions (Westerman, et al., 2014). Tang (2021) describes Digital Transformation (DT) as being "driven by the tangible shift in the role of technology within an organization" (Tang 2021, p. 9). He argues that technology now plays a much bigger role within organizations, allowing for new innovative business models, promoting sales growth and even has the potential to provide competitive advantage. Digital transformation strategies, according to Westerman et al., (2014), focus on digital transformation in three key areas, i.e., customer experience, operational processes, and business models.

Digital transformation has also been driven by the development of multiple technology solutions, including social media, Internet of Things (IoT), Cybersecurity, Big Data and Analysis, Artificial Intelligence and Machine Learning, Big Data, and analytics to name a few. These technological developments have given businesses the tools they need to completely digitize and expand their enterprises. Correani et al., (2020), report that an increasing number of companies have adopted digital transformation strategies to remodel how they create and appropriate value. Correani et al., (2020) contend that for companies to sustain the benefits of digital transformation, they need to go beyond only investing in technology and upscale their business models to be consistent with their digital transformation business strategies. Davenport and Westerman (2018) assert that many high-profile digital transformations fail. Correani et al., (2020), report that 66% to 84% of digital transformation projects fail.

In Sweden, digital transformation describes the process by which Swedish businesses incorporate digital technology into their operations and processes to radically alter how they run and how they provide value to their clients. To optimize business operations and improve the customer experience, digital transformation may entail implementing new technologies like cloud computing, artificial intelligence, and the Internet of Things (IoT). (Schneider Electric, 2019). According to the Swedish Agency for Digital Government (2021), modernizing public services and raising residents' quality of life in Sweden requires a strong focus on digital transformation. In the private sector, digital transformation has grown in significance for businesses in order to maintain market competitiveness and keep up with technological developments. The Swedish IT market, valued at approximately SEK 400 billion, is projected to experience a compound annual growth rate (CAGR) of 5.2% approximately between 2021 and 2026. (Research and Markets, 2022). Compared to other countries, the Swedish IT market is known for its highly skilled workforce, favorable business climate, and strong government support for research and development. Furthermore, Sweden is recognized for its solid technological readiness and innovation, providing a favorable context for digital transformation endeavors (European et al., 2022). However, Khatiwada, Dhakal, and Pandit, (2020) noted that IT companies in Sweden could encounter various challenges if they fail to embrace digital transformation.

Sebastian et al., (2020) identify three essential fundamentals for successful digitalization of companies. These are a "clear digital strategy that defines a technology inspiration, an operational backbone that facilitates operational excellence and a digital service platform that enables rapid innovation and responsiveness to new markets" (Sebastian et al., p. 198). Sebastian et al., (2020) go on to further provide

recommendations for companies to use to map their digital transformation journey. First, a company must clearly articulate and define a digital strategy. They propose two types of digital strategies, a customer engagement strategy or digitized solutions strategy. Second, companies must invest in what they term 'an operational backbone'. An operational backbone is imperative in ensuring that a company meets its digital transformation objectives as it provides the foundational capabilities needed to "enable its digital services platform to provide transaction transparency (e.g., the supply chain) and to access customer data, and to support standardized business processes (e.g., customer account opening, secure access, orders, payments)" (Sebastian et al., 2020, p.207). Sebastian et al., (2020) also recommends that for successful digital transformation, companies must design a digital services platform and that the design of the digital services platform should consider the needs of partners and stakeholders. Lastly, in their quest towards digital transformation, companies must 'adopt a services culture', which means that the company must organize themselves around the services they provide.

Westerman et al., (2014) conducted a study that involved interviewing 157 executives from 50 large companies (those with more than 1 billion United States Dollars in annual sales) across 15 different companies. The companies interviewed were at various stages of implementing digital transformation projects, and the digital projects in the different companies were moving at various paces and had experienced various levels of success. They found that the best performing companies, those they nicknamed "digitari", were those that "combined digital activity with strong leadership to turn technology into transformation" (Westerman et al.,2014, p.1). Westerman et al., (2014) asserts that a company's ability to mix its digital activity with strong leadership is digitally mature, and companies that are more digitally mature than others perform way better than those who are not digitally mature. This therefore makes it apparent that a study of digital transformation does not only look at the company's ability to invest in and adopt digital technologies, but that an understanding of the company's leadership is also crucial in understanding the success factors for digital transformation. One critical success factor for digital transformation in companies is therefore a clear vision from the company's managers on how to digital transform their company (Westerman et al., 2014).

MIT's Sloan School of Business (MIT Sloan Management Review, 2016) define success factors in digital transformation as things that must be done or be in place for a company or project to succeed. Success factors in digital transformation are therefore defined, for the purposes of this research, as those elements and conditions that need to be considered and/or in place for digital transformation projects to succeed. It is important for managers embarking on digital transformation journeys to understand what are the conditions and elements they need to have in place for their digital transformation projects to be successful.

1.2 Problem

Digital transformation has become a popular approach for companies to improve their performance and value in recent years. According to Sahu, Deng, & Mollah, (2018), digital transformation can offer numerous benefits for organizations, such as improved organizational processes, enhanced customer collaboration, and better quality of customer services. It can also reduce the cost of services and products, providing organizations with a competitive advantage. However, the implementation of digital transformation can be challenging. Mielli & Bulanda, (2019) found that there is a significant disconnect between the potential benefits of digital initiatives and their successful implementation. Kane, Palmer, Philips, Kiron, & Buckley, (2017) reported that the success ratio of digital transformation implementation is only one (1) out of five (5). According to a study by McKinsey, many digital transformation projects fail for various reasons, such as lack of alignment with overall strategy, insufficient investment, and resistance to change (McKinsey, 2018). Westerman & McAfee, (2011) also argue that only 20% of digital transformation projects are successful.

For companies to remain relevant and competitive in their domain, it is crucial for them to embark on a digital transformation journey to automate organizational processes and maximize efficiency. IT companies that do not adopt digitalization are more likely to fall behind their competitors in new technologies and innovations, leading to a loss of market demand and decreased competitiveness (Matt, 2015). Failing to adopt digital technologies may result in IT companies struggling to automate

organizational processes, reducing efficiency and profitability (Sahu, Deng, & Mollah, 2018). Without digital transformation, IT companies may experience poor customer collaboration and suboptimal quality of customer services, damaging the company's reputation and customer retention (Sahu, Deng, & Mollah, 2018). The absence of digitalization also limits an organization's ability to collect and access real-time data, which is valuable in making better business decisions. Earlier research indicates that only (Westerman & McAfee, 2011).

While there has been a number of studies (Digital Transformation in the Public Sector: Identifying Critical Success Factors, Jonathan (2020); Digital Transformation: Drivers, Success Factors, and Implications, Osmundsen et al., (2018); Determining Digital Transformation Success Factors, Morakanyane et al., (2020); An Updated Framework of Factors Enabling Digital Transformation, Rueckel et al., (2020); and Research on Successful Factors and Influencing Mechanism of the Digital Transformation in SMEs, Zhang et al., (2022)) on digital transformation and its effect on organizations, there is still a paucity of knowledge regarding understanding the specific success factors in DT that drive effective digital transformation initiatives in the IT sector in Sweden. Several authors (Jonathan, (2020); Osmundsen et al., (2018); Morakanyane et al., (2020); Rueckel et al., (2020); Zhang et al., (2022)) have conducted studies on success factors in DT focusing on different companies and countries, but very few studies were found specifically on success factors in DT in IT companies, and no studies were found on the topic in Sweden. For example, Jonathan (2020) conducted a study on success factors in digital transformation in public organizations. His study focused on a city administration in Ethiopia. Osmunden et al., (2018), conducted a systematic literature review focusing on empirical contributions in the Information Systems (IS) field. Their study provided explanations on why organizations go through digital transformations and the effects digital transformation has on organizations. Morakanyane et al., (2020) also conducted a literature review of articles on success factors in digital transformation and came up with a list of seven success factors in DT and 23 subfactors, which they considered the first steps towards building a digital transformation framework that managers planning to undergo digital transformation can use as a reference.

Although these studies (Digital Transformation in the Public Sector: Identifying Critical Success Factors, Jonathan (2020); Digital Transformation: Drivers, Success Factors, and Implications, Osmundsen et al., (2018); Determining Digital Transformation Success Factors, Morakanyane et al., (2020); An Updated Framework of Factors Enabling Digital Transformation, Rueckel et al., (2020); and Research on Successful Factors and Influencing Mechanism of the Digital Transformation in SMEs, Zhang et al., (2022)) identified success factors in DT such as leadership commitment, organizational culture and technological infrastructure as significant contributors to effective digital transformation, there is need for more empirical research to confirm and build upon these findings especially with IT Companies in Sweden. Further emphasizing the necessity for current research to uncover emerging success drivers in digital transformation is the dynamic nature of the IT business, which is characterized by rapid technological breakthroughs and changing client needs. By filling in this research gap, academics and industry professionals can learn crucial lessons that will help IT organizations successfully navigate digital transformation programs and achieve long-term success in the digital age. The findings of this study will provide valuable insights to managers, policymakers, and stakeholders to develop policies that encourage adopting and implementing digital transformation projects successfully and enable them to remain competitive in the market.

1.3 Research Question

To address the gap in knowledge regarding digital transformation, this study focuses on identifying the success factors for digital transformation in an IT company in Sweden. Therefore, this study seeks to address this knowledge gap by answering the following research question:

What are the success factors in digital transformation in an IT Company in Sweden?

1.4 Delimitations

The study is limited to IT companies located within Sweden. It focusses specifically on the success factors in DT that contribute to digital transformation within the companies. Other geographical regions and industries will not be considered in this research. The area of the research is delimited to examine the eligible success factors in DT according to the technology-organization-environment (TOE) framework and based on past studies. The study will not cover past studies of success factors in DT predating 2018. The study does not examine barriers to or drivers of digital transformation. The methodology employed will incorporate a case study as a research strategy, and semi structured interviews as a data collection method, experimental or longitudinal research designs will not be included in the study due to time and resource limitations.

1.5 Thesis Structure

The thesis project report will adopt a typical research report structure. Chapter two provides the extended background supported by a literature review and identifies the theoretical frameworks that will be used during the research; it categorizes success factors in digital transformation using the Technology, Organization, Environment (TOE) framework and lists the success factors in DT identified in the literature under each category. Chapter three describes the methods used in the research, starting with the research strategies adopted and then discussing the data collection and analysis methods. Chapter three also provides justification for the research strategies and methods selected and why they are suitable for this study. Chapter four presents the results from the collected data, as well as identifies trends and themes from the collected data. Lastly, chapter five discusses the findings and chapter six presents a conclusion to the research. Chapter six will also identify areas for future research and any limitations in the current study.

2 Extended Background

This chapter provides the extended background to the thesis based on previous literature.

2.1 Digitalization in IT Companies in Sweden

According to Janssen et al., (2017), digitalization refers to the process of converting analogue data or processes into a digital format. It utilizes digital technologies to transform traditional processes and services and enable new forms of innovation and creativity. On the other hand, Digital transformation is a process of organizational change in which technology-based digital business models are implemented to enhance performance by improving organizational processes and technology. Sandberg et al., (2019) state that digitalization introduces a new organizational rationale for strategic decision-making and impacts factors such as size, scope, and value creation. This shift enforces reevaluating the company's strategy, vision, mission, and culture to align with the demands of the digital era. Furthermore, the digital transformation process is a continuous journey that necessitates ongoing innovation and improvement, particularly considering the rapid evolution of technology (Hausberg et al., 2019). The influence of digital transformation extends beyond the organization itself and encompasses individuals, society, and communication.

Digital technology is being widely used in Sweden's IT sector. According to studies, Sweden's IT industry is one of the most technologically advanced in the world (Vahlne & Jonsson, 2017). Similar findings were made by Lundqvist et al., (2019), who discovered that Swedish IT firms are quite innovative and open to experimenting with cutting-edge digital technology. This development is ascribed to the Swedish government's initiatives to foster innovation and build infrastructure that will support digital transformation. The four main components of digital transformation are strategy, customer experience, operations, and workforce enablement, according to PricewaterhouseCoopers (PwC) (2020). The strategy entails defining the organization's goals and objectives and identifying the ways in which digital technology might contribute to achieving those goals. Enhancing client engagement and interactions through digital channels is at the center of customer experience. Utilizing digital tools and platforms, operations entail increasing effectiveness, productivity, and agility. Workforce enablement is the process of building digital competencies and skills inside an organization to support the adoption of new technologies and foster creativity. The favorable environment produced by the government's investments in infrastructure and the encouragement of innovation can be credited for the high degree of digital adoption in the Swedish IT sector.

2.2 Importance of Digital Transformation in IT Companies in Sweden

Digital transformation is becoming more and more crucial for Swedish IT organizations. IT firms are able to improve their services, optimize their processes, and provide clients with better value thanks to digital transformation. Improved efficiency is one of the key benefits of digital transformation in IT firms. An Accenture study found that IT companies may leverage digital technology to cut expenses by up to 30% and boost productivity by up to 40%. Due to the high cost of labor in Sweden, this is essential for IT companies operating there. By automating tasks and processes, IT companies may boost productivity and quicken the delivery of their products and services. It is also essential for IT companies in Sweden to undergo digital transformation so that they remain competitive in an ever-changing marketplace.

2.3 Success Factors in Digital Transformation Identified in Research Literature

Digital transformation has been dubbed by scholars as "an evolutionary process that uses digital technologies and capabilities to allow business models, operational processes and customer experiences to generate value" (Morakanyane et al.,2020, p. 4356). Fitzgerald (2013), cited in Morakanyane et al., (2020) contends that all businesses across all industries are impacted by digital transformation, and cautions that for businesses to remain competitive in their market sectors, they need to take advantage of digital opportunities and transform. However, despite its obvious benefits, literature concedes that digital transformation is challenging and poorly comprehended by many organizations (Morakanyane et al., 2020). This trend has been confirmed in research where studies have revealed that only one out of five organizations have successfully completed digital transformation (Westerman & McAfee, 201). To this end, Morakanyane et al., (2020) contend that academics are now interested in researching what organizations succeeding in Digital transformation are doing which allows them to succeed. Morakanyane et al., (2020) also argue that it is essential for academics to understand how organizations that have succeeded in digital transformation do what they do to be successful in their journeys.

MIT's Sloan School of Business (MIT Sloan Management Review, 2016) define success factors in digital transformation as things that must be done or be in place for a company or project to succeed. Success factors in digital transformation are therefore defined, for the purposes of this research, as those elements and conditions that need to be considered and/or in place for digital transformation projects to succeed. The following sections will identify these elements and conditions that have been identified in by researchers in previous research as necessary for digital transformation, and this will be categorized using the technology-organization-environment (TOE) framework.

The TOE framework suggests that the extent to which innovation is adopted in a company is influenced by technology development, organizational conditions as well as industry environment. Awa et al., (2015), states that adoption is influenced by the variety of technologies available to the company, both internal and external. Technology also refers to how useful the technology is perceived to be, and how compatible the technology is to the organizational objectives. The complexity of the technology, the required learning curve, pilot testing and experimentation also contribute to the extent to which technology influences the successful adoption of innovation within an organization. Organizational factors include the scope of the business, support from top management, the culture of the organization as well as the resources (including the quality of human resources) the organization has access to (Awa et al., 2015). The environment is related to operational facilitators and inhibitors. These include competitive pressure, the readiness of trading partners, socio-cultural problems, government policies and technology support infrastructure such as access to quality Information and Communications Technologies (ICT) consultants (Awa et al., 2015). The technology-organization-environment framework is applied in this study to categorize the success factors in digital transformation that have been identified in the research literature. A presentation of how the factors were identified in research literature presented using the TOE framework is done in the next sections.

2.3.1 Success Factors in DT in the Technological Context Identified in Research Literature

IT/Digital platform infrastructure: Scholars like Zhang et al., (2022) argue that IT infrastructure on its own is not sufficient to achieve digital transformation as it can easily be imitated by other competitors. To this end, Westerman et al., (2011) posit that the most fundamental factor influencing digital transformation is the need to have integrated and unified data and processes. Rueckel et al., (2020) also discuss the need for digital Information Systems that allow for the global integration of IT, business operations and data within an organization. They argue that these platforms offer external party links, which are essential for maximizing the company value that digital technology offers. Therefore, distinctive, and tightly integrated infrastructures are a requirement for businesses to pursue particular digital strategies and paths. Legner et al., (2017) have also listed a number of crucial factors

that affect the effectiveness of digitalization initiatives. These include IT architecture transformation, which is about anticipating changes and ensuring the IT infrastructure is ready to meet the challenge. Legner et al., (2017) also discuss the need for security and compliance, i.e., ensuring that cyber threats are recognized, and counter measures are put in place as well as data driven agility, which is about the appropriate use of data to improve analytics capability, as well as digital platform management.

ICT Literacy and IT Management Capability: There is evidence in literature that the digital technology skills of individuals in a company undergoing digital transformation are essential for the successful implementation of the digitization project. Rueckel et al., (2020) assert that ICT literacy allows individuals to maximize the capabilities of digital transformation. Zhang et al., (2022) argue that organizations must know how to use IT tools properly and there should be a willingness within the organization to use the IT tools for there to be successful digital transformation.

Table 1; Success factors in DT in the technological context identified in research literature.

Success Factors in DT identified from research studies	Reference	Explanation
IT/ Digital Platform Infrastructure	Swedish Ministry of Enterprise and Innovation, n.d., para. 1 Legner et al., 2017, p. 301–308 Rueckel et al., 2020, p. 14	According to Rueckel et al., (2020), digital platform infrastructure is 'understood as an integrated IT and/or IS infrastructure following an investment into digital technology and data infrastructures, digitized business processes, and electronic links to external particles; when satisfied, this factor enables the efficient, scalable, reliable, high quality, and predictable execution of core organizational operations through DT". (Rueckel et al., 2020, p.14)
ICT literacy and IT Management Capability	Rueckel et al., 2020, p. 16 Zhang et al., 2022, p. 7-12	Rueckel et al., (2020) present evidence from literature that "support the intuitive assumption that digital technology skills of individuals within the organization are crucial to successful DT initiatives" (Rueckel et al., 2020, p. 16) Rueckel et al., (2020) define ICT capability as "The ability to use digital technology, communications, tools and/or networks to access, manage, integrate, evaluate and create information in order to function in knowledgeable society and to at its highest level enable innovation, individual transformation, and societal change" (Rueckel et al., 2020, p.16)

2.3.2 Success Factors in DT in the Organizational Context Identified in Research Literature

Several organizational factors that could affect the successful implementation of digital transformation projects have been identified in literature. Jonathan (2020) posits that "organizational culture, change management practices, employee and leaderships' engagement, knowledge management, and business-IT alignment" (Jonathan 2020, p. 226) are some of the factors that have been discussed in literature as influencing digital transformation in organizations. The organizational success factors in DT can be further categorized into strategic factors, cultural factors as well as implementation related factors (Jonathan, 2020, p. 226). Other scholars (Osmundsen et al.,2018) refer to the structural issues as digital strategy and the same framing has been applied in this study. Morakanyane et al., (2020) conducted a qualitative analysis of 89 articles to determine what attributes and activities must exist in an organization to bring about successful digital transformation and they identified seven (7) success factors in DT which are essential for digital transformation in organizations, including the need to determine digital triggers and cultivating a digital culture. These and other success factors in DT identified from literature are discussed below.

Determine Digital Triggers: According to Morakanyane et al., (2020), it is essential for organizations to have a very good understanding of what they want to transform, and why. Morakanyane et al., (2020) argue what organizations wish to transform should be inspired by what started the digital transformation journey. Examples of digital triggers include for example an increase in the number of business processes that need to be automated, as well as changing needs and behaviors of customers. For this reason, Morakanyane et al., (2020) posit that before embarking on any digital transformation journey, companies must establish the internal and external factors that instigate their need to transform.

Cultivate a Digital Organizational Culture: Research shows that a digital organizational culture is one factor that can influence the extent to which digital transformation projects can have positive outcomes. Osmundsen, Iden & Bygstad (2018) argue that "For a successful digital transformation, the organization as a whole must adopt a supportive culture in which joint business and IT initiatives can flourish" (Osmunden et al, 2018, p. 6). According to Jonathan (2020), employee and leadership attitudes towards embracing digitization as a necessary endeavor for value creation and changing how public organizations provide services to residents are influenced to a great extent by the culture of the organization. Jonathan (2020), further posits that organizational culture drives the extent to which employees and leaders are willing to accept change. The culture of the organization also influences the willingness of employees and managers to learn, to accept their failures as well as their ability to embrace an exploratory character. According to Osmundsen et al., 2018, the most common organizational values which were found to be supportive of digital transformation included the managers and employee's ability to receive new ideas and their readiness to welcome and accept change. They also found that organizations need to have a culture that is more accepting of failure, organizations with an entrepreneurial mindset, trust, participation, open communication, and cooperation had a culture accentuating agility as opposed to control and thus achieved more success in digital transformation compared to those with more controlling cultures (Osmundsen et al., 2018).

Rueckel et al., (2020) used design science research to develop a framework that provides a structured overview of the important factors for starting initiatives for digital transformation. Their findings concur with findings from existing literature as far as digital organizational culture is concerned. They found that an innovative organizational culture was a relevant cultural factor for organizations faced with the challenge of digital transformation. They described the attributes of an innovative organization as an organizational atmosphere that encourages ingenuity, creativity, and an entrepreneurial outlook. Rueckel et al., (2020) concluded in their study that employees of an innovative business are encouraged to exhibit organizational values like adaptability, tolerance for failure, readiness to learn, participation, trust and risk aversion.

Develop Vision or a Digital Business Strategy: According to Morakanyane et al., (2020), for organizations to succeed in their digital transformation journeys, it is important for them to specify what they want to transform and why they want to transform. This emphasizes the need for

organizations undergoing digital transformation to develop a digital business strategy. A digital business strategy is defined by Bharadwaj et al., (2013) as "an organizational strategy composed and executed by leveraging digital resources to produce differential value" (Bharadwaj et al., 2013, p. 472). According to Osmundsen et al., (2018), a digital strategy is necessary in supporting an organization to reach its digital business goals. Osmundsen et al., (2018) also argue that to be able to inspire change within an organization, and to help an organization achieve its intended digital goals, the digital strategy should focus on "leadership skills, agile and scalable digital operations, digitally enabled customer experiences as well as emerging digital innovations" (Osmundsen et al., 2018, p. 9).

Jonathan (2020) asserts that the extent to which an organization recognizes IT as a driver of its overall business strategy is reflected in the company digital strategy in the context of digital transformation. He argues that the value derived from IT investments is found to be improved by acknowledging the strategic position of IT as well as making a concerted effort to align the IT strategy with the overall organizational goal. This process is also known as "Business-IT alignment". Business-IT alignment is when general business strategies incorporate specific business strategies. It is a fusion of new comprehensive business strategies with the traditional function of information technology (Rueckel et al., 2020).

Establish Digital Organization: Successful implementation of digital transformation is also influenced, to a great extent, by the organizational structure in place at a company. Jonathan (2020) and other scholars contend that an appropriate organizational structure is crucial to enable communication that encourages the involvement of external and internal stakeholders in the digital transformation process. Rueckel et al., (2020), discuss the need for management structures to change in order to facilitate successful digital transformation. Rueckel et al., (2020) argue that new roles need to be created within the company that are assigned responsibility for managing digital transformation. This includes roles such as Chief Information Officer (CIO) or creation of new roles such as Chief Digital Officer (CDO) (Rueckel et al., 2020, p. 14). Literature also underlines the importance of a shared understanding of the importance of digital transformation among senior managers within the organization. Osmundsen et al., (2018) postulate that in addition to engaging CDOs and the managers in digital transformation processes, it is also essential to engage employees who are involved in the processes that are affected by digital transformation to fully realize the benefits of the transformation. Osmundsen et al., (2018) further highlight that it is crucial for managers to take into consideration employees' concerns related to digital transformation and enlist employees as active participants in the transformation process as this will enable the employees to better embrace the digital transformation project. Allowing employees to partake in the change processes could potentially curtail workers' resistance to the digital projects. (Osmundsen et al., 2018).

Zhang et al., (2022) also discuss the importance of organizational structure as a success factor in digital transformation. They assert that managers must have the skills to constantly observe market trends, identify and seize technological opportunities and translate them into business prospects. They also acknowledge that in addition to leading and coordinating the digital transformation processes, it is essential for leaders in organizations to encourage internal and external stakeholders to participate as well as to appropriately allocate needed resources.

Table 2; Success Factors in DT in Organizational Context Identified in Research Literature

Success Factors in DT identified from research studies	Reference	Explanation
Determine digital triggers	Morakanyane et al., 2020, p. 4361	Morakanyane et al., (2020) assert that "Organizations seeking to succeed in their DX journeys should be clear with what they want to transform; and what they want to transform should be informed by what initiated the journey." (Morakanyane et al., 2020, p.4360) Morakanyane et al (2020) also propose that "in order to be clear with what they want to transform, organizations must first know what factors trigger the need to embark on a DX journey. That is, they must know what internal and external attributes induced their need to transform" (Morakanyane et al., 2020, p.4360).
Cultivate a digital organizational culture	Morakanyane et al., 2020, p. 4361 Jonathan 2020, p. 226 Osmundsen et al., 2018, p. 6, Rueckel et al., 2020, p.13	"For a successful digital transformation, the organization as a whole must adopt a supportive culture in which joint business and IT initiatives can flourish" (Osmundsen et al., 2018, p. 5) Jonathan (2020) also argues that "organizational culture determines the mindsets of employees and leadership towards embracing digitalization as a necessary endeavor for value creation and transforming the way public organizations deliver services to citizens. Besides, organizational culture is found to influence the extent to which employees and leaders are open to change, willingness to learn, accept failures, and adopt exploratory character" (Jonathan 2020, p. 226).
Develop a Digital Business Strategy	Bharadwaj et al., 2013, p. 472 Jonathan 2020, p. 226 Morakanyane et al., 2020, p. 4361 Osmundsen et al., 2018, pp 8 Rueckel et al., 2020, p.13	A digital business strategy is an "organizational strategy formulated and executed by leveraging digital resources to produce differential value" (Bharadwaj et al., 2013, p. 472). According to Osmundsen et al., (2018), "a digital business strategy can support an organization in transforming and achieving the intended objectives of digital transformation by emphasizing digital leadership capacities, agile and scalable digital processes, digitally enabled consumer experiences, and emerging digital inventions' (Osmundsen et al., 2018, p.8)

| Establish a Digital Organization | Osmundsen et al.,2018, p.7

Rueckel et al., 2020, p. 14

Zhang et al., 2022, p.7 | Jonathan (2020) and other scholars contend that an appropriate organizational structure is crucial to enable communication that encourages the involvement of external and internal stakeholders in the digital transformation process. Rueckel et al., (2020), discuss the need for management structures to change in order to facilitate successful digital transformation.
Rueckel et al., (2020) argue that new roles need to be created within the company that are assigned responsibility for managing digital transformation. This includes roles such as Chief Information Officer (CIO) or creation of new roles such as Chief Digital Officer (CDO) (Rueckel et al., 2020: p 14) |

2.3.3 Success Factors in DT in Environmental Context Identified in Research Literature

Literature reveals that government support is an essential factor towards organizations, particularly Small to Medium Enterprises achieving their digital transformation goals. Some of the success factors in DT identified in literature are:

Support from Government: Zhang et al., (2022) assert that support from government and clear policies are crucial for the effective implementation of digital transformation in businesses. In order to support the digital transformation agenda of companies, governments can create particular policies, help and counseling initiatives, tailored training programs, and collaboration ecosystems (Zhang et al., 2022). An example of how government policy can support digitization of companies can be seen through the goals of Sweden's digitization policies which include modernizing the Swedish economy using digital technologies, and maximizing access to fast broadband internet (Mattauch, 2017).

Creating a Dynamic Partner Ecosystem: Zhang et al., (2022) discuss the need for organizations to build agile relationships with other actors in the industry, as well as with their customers. The development of inter-organizational relationships can aid organizations to access additional resources. In the case of IT companies, agile relationships with other service providers would allow for outsourcing of certain services during the digital transformation process for example. According to Jonathan, (2020), "the collaboration between organizations embarking in digitalization needs to extend to other stakeholders (even service providers as well as suppliers) who might possess the expertise of innovation enabling digital transformation", (Jonathan 2020, p.227). Rueckel et al., (2020), discuss examples of where coordination with external actors had positive effects on the digital transformation process. Rueckel et al., also assert that in addition to external cooperation, internal coordination is also essential for the successful implementation of digital transformation projects.

Table 3; Success Factors in DT in Environmental Context Identified in Research Literature

Success Factors in DT identified from research studies	Reference	Explanation

Support from Government	Zhang et al., 2022, p.18	Zhang et al., (2022) assert that support from government and clear policies are crucial for the effective implementation of digital transformation in businesses. In order to support the digital transformation agenda of companies, governments can create particular policies, help and counseling initiatives, tailored training programs, and collaboration ecosystems
Creating a dynamic Partner Ecosystem	Jonathan, 2020, p. 227	Zhang et al., (2022) discuss the need for organizations to build agile relationships with other actors in the industry, as well as with their customers. The development of inter-organizational relationships can aid organizations to access additional resources. Jonathan, (2020) asserts that "the collaboration between organizations embarking in digitalization needs to extend to other stakeholders (even service provides as well as suppliers) who might possess the expertise of innovation enabling digital transformations", (Jonathan 2020, p.227)

3 Methodology

The research plan and procedures for data collection, sampling, and analysis are described in this chapter.

3.1 Choice of Method

3.1.1 Research Strategy

A research strategy, according to Johannesson and Perjons (2014), is the overall plan for conducting a research study. Denscombe (2010) says a research strategy is "a plan of action designed to achieve a specific goal" (Denscombe 2010, p.3). A research strategy provides a project overview and shows the bigger picture of the research approach. The purpose of a research strategy is to guide the researcher in planning, executing, and monitoring the study. According to Johannesson and Perjons (2014), there are several research strategies. Experiments are often used to examine cause and effect relationships. The purpose of an experimental research strategy is to prove or disprove that a cause-and-effect relationship exists between a factor and an observed outcome (Johannesson and Perjons 2014). Surveys as a research strategy are often used to gather data from a large population group. Latham (2014) contends that survey research studies are characterized as correlation-regression and concentrate on examining the connections between two or more quantifiable factors. A case study is another type of research strategy which comprises an in-depth assessment of a particular case. Johannesson and Perjons (2014) argue that a case study is designed to provide "a pregnant and detailed picture of its subject" (Johannesson and Perjons (2014, p.44). Grounded theory is a research strategy where "frameworks, models, and theories are developed by analyzing the data "from the ground up" (Latham 2013,p.68). Phenomenology, which is another example of qualitative research strategy, is about the participants' interpretations of and feelings toward their personal experiences (Latham 2013, p.69). Ethnography is used to explore and understand groups and cultures.

According to Latham (2013), the most appropriate research strategy is chosen "based on the problem, purpose and research questions" (Latham 2013, p.65). The research strategy chosen for this research is a case study. A case study "focusses on one instance of a phenomenon to be investigated, and it offers a rich, in-depth description and insight of that instance" (Johannesson and Perjons, 2014, p.44). A case study as a research strategy has several characteristics. It focuses only on one instance, focuses on depth, i.e. to gather as much information as possible about the studies instance, the instance is studied in its natural setting, and the instance is investigated holistically, taking into consideration all interactions and processes both inside the instance and beyond it (Johannesson & Perjons, 2014). These characteristics of a case study make it appropriate for this study as it will allow the researchers to gather in depth information from the company in its natural setting as well as study all the relationships and processes within the company and in its environment.

Yin (1994) argues that the case study approach's strength resides in its capacity to manage a full range of evidence, such as documents, artifacts, interviews, and observations. The case study was selected as the most appropriate strategy for the research because it will allow the researchers to conduct an in-depth investigation of the critical success factors in digital transformation of an IT consulting company in Stockholm, Sweden. The literature review conducted in chapter two revealed that on a relatively broad and surface level, the success factors in digital transformation are already known and at this stage in the research, it is more relevant to investigate depth, hence the selection of the case study as a research strategy. The case study will investigate deeply the success factors in digital transformation at a specific IT consulting company based in Stockholm, Sweden. This strategy is also appropriate for this study as it will allow the researchers to trace the events of the digital transformation project over time, as well as gather different perspectives from different people within the organization.

There are several alternative research strategies that could have been relevant for the study. Surveys are more appropriate as a research strategy where the purpose of the study is to map out certain aspects of the physical or social world. Surveys are often used "for gathering basic data about large groups of people, including their activities, beliefs and attitudes" (Johannesson & Perjons, 2014, p.42). Surveys are less suited for conducting in-depth research on complicated phenomena and are more appropriate for gathering data on certain, well-defined issues (Johannesson & Perjons, 2014). Surveys were therefore not selected as the suitable strategy for this research as this research aims to collect in depth information from an IT Consulting company in Sweden regarding success factors in digital transformation.

Another alternative research strategy that could have been used in this study is experiment. According to Denscombe (2010), an experiment is an appropriate research strategy where the purpose of the resource is "to identify the cause of something" and "to observe the influence of specific factors" (Denscombe, 2010, p.5). Johannesson & Perjons (2014) define an experiment as "an empirical study that investigates the cause and effect of relationships" (Johannesson & Perjons, 2014, p.40). The goal of an experiment is to establish or refute a causal link between a factor and an observed result (Johannesson & Perjons, 2014). An experiment is not an appropriate strategy for this research as the research aims to gain an in-depth understanding of the success factors in DT that led to the successful implementation of digital transformation at an IT consulting company in Sweden. This study will not examine any causal relationships between the success factors in DT and the observed outcomes; therefore, the experiment is not the most appropriate research strategy.

Ethnography is another alternative research strategy that was found not appropriate for this study. According to Denscombe (2010), ethnography is applicable as a research strategy where the aim of the research is to "describe cultural practices and traditions and to interpret social interaction within a culture" (Denscombe, 2010, p. 5). Johannesson & Perjons (2014) describe some of the characteristics of ethnography as spending a lot of time living together with the people they are studying and taking part in the existing practices of the people they are studying. Due to the time limitations of this study, ethnography is not an appropriate research strategy. Ethnography is also not a feasible research strategy for the research question in this study.

Action research is another alternative research strategy, it "solves a practical problem, and produces guidelines for best practice" (Denscombe, 2010, p.6). Johannesson & Perjons (2014) assert that in action research, the researchers not only conduct the research, but they also introduce changes into the practice. Action research is an inappropriate research strategy for this study, as the aim of this study is to understand the success factors in digital transformation at an IT company, the researchers are only interested in extracting the knowledge regarding success factors for digital transformation, and not desire to introduce any changes in the practice of the selected company. For this reason, action research is not an appropriate strategy for this study.

3.1.2 Data Collection Methods

Several methods for data collection are mentioned by various researchers in literature. Johannesson and Perjons (2014) mention five methods for data collection that are commonly used in research. These are questionnaires, interviews, focus group discussions, observations studies and document studies. While it is common practice for certain data collection methods to be associated with specific research strategies, Johannesson and Perjons (2014) argue that any method of collecting data can be used with any research strategy. For this study, interviews will be used to collect primary data from selected respondents, while documents review will be used to collect secondary data on similar studies conducted by other researchers and to triangulate the findings from the primary data collection.

Johannesson and Perjons (2014) posit that employing several data collection methods in a research study helps to provide a broader picture on the study phenomenon and helps to improve the accuracy of the study results. Myers (2009) argues that using interviews to get information from different people in their own words reduces the probability of academics imposing their own opinions on the issue. Myers (2009) postulated that there are three main types of interviews used in qualitative research: structured, semi-structured, and unstructured interviews.

During structured interviews, questions are typically asked in a predetermined, chronological order and the length of structured interviews can be constrained, and the interviewer is not allowed to stray from the pre-planned questions. Structured interview questions were not selected as the most appropriate data collection methods for this study because they do not provide for a degree of flexibility to stray from the preset interview questions. Few, if any, preset interview questions are required while doing unstructured interviews. Myers (2009) asserts that interviewees have "free reign to say what they want" in unstructured interviews. This approach enables the development of new questions throughout the interview, enabling the researchers to investigate potential new directions for research. It is not the ideal data collection method for this study because the unstructured interview procedures take more time and can be arduous during the analysis stage.

The researchers anticipate that different interviewees within the IT company will have different perspectives on how the digital transformation project was implemented based on their roles within the company, and for this reason, semi structured interviews are the preferred data collection method as they allow the researcher to use a set of guiding questions but also give them the flexibility to ask probing follow up questions if needed.

There are several other data collection methods which were found not appropriate for this study. Questionnaires for example were not appropriate as they often provide closed-question responses that are more useful for quantitative analysis. Due to their nature, questionnaires would have limited the depth of information collected during the study as they do not allow for participants to provide detailed, qualitative responses. Similarly, while Focus Groups collect qualitative data, they were not appropriate for this study as the researchers needed to gather the perspectives of employees involved in different roles and different aspects of the digitization process.

3.1.3 Data Sampling Strategies

Since the research strategy is a case study, the company to be studied has been purposively selected. within the selected company, an explorative sampling approach will be applied to select interviewees. Exploratory samples, according to Denscombe (2014), investigate understudied subjects and can also be a technique to uncover novel concepts or hypotheses. (Denscombe 2014, p.33). When using exploratory sampling, it is not necessary to get a cross section of the population as is required with representative sampling approaches. Non-probability sampling will also be used to select interview participants within the selected company. According to Denscombe (2014), non-probability sampling "involves an element of discretion or choice on the part of the researcher at some point in the selection process, and it is used when researchers find it difficult or undesirable to rely on a random selection of the sample" (Denscombe 2014, p.33).

Alternative data sampling strategies include representative sampling techniques that are often used with larger surveys and where the research strategy requires large amounts of quantitative data.
Representative sampling was not appropriate for this study as the study focuses on qualitative data collection from a small population. It is also not appropriate as the study questions focus on a case study instance at an IT company in Sweden and will therefore not collect large amounts of quantitative data. Another alternative data sampling strategy is probability sampling which requires random selection of interview participants from the research population. Denscombe (2014) asserts that probability sampling often requires the use of statistical theories of the normal distribution to ensure selection of a representative sample from the population. Probability sampling is best suited for

research where the population is known, and where statistical representation is essential to the study. It is therefore for this reason that nonprobability sampling was found appropriate for this study as it gives the researchers more choice in selecting the interview participants. For example, the researchers might need to choose to interview people with certain strategic roles and involvement with the digital transformation project at the selected multinational IT software development company.

3.1.4 Data Analysis Method

This research will collect qualitative data through semi structured interviews, using a case study as a research strategy. Given the selected research strategy and data collection methods, thematic analysis is the most appropriate method for data analysis. Thematic analysis is a qualitative data analysis technique used to find and examine patterns of meaning in a dataset, according to Braun & Clarke (2006). This kind of qualitative data analysis aids in identifying the main themes that address the research issue. According to Braun & Clarke, (2006), a list of the most important definitions of the problems revealed in the dataset should be the result of a thematic analysis. Thematic analysis of the data will be conducted using the six steps identified by Braun & Clarke (2006). In the first step, the research team engages and gets familiar with the qualitative data set. During this first step, the research team also identifies emerging patterns. The second step identifies and generates coded words from the interviews. During this step, a simple table is created where keywords are identified from the interviews and matched to the research question. The third step, according to Braun & Clark (2006) identifies themes from the interview data. Themes are embedded onto the same table with key words from the interview dataset. The fourth and fifth steps involve reviewing the themes and further refining them and finally the last step is creating an outcome analysis which shows the findings of the thematic analysis.

Content analysis is an alternative data analysis method that could have been appropriate for this study. Denscombe (2010) describes content analysis as "a way of quantifying the contents of text" (Denscombe, 2010, p. 281). Content analysis follows a six-step procedure where the first step is to select the appropriate sample of text to analyze, the selected text is then broken down to smaller component units, then relevant categories for analyzing the data are defined (Denscombe, 2010, p. 282). In content analysis, the researcher needs to define for themselves what kind of categories and issues they want to analyze. After the relevant categories are defined, then units are coded in line with the defined categories, then the frequency within which these units occur is counted and in the last step, the text is analyzed for "for the frequency of the units and their relationship with other units that occur in the text" (Denscombe, 2010, p. 282). Content analysis is not the appropriate data analysis method for this study as the main outcome in content analysis is quantifying the frequency with which certain codes appear in the analyzed text, using this method would not be appropriate for identifying the success factors in digital transformation.

Another alternative method for data analysis is grounded theory which can be used for the analysis of interview transcripts (Denscombe, 2010). The objective of grounded analysis is to "derive concepts and theories that capture the meaning contained within the data" (Denscombe, 2010, p. 283). The grounded theory approach is also considered 'inductive' as it aims to build generalizable statements based on the knowledge gained from specific situations. It follows similar steps as content analysis and thematic analysis in terms of exploring the data and identifying themes and codes. However, the idea in grounded theory is to use the developed codes and categories to identify key concepts which "constitute the foundations for any theory or general conclusions to emerge from the research" (Denscombe, 2010, p. 286). Grounded theory is not the appropriate data analysis method for this study, because while the researchers want to identify the themes that relate to success factors in digital transformation, there is limited time and resources to conduct the type of detailed analysis required in grounded theory.

3.2 Application of Method

3.2.1 Application of the Case Study

This case study was conducted in a Swedish IT company. The study's objective is to determine what makes digital transformation at a Swedish IT company successful. This is why a Swedish IT company was chosen to take part in the study. An authorization document signed by the company granting the students permission to conduct the case study was used to formally establish the agreement between the students conducting the study and the company. However, the corporation stipulated in this document that the report should not contain any references to the company name or any other identifying information about the company. Due to this, the business will maintain its anonymity and be referred to in the study report as Company DB.

According to their website and the details given by the CEO during the interviews, Company DB was established in 2017 in Umeå, Sweden, with the goal of creating Smart Society Solutions and supplying businesses with adaptable and reasonably priced IT solutions to help them compete. At present, Company DB has offices in Stockholm, Linköping in Sweden and in Dhaka, Bangladesh. Company DB has over 50 employees across all locations and has supported more than 100 clients with the development of various Smart Society Solutions. The business offers digital solutions and services, such as software development, website creation, and digital transformation and digitalization. They want to use digital technology and innovation in Sweden to assist diverse enterprises, industries, and organizations in achieving their objectives. The company offers information technology consulting services to various industries, such as hospitality, tourism, manufacturing, eCommerce, sports tech, and healthcare. Through digital technology and best practices in software development, Company DB streamlines the entire software development and digital transformation process and provides clients with one-stop development.

As part of the research process, the CEO of the company as well as the project management and development teams were contacted. They all indicated that the subject of success factors in digital transformation was important and of interest to them. This is due in part to the fact that they have developed substantial experience and knowledge supporting digitization projects for their clients in Sweden, as well as the fact that they have applied some of the knowledge they have acquired from their external projects to implement digitization projects internally to enhance their own processes and efficiencies. In 2019, the company initiated a digital transformation journey, which involved migrating from Microsoft Excel files to the cloud based Atlassian Jira platform for software project management. They also integrated the platform with their custom-developed cloud-based ERP solution based on Odoo Enterprise Resource Planning (ERP) systems and applied Robotic Process Automation (RPA) to enable task automation, effective collaboration, in-depth visualization, and cooperation across their multidimensional workplaces and teams. By doing so, they were able to reduce inaccuracies in their internal and external projects and achieve outcomes with a single shared procedure through compelling optimization and management, allowing for a single source of truth. Furthermore, the company uses cutting edge methodology and technology such as Agile, DevOps, CI/CD and cloud-based platforms like Amazon Web Services to ease project deployment and delivery.

Since the objectives of the study are to establish success factors in digital transformation, only projects that were successfully completed were included in the study. Successfully completed projects were defined, for the purposes of this study, as those projects that were completed in time, on budget and met their intended goals. Company DB confirmed that ERP 1 project, based on Odoo Enterprise Resource Planning had been successfully completed, as was the sales automation project. For this reason, all the staff that were involved in these two projects were selected as participants for the study.

3.2.2 Data Collection Method

To gain more detailed insights into the company's digital transformation implementation, we conducted

seven interviews with the company's employees through Google Meet, ranging from the managing partner and design team to the software engineer. All staff interviewed were involved in different capacities (product owner, software developer, project manager, etc.) in the two digital transformation projects that were successfully completed. Prior to the interview, the participants received an Informed Consent form and were given the opportunity to select convenient dates for the interviews. Company DB's records that are available on its website have also been examined by the researchers for this study. They describe the company's goals, objectives, background, journey, and examples of the services it provides.

Company DB's CEO facilitated the interviews with the participants, who are all project stakeholders involved in the digital transformation journey. They also serve other positions in the company, such as design (UI/UX) lead, Project Manager (PM), account manager, and CTO. The company is driving its digital transformation journey as an internal IT project according to its expertise in the field. Table 4 below shows the roles of the participants involved in the interviews.

Table 4; Interview Participants

Participants	Participants Role	Time Duration	Interview Date
Interviewee 1	Product Owner and UI/UX Lead	44 Minutes	15 April 2023
Interviewee 2	Chief Technology Officer (CTO) and Lead Project Manager	1 hour 28 minutes	15 April 2023
Interviewee 3	Project Manager (PM)	57 minutes	16 April 2023
Interviewee 4	Account Manager (AM)/Head of Sales (HOS)	52 minutes	16 April 2023
Interviewee 5	Founder and Chief Executive Officer (CEO)	1 hour 7 minutes	17 April 2023
Interviewee 6	Software Engineer	57 minutes	18 April 2023
Interviewee 7	Senior Software Engineer	53 minutes	19 April 2023

3.2.3 Data Analysis Method

The data collected through the study was analyzed using thematic analysis method for qualitative data. Braun & Clarke (2006) describe thematic analysis as "a method for identifying, analyzing, and reporting patterns (themes) within data" (Braun & Clarke, 2006, p. 6). Thematic analysis also helps the researchers interpret different facets of the subject of inquiry. (Braun & Clarke, 2006). According to Braun & Clarke (2006), conducting thematic analysis of qualitative data requires a six-step process. The process starts with the researcher familiarizing themselves with the data; the second step is generating initial codes; step three is about searching for themes. In step four, the themes are reviewed while step five is about defining and naming themes and step six is producing the report.

During the first step, the authors of the research familiarize themselves with the data through listening to the recorded interviews and transcribing the recorded interviews into text. The interview transcripts were reviewed manually to identify interesting quotes and codes. The identified codes explain the importance of the data in relation to the research question. The identified codes were further categorized into themes which allowed the researchers to classify themes using the TOE framework. The sub-themes were also grouped into sub-themes in relation to the sub-themes that were identified in literature. Table 5 below shows an example of the thematic analysis process.

Table 5; Data Coding, Themes and Sub-Themes

Quoted Text	Sub-Theme	Theme
".....you could say that the evaluation of what sort of technology we should use or what solution we should go for, actually came rather from what we need to improve. So, we were asking why do we need a more improved system because we are spending too much time on doing something now and from our experience of developing solutions for other companies, we know that this for ourselves, we can develop something that saves us time. *So, our primary goal was whatever competency we have in our team, we will use that to build something that is going to make us more efficient."-* **Interviewee 1**	Determine Digital triggers	Organization Environment

"....So, one challenge is to make up our mind and to figure out what we are going to need to build so that we can continue to use it five years from now of course we continue to develop as our needs grow. But we also don't want to bottleneck ourselves into something that we will either sell and the other challenge is sort of logistical or financial that is since we work with limited resources, we don't have a lot of spare capacity. - **Interviewee 1**	Access to infrastructure and ensuring integrated and unified data and processes	Technological context

3.3 Ethical Considerations

Denscombe (2014) asserts that social scientists must abide by a number of norms of ethics when they conduct their investigations. There are a few rules outlined in this code of ethics. First and foremost, participants' interests must be safeguarded by social researchers. The second need is that participants must decide for themselves whether they wish to take part in a research project, and their choices must be supported by informed consent. The standards of ethics stipulate that researchers must uphold scientific integrity and refrain from lying. Finally, all studies must adhere to local and international regulations.

Throughout this study, several ethical issues were taken into account. In an agreement that is included in Appendix C, the company and the researchers agreed that, in order to safeguard their interests, they did not want the company name to appear in the study materials. Their request was granted, and neither the company nor the participants' individually identifying information was used in the research. Before they decided to take part in the interviews, potential participants were also given the informed consent form found in Appendix B. The research's objective and the interview questions' voluntary and anonymous character were both described in the informed consent form. Participants made a voluntarily informed decision to take part in the interviews based on the information provided in the informed consent form.

4 Results

4.1 Thematic Map

This chapter presents the results of thematic data analysis that was performed on the collected data. The results are categorized according to the TOE framework, and present success factors in DT identified within each of the three contexts, i.e., technology, organizational and environment contexts.

The study identified a number of potential success factors in DT that may affect the implementation of digital transformation projects in Swedish IT organizations. Ten sub themes were discovered throughout the three thematic domains of technology, organization, and environment after a thematic analysis was done on the data gathered from company DB. The three newly discovered sub-themes are highlighted in red in Figure 1 below, while the remaining seven themes were related to those that were found during the literature review in chapter 2. The potential success factors in DT that were determined at company DB are shown in Figure 1 together with a map of the thematic analysis. The next sections contain a presentation of all the DT potential success factors in DT found at Company DB.
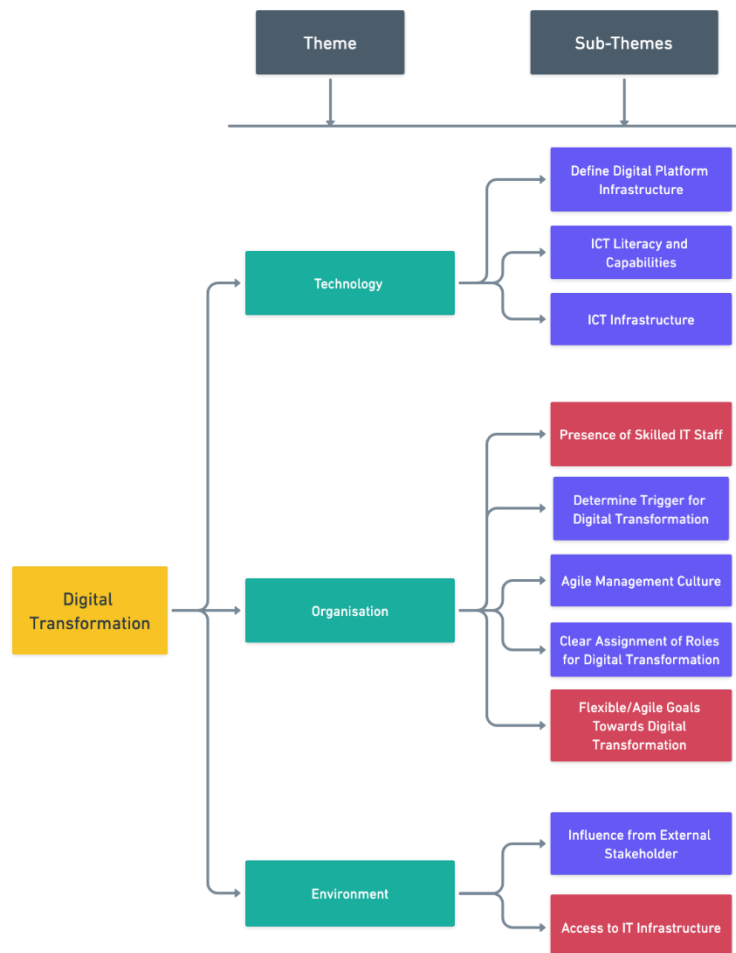

Figure 1; Themes and sub themes in DT identified at Company DB

4.2 Success Factors in DT in the Technology Context

4.2.1 ICT Literacy and Capability

ICT Capability was mentioned by interview respondents as one of the factors contributing to the successful implementation of DT initiatives. Interviewee 1 highlighted the importance of developing futuristic DT products that would continue to meet the needs of the company in the long run: "*So one challenge is to make up our mind and to figure out what we are going to need to build so that we can continue to use it five years from now of course we continue to develop as our needs grow. But we also don't want to bottleneck ourselves into something that we will either sell and the other challenge is sort of logistical or financial that is since we work with limited resources, we don't have a lot of spare capacity.*"

It was also clear from the interviews that ICT literacy was not only about knowing what technological tools to use to develop software solutions, but that the company had also gained knowledge about what works in digital transformation while delivering DT projects for their clients. Interviewee 2 elaborated this by saying *"The interesting thing is we help other companies to digitalize so inherently, we also digitalize ourselves before we digitalize others, right. So, we kind of would work with digital products. So whenever, let's say as a part of the software developer, we face problems about something that we are doing in a one way, but that can be done in a better and efficient way, then we digitalize those processes without doing that manually."*

4.2.2 Define Digital Platform Infrastructure

Interview respondents revealed that clearly defining the type of digital IT infrastructure you want to implement, and how it links with, and complements existing systems was another key success factor in DT. Interviewee 1 said *"... So one challenge is to make up our mind and to figure out what we are going to need to build so that we can continue to use it five years from now of course we continue to develop as our needs grow. But we also don't want to bottleneck ourselves into something that we will either sell and the other challenge is sort of logistical or financial, that is since we work with limited resources, we don't have a lot of spare capacity. "*

Related to this, interviewee 1 explained how they designed the ERP system to integrate several functions that were being done using either spreadsheets or other software, and how they also considered the users of the system in the design, he said *"Of the ideation of the ERP system that we use currently, and we were previously using some spreadsheets for some resource tracking, we were also using JIRA for some progress tracking and project tracking project management. And we've been planning to build it all together into one (system). And I've been involved in the early stages of that and tried my best to think about the user experience, the user being us. I tried to contribute some ideas regarding how best to have the interfaces and the flows designed so that we have a higher efficiency than we have now."*

Interviewee 5 echoed the same sentiments as other respondents about the need to develop an integrated system that would allow for integrating different systems and allow managers to view one detailed dashboard: *"we need a system where we have an HR module and an employee module so we could have a lot of people's databases in one place. We can, we can see the resume and can see the details in one place. For example, we have another system in Bangladesh which we use for attendance when people come into the office, they sign in and sign out. So that's a separate data. So, we thought okay, well now it's time if we can bring that data into one place. Then we are using different CRM software now for sales for which we are paying several 1000 a year. But we thought okay, if we could bring that CRM into our ERP as well. Okay, then we will have a more connected system or aggregated system. Also, recruitment, if we could bring into this ERP, then it's much easier to control from one sort of one application so that we don't have to pay five different applications or if we don't have to, like logging in five different places. So, we can have a more advanced dashboard."*

4.3 Success Factors in DT in the Organization Context

4.3.1 Presence of Skilled IT Professionals

Almost all the interview respondents mentioned the presence of skilled IT professionals as one of the most successful factors that influenced digital transformation within the company. As an IT company that specializes in technology development and providing services to help other companies digitalize, most of the respondents mentioned that the company leveraged their inhouse skills on technology development to further internal digital transformation projects within the company.

Interviewee 1 stated *"So our primary goal was whatever competency we have in our team, we will use that to build something that is going to make us more efficient."*

Interviewee 5 confirmed that their main focus as a company was to provide digital services to other companies and therefore, they use the same skills to further digitalize internal processes: *"as an IT company, of course, it's we are kind of kind of a pioneer of digital, because that's what we do for our customers. So, we always have to look into our work process as well and see what can be improved in the daily task"?*

Interviewee 2 explained in more detail *"And besides that, I would say our primary goal is to develop web software. We are competent in it. So, we know how things work. This is how we are different from other companies, let's say, if this was a different company, who produces some kind of products. And if they want to do the digital transformation within their company, then it's difficult for them because, you know, to set the requirements or to know what to do. They know the problems, but they don't know what or how to solve them. But we know how to solve our problems, how we can create new tools, new systems, connect systems…"*

Interviewee 5 confirmed that having technical skills for developing IT solutions inhouse also helps a great deal in the company's internal digital transformation projects as he confirmed that IT development was their competence, *"I think, first of all, we think what's our competence or what we have competencies in like, like we work a lot with Python or dotnet. And especially in Python, so we see okay, that's our competence".*

4.3.2 Determine Triggers for Digital Transformation

All the interview respondents mentioned that for every internal digitization project the company implemented, there had been clear digital triggers that were identified within the company. One such trigger was the company was growing and was handling larger clients which required more complicated systems for accounting and time management. Interviewee 1 said *"We have had some big clients, especially during the pandemic time. And as happens for any company that experiences fast growth, you understand that it's becoming bigger, and you can no longer rely on simple management methods or technologies. So to handle bigger projects, more data, more personnel, more complicated accounting, across all the departments that the business has realized that we cannot we cannot run or we will hit a ceiling of growth if we allow all OS or operating systems or separated disintegrated systems to handle this in different departments, which is why the ERP idea was conceptualized so that we can handle all this information from different departments, monitor and add to the administration one interface or one central point of action."*

Related to this, interviewee 3 confirmed that another trigger was the need for company DB's internal processes to be aligned: *", So, so the goal is to be more aligned with the services we provide so that we internally practice the things that we are already delivering to other companies."*

Interviewee 4 also confirmed that clear triggers were analyzed and determined during the ideation of the sales automation project that was implemented in the sales team: *"yes, the problem before was that as both for me and other sales personnel on site, we need to prospect for customers. We need to make those prospects a lead. And after we make them a lead, we need to make them into potential customers to have a first meeting with them, and so on. And it's basically in the first steps of this journey, that we are facing issues like how to prospect efficiently because the solutions we had at hand were not satisfying, you know, and it took us a really, long time to do the work. The amount of work that the bot does for us in two hours would take us eight hours of work otherwise."*

Interviewee 4 mentioned that sales going down during the pandemic was another event that triggered Company DB to start thinking about different ways of doing things so that they could be more efficient. He said *"the main trigger is of course, sales going down in 2020 due to the pandemic. I imagine that more or less every company will experience some kind of hardship during 2020. And then that triggered the need for something else, something more efficien t."*

4.3.3 Agile Management Culture

Most of the respondents confirmed that one reason that internal digital transformation projects at company DB were successful was due in part to the 'flat' and 'close knit' organization structure, which allowed for any members of the team to table their ideas with management, and in part by a receptive management team who were eager to adopt ideas and implement them. Interviewee 1 said: *"The thing that comes to mind the most is that our organizational culture is very close knit. It's very fluid. So, we tend to communicate a lot very freely. We have a very flat hierarchy, although we have different levels of responsibilities. We tend to remain very flat in the way that we communicate with one another. It's not very authoritarian, and new ideas are always welcome. And although everybody has specific designations, we tend to keep an interest and involvement in other departments since it's a small company it is very easy to do that as well. So, I would say that was a big reason why it was very easy to come up with what sort of solutions we're looking for. discuss them quickly, iterate some ideas, talk to different departments get their requirements of course, as I said, the CEO is the final decision maker, but then we also needed to ask HR, what sort of things do you need to save time."*

Interviewee 5 echoed the same sentiments about the flat hierarchy in the organization which allows for anyone, even junior developers,

to share their ideas for digital transformation: *"it's a very, like kind of a flat hierarchy, Okay. I think the way we have the structure, it's to make sure otherwise it can be a bit tricky sometimes to know who is responsible for what, so that we have someone who like who is responsible for the company so we can ask questions if things don't get done, and so on, but I think that the main engine, the main driving force comes from having a flat hierarchy.. Yeah, we try to have democratic practice in the company. So even if we have the structure and the people playing different roles, we try to take in the opinions from the junior developer positions as well. And that's how the company information flows. We are very, very transparent in the company information and I think that's one of the keys in the democratic practice of the company."*

Interviewee 2 commented on how the company management was also helpful in getting other team members to buy into new ideas and accept new systems and new ways of doing things: *"the decisions or the visions from the management of the company and their willingness to change also helped a lot because not everyone, like changes so whenever you know there's a new process, there are people who've been using a different process for long time, and they become familiar with it, and become used to it. And then if you want to change the process, modify some part of the process, then it's always difficult to make everyone and also to execute it in the right way so that you don't have the regular productivity. So, the company management said they were motivated enough. Also, they were successful in persuading other older company employees to start using a new system or to build a new system."*

Interviewee 5 spoke about how everyone in the company was enthusiastic about digital transformation and this helps when discussing new ideas and helps managers to accept new ideas as well: *"I think that enthusiasm plays a big role within the company, and the enthusiasm of the people within the company. So, let's say if I give an idea or one of our project managers comes up with the idea to say "can we do this within the company and everybody agrees and we do it". It is about how reactive people are within the company."*

4.3.4 Clear Assignment of Roles and Responsibilities for managing DT.

Clear assignment of roles and responsibilities for managing DT projects was also mentioned by the majority of the respondents as one of the success factors in DT. Interviewee 2 spoke about the need to have dedicated resources to build the DT project: *"So, to have dedicated resources and dedicated time for this, because when we build a system, you need different people to work on it. You need for example a product owner who will set the requirements of the products and then the project manager will manage the development team and make sure it's executed properly, and you also need a development team, so you need people from different parts of the company to work together."*

Similar sentiments were echoed by interviewee 1 *"our CEO is formally the product owner for the sales automation process as well as the ERP since he has close administrative grasp on all aspects of the company, although we have different departments or different teams working at different places. So, he is the product owner. He's the one who makes the final decisions regarding what requirements we should enlist in the development and how we should evaluate them."*

Interviewee 5 reported that they had learned from their experience implementing DT projects for their clients the importance of allocating dedicated resources and assigning clear responsibilities for DT projects to be completed on time: *"Because when we found from an experience that okay even if it's an internal project, like if we take it as a customer project, then it's more efficient. Like if we think it has a customer there is like a mindset of, we do it seriously than if we just view it as an internal project. So, one of the ways of taking it seriously is that okay, you put a project manager and put a set of developers in the team and hold weekly meetings to check on progress the same way we would do for a customer project. We work in an Agile process with the customer. So, we try to do it in the same internal ones, that we try to have weekly meetings with the development team. And when we have a, we have someone responsible as a project manager."*

4.3.5 Flexible/Agile goals towards DT

Interviewee 1 mentioned that the company was very flexible in changing their goals towards DT based on other internal or external factors. Interviewee 1 said *"Since we are not at that scale, and since we work as an agency, working with other clients, our goals seem to change or are more like evolving with time. So, if you ask us now, we have a certain number of targets for the near future, which is six months or one year from now. But if you ask us again in six months, we may have scrapped a few of our ideas and adopted a few new ones because we always have to move really fast with not just what we require but also what our external market requires and reprioritize our goals."*

Interviewee 1 also said *"That's the driving force behind why we plan or strategize how we should do a realization or where we should start and what we should prioritize, but it's also influenced by what we're doing in parallel. For example, when our clients get bigger, or we get new clients who have different requirements, it can affect which component of the ERP or what aspect of the sales automation, for example, do we develop first? So, they're sort of interlinked. The strategy itself does affect what we develop, but then the development itself brings in new clients, and then the clients affect what we're going to do next. I hope I'm not being too confusing."*

4.4 Success Factors in DT in the Environment Context

4.4.1 Access to, and availability of IT Infrastructure

All the respondents acknowledged that operating in Sweden where there was access to advanced IT infrastructure and services was one of the factors contributing to successful implementation of DT projects. Interviewee 4 commented on access to and availability of infrastructure in Sweden, *"But what I think access to infrastructure in Sweden is quite decent. And yes, of course, this helps. if we were in a country who didn't have this forward infrastructure like a Southern European country, perhaps this would probably be a lot harder".*

Interviewee 1 said "*But one thing that really helped operating in Sweden is that the rules and regulations and the expectations of the market are very well defined. If you talk to other companies that have made it big, they will tell you what sort of certifications and sort of methods that you need to follow". Sometimes we try to work with municipalities in Sweden, and they have very detailed documentation of what sort of company we should be, how we should, what sort of organization we should be, what kind of policies we need to have in place so that we can work with the government".*

Interviewee 2 said *"But one thing when you work in Sweden is that Sweden itself is a country in which you will adopt new technologies faster than other countries. And yeah, they're more keen to digitize things compared to other countries."*

4.4.2 Positive Influence from external stakeholders

Interview respondents also reported that influence and pressure from external stakeholders as a success factor in digital transformation. Interview respondents mentioned that some of their clients, especially Swedish municipalities, or government departments, had certain requirements that IT companies hired to provide services to them should meet. Interviewee 1 said ". *Sometimes we try to work with municipalities in Sweden, and they have very detailed documentation of what sort of company we should be, how we should, what sort of organization we should be, what kind of policies we need to have in place so that we can work with the government".*

Interviewee 5 said "*I think it's more like a mindset like okay, we, we are working in Sweden, so like if Sweden is high in innovation and innovation driven, then to survive and to do good in this economy, in this country, we have to be innovation driven as well. "*

Interviewee 5 alluded to the fact that some projects, like the ERP, were inspired by the demands from some of the company DB's clients. He said *"I have to admit that that's also true because for example, yeah, and when you run an IT company you have to have some kind of certain kind of security measures like information security and quality control. So, I think for example, this came from reporting that we need to send a time report to a customer that is actually a demand from the customer and that we have faced for years, and we had challenges to provide for them. So, we always thought, Okay, how to make it better. So that's the very point that we often get feedback or if we work with bigger customers, we have to be on a good standard to deliver to them and that really drives us to make our internal processes better."*

5 Discussion

This chapter discusses the findings of the study and compares the success factors in DT identified in Company DB to those identified in literature.

This study identifies the potential success factors in DT that affect the efficient execution of DT projects in Swedish IT companies. The potential success factors in DT identified in chapter two are comparable to those found in the thematic analysis done on the data gathered from interviewees at Company DB. The TOE framework was used to categorize the success elements in DT in this study, leading to the identification of the themes of technology, organization, and environment. Each theme, such as technology, organization, and environment, had associated sub-themes and codes. Appendix D has a table that lists the main themes, subthemes, and the quotes from the interview transcripts.

5.1 Technology Context Analysis

Thematic analysis of the data collected from the interviewees at Company DB revealed two potential success factors in DT in the technology context that contributed to the successful implementation of DT projects. These are ICT literacy and capability and define digital platform infrastructure. Digital platform infrastructure is not a new sub-theme as this was already identified as one of the success factors in DT in chapter 2. Rueckel et al., (2020) define digital platform infrastructure as "an integrated IT and/or IS infrastructure." (Rueckel et al., 2020, p.14). Due to in-house IT skills, company DB appears to have been able to not only develop IT solutions for the problems they were facing, but they were also able to integrate several IT projects within the ERP project. Interviewee 1 mentioned that they were able to integrate Jira, which they were using for progress tracking and project tracking into the ERP system. Related to this, interviewee 5 mentioned that they were also planning to build an HR module into the ERP system and to also integrate their CRM system into their ERP system as well.

The other sub-theme identified within the technology context is ICT literacy and capability. This is similar to the success factors in DT identified in table 1. ICT capability is defined as 'the ability to use digital technology, communications, tools and/or networks to access, manage, integrate, evaluate and create information in order to function in knowledgeable society, and to at its highest level, enable innovation, individuals' transformation and societal change" (Rueckel et al., 2020, p.16). As an IT company, whose sole purpose as articulated by interviewee 5 is "*help other companies digitalize",* Company DB has the resources and knowledge, and they were able to utilize this to transform their internal operating procedures.

5.2 Organization Context Analysis

Five-sub themes were identified under the organization context, these are to *"presence of skilled IT professionals, determine digital triggers for DT, Agile Management culture and assign roles and responsibilities for DT, flexible/agile goals for DT and digitalization in phases".* Two of these sub themes are new while determining digital triggers for DT was already identified in table 2. Morakanyane et al., (2020) assert that it is important for organizations embarking on DT journeys to be clear what they want to transform, and to "know what factors trigger the need to embark on a DX journey. That is, they must know what internal and external attributes induced their need to transform" (Morakanyane et al., 2020, p. 4360). At company DB, most of the interviewees had a good understanding of the attributes that led to the initiation of the internal DB projects. The sales automation project was triggered in part by sales going down in 2020, and a need to use more efficiently the human resources available for sales tasks.

The ERP project was triggered in part by a need for time management from Company DB's clients, as well as by growth within the organization. Interviewee 1 mentioned the fact that the client secured

"some big clients" as another factor that triggered the company to consider internal DT projects like the ERP projects, as they could no longer rely on simple management methods and technologies. He highlighted that to handle bigger projects that came with the bigger clients, they needed more data, more personnel and more complicated accounting procedures across all departments, hence the need for the ERP project.

The presence of skilled IT professionals emerges as a new sub-theme identified in the organizational context. Rueckel et al., (2020) assert that the digital technology skills of individuals within the organization are essential for the successful implementation of DT initiatives. Interviewees from Company DB revealed that this was one of the main factors that enabled the successful implementation of internal DT projects within the company. Having skilled IT staff within company DB allowed them to not only design IT solutions for the internal problems they were facing with tracking hours worked on a project, but also meant they had the resources (developers) to build the solutions needed. This has also allowed for Company DB to continue improving on their DT initiatives, as stated by respondents who mentioned that a second phase of the ERP project was being implemented to integrate more functions like accounting and Human Resources (HR) into the system.

According to most of the interviewees, Company DB has a very flat organigram and an open culture. Interviewee 5 mentioned that they have allocated roles (a CEO, CTO, project managers and developers) but they maintain open lines of communication. This has allowed for a) everyone in the organization to feel free to share their ideas about internal business processes that could be digitized to make them more efficient and b) for managers and decision makers within the company to accept ideas and quickly turn them into projects. Interviewee 2 also mentioned that it was important that senior management within the company bought into ideas (like the ERP system) and also encouraged other members in the team, who might be otherwise used to working in different systems to accept the new technology and the new ways of working. This is one factor that led to the successful implementation of internal DT projects like the ERP system that is used by software developers and project managers to track the amount of time worked on certain projects. This information is then pulled into a dashboard and the data is used when billing customers. Interviewee 5 mentioned that everyone at the company had an enthusiasm for technology, which also made it easy for people to suggest new projects and for other members of the team to embrace the projects and implement them. A supportive organizational culture is one of the success factors in DT that were identified in literature. Osmundsen et al., (2018) emphasize the importance of a supportive organizational culture for successful DT "For a successful digital transformation, the organization as a whole must adopt a supportive culture in which join business and IT initiatives can flourish" (Osmundsen et al., 2018, p. 5).

Another new sub theme that was identified in the organization context is assigning roles and responsibilities for DT. This aligns with the sub theme "establish a digital organization" which was identified in chapter 2. Company DT allocates clear roles and responsibilities for managing their internal DT projects, these include a product owner who sets the requirements of the products, they also have a project manager who oversees the team of software developers and ensures that projects are completed on time. Literature review highlighted the importance of a clearly defined organizational structure for successful DT. Rueckel et al., (2020) argued that organizational structures need to change in order to facilitate successful DT, and new roles need to be created within the company that are assigned the responsibility for managing DT. Company DB has a dedicated CTO who is also responsible for managing the internal DT projects, as well as a dedicated team of developers who are assigned roles for working on the internal projects.

Company DB does not have a documented digital business strategy. However, they have what they term 'flexible/agile goals' for DT. Evidence from literature suggests that defining a clear digital business strategy can help "support an organization in transforming and achieving the intended objectives of digital transformation by emphasizing digital leadership capacities, agile and scalable digital processes, digitally enabled consumer experiences, and emerging digital inventions (Osmundsen et al., 2018, p. 8). According to interviewee 1, Company DB's DT goals change with time. An example is the ERP 2 project, where the ERP project was initially designed to support time reporting for invoicing clients but is now being expanded under the ERP 2 project which will include more modules including HR and accounting.

5.3 Environment Context Analysis

Two sub themes were identified under the environmental context. These were access to and availability of infrastructure and positive influence from external stakeholders. Availability of infrastructure was identified as a new sub theme under the environment context. Company DB were influenced by the external environment they operate in to adopt certain tools and digitalize some of their business processes. This included requests from external suppliers to submit time worked on certain projects, they were also requests from certain clients for Company DB to conduct some of their activities in a certain way. Interviewee 1 gives the example that some of their clients require that the organization needs to have certifications from the International Organization for Standardization (ISO) around information security for example, while this request did not lead to digitalization, it did prompt them to review their ways of working and make decisions towards digitalization. Company DB also acknowledges the availability and access to digital infrastructure in Sweden as one of the factors that contributed to digitalization.

6 Conclusion

This chapter presents the success factors in DT identified through the data analysis, as well as the societal and ethical consequences, research quality, significance, and originality of the study as well as limitations and future research.

6.1 Success Factors in DT

Digital transformation is about using technology to substantially increase performance and reach. Managers in different sectors are reworking their relationships with consumers, internal processes, and value propositions by utilizing a variety of digital technologies, for example analytics, social media, and smart embedded technologies. Studies, however, have shown that 66% to 84% of digital transformation projects fail (Correani et al, 2020). Mielli & Bulanda (2019) also found in their study that there is a compelling disconnect between the potential benefits of digital initiatives and their successful implementation. IT companies in particular need to adopt digitalization as those companies that do not digitalize are more likely to fall behind their competitors in new technologies and innovations and could lose market demand and be less competitive as a result (Matt, 2015). It is therefore against this backdrop that this research aimed to identify the success factors in digital transformation at an IT company in Sweden through answering the research question "What *are the success factors in digital transformation in an IT Company in Sweden?"*

A case study strategy was applied to conduct semi-structured interviews with employees at an IT Consulting company in Sweden. A thematic analysis of the collected data revealed ten potential success factors in DT that led to successful digital transformation at the company. Of the success factors in DT revealed during this study, seven of these success factors in DT were similar to the success factors in DT identified during the literature review. The three newly identified potential success factors in DT are *presence of skilled IT personnel, flexible/agile goals towards DT and access to ICT infrastructure.* The newly identified success factors in DT are also in bold highlight in table 6 below.

Table 6; The potential success factors in DT identified at Company DB

Themes	Identified Success Factors in DT
Technological Context	Define digital platform infrastructure
	ICT literacy and Capability
	ICT Infrastructure
Organization	**Presence of Skilled IT Professionals**
	Determine triggers for digital transformation
	Agile management culture

	Flexible/agile goals towards DT
	Clear assignment of roles for DT
Environment	Influence from external stakeholders
	Access to ICT Infrastructure

6.2 Societal and Ethical Consequences

In conducting this study on success factors in digital transformation, considerations were made for ethical and potential societal consequences. Individually signed consent was obtained from each participant to protect participants' rights before the research commenced. Appendix A contains the informed consent form, which outlines the study's purpose and assures participants that their responses will be used solely for academic purposes. Confidentiality was assured, with a commitment that neither the company's name nor the names of individual interviewees would be disclosed in the study report. Throughout the interview process, the research team reiterated the study's objectives and reassured participants about the anonymity of their information. Explicit permission was sought to record and transcribe the interviews, further safeguarding the privacy and confidentiality of the participants.

Considering the careful study design and the ethical precautions taken, we anticipate no negative ethical consequences for Company DB. However, it is vital to acknowledge this study's potential indirect societal implications. The identified potential success factors in digital transformation, framed within the TOE framework, may be utilized by companies at different phases of their digital transformation journeys. The broader societal impact will depend on how organizations implement and apply these factors. The outcomes may lead to positive effects, such as improved business practices, enhanced customer experiences, and technological advancements, contributing to the overall progress and innovation in the digital transformation landscape.

6.3 Originality and Significance

6.3.1 Implications for Theory

This study identified potential success factors in DT at an IT Company in Sweden. The potential success factors in DT identified through this study were determined through analyzing data collected through semi interviews with staff who had been involved in successfully completed DT projects at Company DB. The potential success factors in DT identified through this study bear similarities to success factors in DT that were identified previously identified by other researchers. However, three new potential success factors in DT were identified through this study. The newly identified potential success factors in DT are *"presence of skilled IT staff, flexible goals towards DT and Access to IT infrastructure.* The newly identified potential success factors adds value to the success factors identified in previous research as they add to the body of knowledge on success factors in DT in IT Companies in Sweden. There is scope for the newly identified themes to be further developed through research and to gain more knowledge on what other success factors in DT managers need to be aware of when planning their digital transformation journeys.

6.3.2 Implications for Practice

The findings of this study present success factors in DT that managers need to be aware of when embarking on digital transformation projects. Success factors in DT included in this study include *defining digital platform infrastructure, determining triggers for digital transformation, agile management culture, flexible goals towards DT and clear assignment of roles for DT.* Managers need to ensure that adequate measures are in place to satisfy the success factors in DT if they want to increase the success rate of their digital transformation projects. These findings can help managers and business leaders to plan better for the execution of their digital transformation journeys.

6.4 Research Quality

Denscombe (2010) emphasizes the importance for researchers to demonstrate the credibility of their research. Denscombe (2010) describes four criteria for verifying the credibility of research. These are validity, reliability, generalizability and objectivity.

Validity: According to Denscombe (2010), validity refers to the data's accuracy, precision, and appropriateness of the research question. In this study on success factors in digital transformation within an IT company, data were collected through semi-structured interviews with seven selected employees who were involved in the successfully completed digital transformation projects at company DB. The interview questions were carefully designed to align with the research objective of identifying the specific success factors in DT that contributed to the successful implementation of digital transformation projects within the company.

The researchers observed numerous similarities in the responses provided by the interviewees, indicating consistency and alignment with the research question. This confirmation of concurrent responses further strengthens the validity of the data collected. By ensuring that the interview questions were tailored to elicit relevant insights, the researchers aimed to capture a comprehensive understanding of the success factors in DT specific to the IT company's digital transformation journey.

Thus, the careful design of the interview questions and the alignment of data collection with the research objective enhance the validity of the study's findings. This approach increases confidence in the accuracy and appropriateness of the data to address the research question effectively.

Reliability: Denscombe, (2010) defines reliability as "whether a research instrument is neutral in its effect and consistent across multiple occasions of its use", (Denscombe, 2010, p. 298). In the context of this study on success factors in digital transformation within an IT company, reliability becomes crucial in ensuring the consistency and accuracy of the identified success factors in DT.

Success factors in DT can be defined as the key elements or variables that significantly contribute to the successful implementation of digital transformation initiatives within an organization. These factors include leadership commitment, organizational culture, employee engagement, technological infrastructure, and change management strategies (Bharadwaj et al., 2013; Osmundsen et al., 2018).

A rigorous and systematic approach was followed to ensure the reliability of the identified success factors in DT in this study. A semi-structured interview guide was developed and consistently used with all research participants. This approach helped ensure that the same set of questions and prompts were presented to each participant, reducing potential variations in data collection.

The data collected from the interviews were then transcribed and analyzed using a coding process; this involved identifying patterns, themes, and sub-themes within the data. By employing a systematic coding scheme, the researchers aimed to ensure consistency and reliability in interpreting and categorizing the data.

The reliability of the identified potential success factors in DT is strengthened through this rigorous approach to data collection and analysis. The consistent use of the interview guide and the systematic coding process contribute to the reliability and dependability of the study's findings, enabling future researchers to replicate the study and compare results in similar contexts.

Generalizability (External Validity): As defined by Denscombe (2010), generalizability refers to the

extent to which the findings of a study can be applied to other examples or contexts. In the case of this study on success factors in digital transformation within an IT company, the generalizability of the findings is influenced by the specific context in which the research was conducted.

It is important to note that this study focused on a single IT company in Sweden, which may limit the generalizability of the findings to other organizations or industries. The potential success factors in DT identified in this study were specific to the case company's two successful projects and may be influenced by its unique characteristics.

However, despite the limitations in generalizability, it is worth noting that the identified success factors in digital transformation align with those found in previous research conducted in similar contexts. Factors such as developing a digital business strategy, employee engagement, and cultivating a digital organizational culture have been recognized as essential in achieving successful digital transformation across various industries (Bharadwaj et al., 2013; Osmundsen et al., 2018).

Therefore, while the specific findings of this study may have limited generalizability due to the single-case design, the underlying success factors in DT identified align with existing literature. They can provide valuable suggestions for organizations undergoing digital transformation initiatives in similar contexts.

Objectivity: Objectivity refers to the absence of bias in research (Denscombe, 2010). In this study on success factors in digital transformation within an IT company, measures were taken to ensure objectivity in the data collection and analysis processes. Data were gathered from individuals occupying various roles within the company who played essential roles in completing two digital transformation projects. The study aimed to capture diverse perspectives and minimize bias in the collected data by involving participants from different positions.

Furthermore, to enhance objectivity, information obtained from the interviews was cross-referenced and triangulated with data available on the company's website. This approach helped validate and corroborate the findings, strengthening the study's objectivity. By utilizing multiple sources of information, the research team aimed to mitigate individual biases and increase the reliability of the research outcomes.

Overall, the study prioritized objectivity by involving diverse participants and utilizing multiple data sources. These efforts ensured that personal biases or preconceptions did not influence the research process, enhancing the credibility and objectivity of the study's findings.

6.5 Limitations and Future Research

One limitation of the study is that its analysis and conclusions are drawn from interviews conducted with seven employees from one IT consulting company operating in Sweden. The study was limited to only one company in one country due to time and resource constraints, for this reason, the generalizability of the findings beyond the studied country and company is limited. Another limitation of the study is focusing on only one attribute of the company, i.e., it being an IT consulting company, and this affects the extent to which the results of the study can be generalized. While the IT consulting company has developed a wide range of ICT tools for their clients, this study focused only on the digitalization processes they undertook for their internal processes, therefore limiting the discussions to success factors in DT within the ERP and the sales automation projects. This focus on the internal digitization projects limits the success factors in DT to the type of digitization projects they implement and therefore cannot be applied to companies that embark on more nuanced digital transformation processes.

In the future research we suggest the following areas for future investigation based on the previously identified limitations:

- A replication of this study in other IT companies in Sweden that embarked on digital transformation projects to generalize the findings from this study. It might be useful to study IT companies in Sweden embarking on more complex digitalization processes, as well as a variety of companies in different phases of maturity and different sizes as the factors might vary based on the types of digitization projects as well as the size of the IT company.

- A similar study on the success factors in digital transformation in IT companies could be conducted in other countries to replicate the extent to which success factors in DT in Swedish companies influences the successful implementation of digital transformation.
- Lastly, future studies should also aim to establish success factors in digital transformation in companies in other sectors, for example in manufacturing, health services or public sectors as the factors that influence the successful implementation of digital transformation projects in those sectors might be different than those we have identified in this study.

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Appendix A – Informed Consent, Interview Participants

Interviewee Informed Consent Form

Research Info

Researchers: Destelia Ngwenya and Jamilus Siam
Institution: Stockholm University, Department of Computer and Systems Sciences, DSV
Course: Master's Thesis

Purpose of the Study

This study examines the success factors for implementing digital transformation projects in IT companies in Sweden. The main research question for the study is: What are the success factors in digital transformation in an IT Company in Sweden?

The data collected in this interview will be used to conclude the factors that positively influence the implementation of digital transformation projects in IT companies in Sweden. The conclusions will mainly be based on the perceptions provided by interviewees on what they presumed as success factors in the digital transformation project they were involved in.

Participant's Understanding
- I voluntarily agree to participate in this research study.
- I understand that all data collected will be limited to this use or other research-related usage as authorized by Stockholm University.
- I have had the aim of the study and research questions explained to me.
- I understand that the final report will not identify me by name.
- I understand I will not benefit directly from participating in this research.
- I agree to my interview being audio and/or video recorded.
- I understand that I may withdraw from the study at any time and refuse to answer any question with no adverse repercussions.
- I understand that I can withdraw permission to use data from my interview within two weeks after the interview, in which case the material will be deleted.

Participant's Full Name: _____

Participant's Signature: _____

Date: ____/ ___/ ___

Appendix B – Interview Questions

Question	Motivation
Background on the Participant	
1. Could you please tell us about your role within the organization? How long have you been working with the company? 2. What was your specific role in the company's digital transformation initiative?	To understand the participant, their role in the organization, and how they were involved with the digital transformation project.
Background on the IT Company (for CEO only)	
3. When was the company founded in Sweden? How big is this IT company (how many employees)? 4. What is the company's mission, and how does it relate to its digital transformation journey? 5. What type of services does the company provide? 6. How would you describe the company structure? (Organigram)?	To understand the IT Company, the nature of their business, revenue, and offices in and outside of Sweden.
Understanding the digital transformation initiative in the technological context	
7. What specific technologies did your company adopt during the digital transformation process? 8. What were the objectives of the digital transformation project? What was the timeline for implementing the technological initiatives? 9. What is the status of the project? Has the company met the objectives it set out to achieve? 10. Could you please give us more details about how this project was conceptualized, who was involved and how the decision was made to undertake these projects? 11. Were there any triggers in the external market that influenced your decision to undergo a digital transformation, for example, changes in customer needs or market demand? 12. In your opinion, do you think the digital transformation project that you mention was successful? Why do you say so? What has changed (specific metrics) since the implementation of this project? 13. What do you think were the enablers (situation) for the successful implementation of the digital transformation projects?	To gain insights into the nature and outcomes of the company's digital transformation initiative, we will ask a series of questions. These questions will focus on identifying any technological success factors that played a role in the initiative's success. Additionally, we will explore the factors that triggered the digital transformation project and how intentional the company was in identifying and understanding these triggers during the inception phase of the project.
Understanding the digital transformation initiative in the Organizational context	

14. What was the overall digital transformation strategy of your company? How did your company organize itself internally to execute the digital transformation strategy? 15. What was the role of senior management in leading the digital transformation process? 16. What role did your employees play in the digital transformation process, and how did you ensure they were adequately prepared for the changes? 17. Was a CTO/CIO responsible for directly managing the digital transformation project? If yes, how do you think that role helped ensure the project's successful implementation? 18. Were any changes made to your company's business processes as part of the digital transformation? If so, what were they, and why were they necessary?	These questions focus on identifying the success factors that positively impacted implementing the digital transformation project within the organization. Through these questions, we aim to understand the factors that were crucial for the successful implementation of the project, including the role of digital innovation and digital strategy. By analyzing the organizational success factors, we can gain insights into how the company can replicate and improve upon its digital transformation efforts in the future.
Understanding the digital transformation initiative in the environmental context	
19. How were the organizational culture and values aligned with the goals of the digital transformation journey? Were there any challenges in aligning these? 20. Did your company build relationships with external stakeholders (e.g., customers, suppliers, partners) to support the digital transformation process? If so, How, and what benefits did this bring? 21. Were there any factors in the operating environment in Sweden that led to the successful implementation of this project? 22. What were some of the key internal and external factors that influenced your company's decision to embark on the digital transformation journey? 23. In retrospect, what would your company have done differently during the digital transformation process to improve the outcome? 24. What advice would you give to other organizations embarking on a digital transformation journey?	These questions are aimed at identifying the external factors that positively impacted the implementation of the digital transformation project. We want to understand the environmental factors, such as market trends, technological advancements, and competition, that played a crucial role in the success of the project. We also want to investigate how the company recognized and responded to these environmental factors during the inception and implementation phases of the digital transformation project.

Appendix C – Request for Authorization - IT Company

Request of authorization to conduct a research study and collect data in an organization

We are a group of students in Masters Thesis course at the Department of Computer and Systems Sciences (DSV) at Stockholm University that we would like to conduct a research study in your organization that is part of a project in this course. This research study is looking for "Success Factors in Digital Transformation" in a multinational software development company. In order to complete our thesis in this course we would like to ask your support in conducting two interviews in your organization and also to collect other data like internal documents to address the thesis objectives as following:

1. Analyze the digital transformation success factor in a multinational software development company.

2. Identify the strategic and cultural challenges as well as enablers for the successful implementation of digital transformation in the multinational software development company.

We would like to mention that all the data we will collect (through interviews or internal documents concerning your organization) in doing the thesis will be used only for academic purposes and the thesis report will be posted internally through the course web page located at https://ilearn2.dsv.su.se. The master's thesis report will be available for the teachers and the students that are registered in master's thesis course that will have also the possibility to learn from these reports. However, the students in this course will not distribute any of the project reports or presentations to others outside the course or post them outside the course web page on different websites or Internet platforms.

The interviews that we wish to conduct in your organization will be recorded and transcribed, and the recording files will be given to the teachers in master's thesis course as a proof of data collection. The transcription of the interviews will be included in the thesis reports. In case of not accepting the recording of the interviews the students should be noticed from the beginning and if they can only take written notes during the interview sessions that later on will be approved by the interviewees.

In case you wish to stay anonymous, the students will not mention in their thesis report and presentation the name of the organization, neither the interviewees' names and their contact information or any other information that reveals the identity of the studied organization. This is the responsibility of the authors of the thesis and they should take away all the information that could disclose the studied organization from their thesis report as well from their thesis presentation. Otherwise, you can give us the authority to publish the name of your organization, your name and your contact information.

Therefore, we request your authorization in conducting a research study and collecting data in your organization concerning the thesis objectives that we have mentioned above.

Please check one of the boxes bellow:

☐   I agree to be interviewed and the information concerning my organization and also the contact information can be published.

☒   I agree to be interviewed but do not publish the information of my organization and also the contact information.

Date, Name and Signature of the interviewee,

Abdullah (Feb 13, 2023 17:37 GMT+1) ------------------------

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Group members' names and email contacts:

1. Destelia Ngwenya   deng5450@student.su.se
2. Jamilus Siam   jasi1629@student.su.se

In case of any questions about this course please contact the course responsible Professor Lazar Rusu lrusu@dsv.su.se

Appendix D – Themes, sub-themes (Identified success factors) and quotes text

Quoted Text	Sub-Theme	Theme
Interviewee 1 ..you could say that the evaluation of what sort of technology we should use or what solutions we should go for, actually came rather from what we need to improve. So, we were asking why do we need a more improved system because we are spending too much time on doing something now and from our experience of developing solutions for other companies, we know that this for ourselves, we can develop something that saves us time.	Determine triggers for digital transformation	Organization
Interviewee 1 ... So, one challenge is to make up our mind and to figure out what we are going to need to build so that we can continue to use it five years from now of course we continue to develop as our needs grow. But we also don't want to bottleneck ourselves into into something that we will either sell and the other challenge is sort of logistical or financial that is since we work with limited resources, we don't have a lot of spare capacity.	Define digital platform infrastructure	Technology
Interviewee 2 ….One of the major things that every strength, so besides that you said that it was I think, the decisions or the visions from the, from the management of the company and their willingness to change because even though not everyone, like changes so whenever you know where you are, unless you're working and following a process or long time, and then people become familiar with it, and become used to it. And then if you want to change the process, modify it at some part of the process, then it's always difficult to make everyone convinced and also to execute it. In right way so that you don't have the regular like productivity. So that was one thing to look into. So the company management was, they were motivated enough.	Agile management culture	Organization

Interviewee 1 So part of part of it is also related to, for example, we are going for this ISO certification. That is going to not necessarily help us become more digitized, but it's going to become bring more organization and uniformity in the way we do a digitalization. So, so the goal is to be more aligned with the services we provide so that we internally practice the things that we are already delivering to other companies.	Influence from External stakeholders	Environment
Interviewee 1 We have had some big clients, especially during the pandemic time. And as it happens for any company that experiences fast growth, you understand that it's becoming bigger and you can no longer rely on simple management methods or technologies. So to handle bigger projects, more data, more personnel, more complicated accounting, across all the departments that the business has realized that we cannot we cannot run or we will hit a ceiling of growth if we allow all OS or operating systems or separated disintegrator systems to handle this different departments, which is why the ERP idea was conceptualized so that we can buy we and in the administration of strategy can handle all this different departments monitor and add to the administrative transform one interface or one central point of action.	Determine triggers for digital transformation	Organization
Interviewee 1 So we realized as our customers are getting bigger, and also, we're getting bigger customers in both of those aspects. We needed to upgrade the way we work so that we can match the requirements of our customer. These are not requirements that they explicitly state but these are more of the implicit expectations that they have. A big customer will expect that we mirror the way they operate.	Influence from External stakeholders	Environment
Interviewee 1 Since we are not at that scale, and since we work as an agency, working with other clients, our goals seem to change or are more like evolves with time. So if you ask us now we have a certain number of targets for the near future, which is six months or one year from now. But if you ask us again in six months, we may have scrapped a few of our ideas and adopted a few new ones because we always have to move really fast with not just what we require but also what our auto market requires and reprioritize our goals	Flexible/agile goals towards DT	Organization

Interviewee 1 That's the driving force behind why we plan or strategize how we should do a realization or where we should start and what we should prioritize, but it's also influenced by what we're doing in parallel. For example, when our clients get bigger, or we get new clients who have different requirements, it can affect which component of the ERP or what aspect of the sales automation, for example, do we develop first? So, they're sort of interlinked. The strategy itself does affect what we develop, but then the development itself brings in new clients, and then the clients affect what we're going to do next. I hope I'm not being too confusing."	Flexible/agile goals towards DT	Organization
Interviewee 1 We have quite central decision making so our CEO is formerly the product owner for the sales automation process as well as the ERP since he has closed administrative grasp on all aspects of the company, although we have different departments or different teams working at different places. So he is the product owner. He's the one who makes the final decisions regarding what requirements we should enlist in the development and how we should evaluate them.	Clear assignment of roles for DT	Organization
Interviewee 1 The thing that comes to mind the most is that our organizational culture is its very close knit. It's very fluid. So, we tend to communicate a lot very freely. We have a very flat hierarchy, although we have different levels of responsibilities. We tend to remain very flat in the way that we communicate to one another. It's not very authoritarian, and new ideas are always welcome. And although everybody has specific designations, we tend to keep an interest and involvement in other departments since it's a close conference also very easy to do that as well. So, I would say that was a big reason why it was very easy to come up with what sort of solutions we're looking for. discuss them quickly, iterate some ideas, talk to different departments get their requirements of course, as I said, the CEO is the final decision maker, but then we also needed to ask HR, what sort of things do you need to save time	Agile management culture	Organization

Interviewee 1 But one thing that really helped operating in Sweden is that the rules and regulations and the expectations of the market are very well defined. If you talk to other companies that have made it big, they will tell you what sort of certifications and sort of methods that you need to follow. Sometimes we try to work with municipalities in Sweden, and they have very detailed documentation of what sort of company we should be, how we should, what sort of organization we should be, what kind of policies we need to have in place so that we can work with the government. So since these are very clearly defined, and then being in Europe, we also	Influence from External stakeholders	Environment
Interviewee 1 So one challenge is to make up our mind and to figure out what we are going to need to build so that we can continue to use it five years from now of course we continue to develop as our needs grow. But we also don't want to bottleneck ourselves into something that we will either sell and the other challenge is sort of logistical or financial that is since we work with limited resources, we don't have a lot of spare capacity	ICT literacy and Capabilities	Technology
Interviewee 2 The interesting thing is we help other companies to digitalize so inherently, we also digitalize ourselves before we digitalize others, right. So, we kind of would work with digital products. So whenever, let's say as a part of the software developer, we face problems that something that we are doing in a one way, but that can be done in a better and efficient way, if we digitalize some processes without doing that manually.	ICT literacy and Capabilities	Technology
Interviewee 2 the decisions or the visions from the, from the management of the company and their willingness to change because even though not everyone, like changes so whenever you know where you are, unless you're working and following a process or long time, and then people become familiar with it, and become used to it. And then if you want to change the process, modify it at some part of the process, then it's always difficult to make everyone convinced and also to execute it. In right way so that you don't have the regular like productivity. So that was one thing to look into. So, the company management was, they were motivated enough. Also, they were successful in persuading other older company employees to start using a new system or to build a new system	Agile management culture	Organization

Interviewee 2 So, to have dedicated resource and dedicated time for this, because when we, when you build a system you need different people to work on it. What is let's say a product owner will set the set the requirement of the products and then the project manager will manage the manager team and make sure it's executed properly and the team so you need people from different parts of the company to work together.	Clear assignment of roles for DT	Organization
Interviewee 4 But what I think access to infrastructure in Sweden is quite decent. And yes, of course, this helps. if we were in a country who wasn't this forwarding infrastructure like a Southern European country, perhaps this would probably be a lot harder.	Access to ICT infrastructure	Environment
Interviewee 5 as an IT company, of course, it's we are kind of kind of a pioneer of digital, because that's what we do for our customers. So, we always have to look into our work process as well and see what can be improved in the daily task	Presence of skilled IT professionals	Technology
Interviewee 5 Because when we found from an experience that okay even if it's an internal project, like if we take it as a Customer project, then it's more efficient. Like if we if we think it has a customer there is like a mindset of we do it seriously that is internal project. So one of the ways of taking it seriously, is that okay, you put a project manager in put set of developers team that okay, and handle it as our weekly meetings make the way we do the customer. We work in an Agile process with the customer. So we try to do it in the same internal ones, that we try to have weekly meetings. With development team. And when we have a, we have someone responsible as a project manager.	Clear assignment of roles for DT	Organization
Interviewee 5 And I think it's, I think it's more like a, like a mindset like okay, we, we are working in Sweden, so like if Sweden is like high in innovation and innovation driven, then to survive and to do good in this economy. In this country, we have to be innovation as well. So I think	Access to ICT infrastructure	Environment
Interviewee 1 Of the ideation of the ERP system that we use currently, and we use some spreadsheets for some some resource tracking, we use JIRA for some progress tracking and project tracking project management. And we've been planning to build it all together into one. And I've been involved in the early stages of that and tried my best to think about the user experience the user being us. I tried to contribute some ideas regarding how best to have the	Define digital platform infrastructure	Technology

interfaces and the flows designed so that we have a higher efficiency than we have now. Okay.		
Interviewee 5 we need a system where does have HR module where we have an employee module so we could have a lot of people's database in one place. We can, we can see the resume is we can see the details in one place. Like for example, we have another system in Bangladesh where which we use for attendance when people come in office, they sign in and sign out. So that's a separate data. So, we thought okay, well now it's time if we can bring those data into here. Then we are using a different CRM software now for sales for which we are paying several 1000 a year. But we thought okay, if we can bring that CRM into our ERP as well. Okay, then then we have more connected system or aggregator system. Also, the recruitment, if we could bring into this ERP, then it's much easier to control from one sort of one application so that we don't have to pay five different applications or if we don't have to, like logging in five different places. So, we can have a more advanced dashboard. So, we can look into the data that how much should be grouping is going on how much sales is happening, how much we are invoiced, so we have a different accounting system	Define digital platform infrastructure	Technology
Interviewee 1 Of the ideation of the ERP system that we use currently, and we use some spreadsheets for some some resource tracking, we use JIRA for some progress tracking and project tracking project management. And we've been planning to build it all together into one. And I've been involved in the early stages of that and tried my best to think about the user experience the user being us. I tried to contribute some ideas regarding how best to have the interfaces and the flows designed so that we hav+A30e a higher efficiency than we have now. Okay.	Define digital platform infrastructure	Technology

Interviewee 4 yes, the problem before was that as both for me and other sales personnel on site, we need to prospect for customers. We need to make those prospects a lead. And after we made them a lead, we need to make them into a potential customer to say to have a first meeting with them, and so on. And it's basically in the first steps of this journey, that we are facing issues like how to prospect efficiently because the solutions we had at hand were satisfying, you know, and it took us a really, really long time to do the work. The amount of work that the bot does for us in two hours would take us eight hours of work otherwise.	Define digital platform infrastructure	Technology
Interviewee 5 it's a very, like kind of a flat Okay, and I think the way we have the structure, it's to make sure otherwise it can be a bit tricky sometimes know who is responsible for what, so that we have someone who like who is responsible for the company so we can ask questions of the way it didn't happen, and so on, but I think but, but the main engine actually often like the main driving force comes from there like more. Yeah, we try and have democratic practice in the company. So even if we have the structure and the people playing places, we try to take in the opinions from the junior developer positions as well. And that's how the company information flows that we are very, very transparent in the company information and I think that's one of the key in the democratic practice the company.	Agile management culture	Organization
Interviewee 5 I think, first of all, we think what's our competence or what we have competencies in like, like we work a lot with Python or dotnet. And especially in Python, so we see okay, that's our competence.	Presence of skilled IT professionals	Technology
Interviewee 1 So our primary goal was whatever competency we have in our team, we will use that to build something that is going to make us more efficient.	Presence of skilled IT professionals	Technology
Interviewee 2 "And besides that, I would say our primary goal is to develop web software. We are competent in it. So, we know how things work. This is how we are different from other companies, let's say, if this was a different company, who produces some kind of products. And if they want to do the digital transformation within their company, then it's difficult for them because, you know, to set the requirements or to know what to do. They know the problems, but they don't know what or how to solve them. But we know how to solve our problems, how we can create new tools, new systems, connect systems…"	Presence of skilled IT professionals	Technology

Interviewee 3 So, so the goal is to be more aligned with the services we provide so that we internally practice the things that we are already delivering to other companies	Determine triggers for digital transformation	Organization
Interviewee 4 Yes, the problem before was that as both for me and other sales personnel on site, we need to prospect for customers. We need to make those prospects a lead. And after we made them a lead, we need to make them into potential customers to have a first meeting with them, and so on. And it's basically in the first steps of this journey, that we are facing issues like how to prospect efficiently because the solutions we had at hand were not satisfying, you know, and it took us a really, really long time to do the work. The amount of work that the bot does for us in two hours would take us eight hours of work otherwise	Determine triggers for digital transformation	Organization
Interviewee 4 "The main trigger is of course, sales going down in 2020 due to the pandemic. I imagine that more or less every company will experience some kind of hardship during 2020. And then that triggered the need for something else, something more efficient."	Determine triggers for digital transformation	Organization

Appendix E Reflection Document 1- Destelia Ngwenya

How does your study correspond to the goals of this course? Why? Focus on the goals that were achieved especially well and those that are not well achieved.

This thesis was inspired by previous research conducted during the Management of Global IT resources course, as well as by my current and previous work in the non-profit sector where we have tried (and failed several times) to implement digital transformation projects, so when the idea was proposed by the supervisor I thought it was a good match. The study was conducted using the case study research strategy at an IT company in Sweden. Overall, the study helped to meet the objectives of the thesis course in that I learned about what positive factors can influence the successful implementation of digital transformation project from previous studies through conducting the literature research in chapter 2, I was able to use the success factors identified in literature to design semi-structured interview guides that were used to collect data from selected participants at the selected company, and was able to apply thematic analysis on the collected data to glean out success factors that influenced the implementation of digital transformation projects at the IT company. The data analysis revealed success factors that aligned with those identified in previous studies, but also revealed some new success factors.

How did the planning of your study work? What could have been done better?

While we had a good plan on paper, we did struggle to meet the deadlines we had set for ourselves, and were in the end, slightly delayed in completing the thesis. We underestimated the amount of time it would take to conduct the literature review, and therefore ended up spending more time than we had planned on this. We also underestimated the amount of time it would take to secure interviews with interview participants at the selected company, and since we could not complete chapter 3 without actually conducting the interviews, this delayed the process. We also underestimated the amount of time it would take to transcribe the interview notes, and this contributed overall to our running behind schedule. What I would do differently in the future is to start on the literature review as early as possible, and perhaps allocate adequate time for this activity to ensure we stay on schedule. I would also start conversations with potential interviewees at the company as early as possible to understand their availability and to plan for this, even if it means booking the interviews a month or two in advance. Having the interviews booked in advance would also in a way inspire us to work more efficiently as we would have pressure to finish certain aspects of the work ahead of the scheduled dates of the interviews. What worked well however, was allocating a couple of hours every day, to the extent possible, to work on some aspects of the thesis. This allowed us to break down the work into smaller chunks and could finish it without feeling too overwhelmed.

How does the thesis work relate to your education? Which courses and areas have been most relevant to your thesis work?

The Management of Global IT Resources (MGIT) course at Stockholm University was one of the most relevant courses to my thesis work. I also used knowledge gained from the Scientific Communication and Research Methodology (FMVEK) and the Research Methodology for Computer and Systems Sciences (MMII) courses to design the methodology for the study. The Business Process Design and Intelligence within the IT (BPDI) and Data Warehousing courses also shaped my understanding of Business Processes and business process automation.

How valuable is the thesis for your future work/studies?

The thesis is very valuable for my current and future work. I work in the non-profit sector where I am responsible for designing/managing Information Management Systems. We have tried and failed in the past to implement certain digitization projects, and I will now use the success factors I identified during this thesis development to inform management about what we need to do differently and what we need to invest in (for example dedicated CTO/Resource responsible for digitization) if we are to succeed in implementing these projects. The thesis has also given me the confidence I need to challenge/engage my managers differently on the topic of digitalization.

How satisfied are you with your thesis work and its results? Why?

I am well satisfied with the thesis work and its results. Given the high proportion of digital transformation projects that fail, I am confident that this will be a useful resource for managers and companies planning to embark on digital transformation. It has been a challenging and satisfying journey to work on the thesis, and I have learned not only about success factors in digitalization but about working in collaboration, as well as about my own strengths and limitations.

Appendix F – Reflection Document 2- Jamilus Siam

How does your study correspond to the goals of the thesis course? Why? Focus on the goals that were achieved exceptionally well and those that were not well achieved.

The goal of the thesis course was to conduct independent research and produce a well-written thesis that addresses a specific research question. Our study corresponds to these goals as it involved conducting semi-structured interviews with employees at a company to explore the challenges and opportunities of digital transformation. The methodology used was which was appropriate for the research question and allowed for a thorough analysis of the data collected. The study achieved its goal of answering the research question and providing insights into the challenges of digital transformation. However, due to time constraints and limited availability, only one company was studied, and internal documents were not available, which could have further enriched the study.

How did the planning of your study work? What could you have done better?

The planning of the study involved setting a time plan. However, it had to be adjusted due to changing circumstances, such as the need to change the methodology and interview scheduling changes. Although the agile approach worked well, it could have been better if we had more explicit communication channels and contingency plans for interview scheduling changes. Having a more well-defined methodology right from the start would be beneficial to prevent the requirement for a major change in the approach later on.

How does the thesis work relate to your education? Which courses and areas have been most relevant for your thesis work?

The thesis work is closely aligned with my education as it incorporates concepts and knowledge gained from various courses and areas of study. Specifically, courses such as Digital Business Strategies, Management of Global IT Resources (MGIT), Scientific Communication and Research Methodology (FMVEK), and Research Methodology for Computer and Systems Sciences (MMII) have been particularly relevant to my thesis work. These courses have equipped me with the necessary skills and knowledge to conduct independent research, analyze data, and effectively communicate the findings.

How valuable is the thesis for your future work/studies?

The thesis is valuable for my future work and studies as it has given me valuable insights into the challenges and opportunities of digital transformation in organizations. The insights garnered from this study can be implemented in future endeavors related to the subject, leading to improved decision-making and efficacy in the approach. Moreover, the thesis has played a crucial role in enhancing my research abilities, which are vital for upcoming academic pursuits and career prospects.

How satisfied are you with your thesis work and its results? Why?

I am satisfied with my thesis work and its results. It was a challenging and enjoyable experience to conduct independent research and produce a well-written thesis. The methodology used was appropriate for the research question, and the results provided valuable insights into the challenges of digital transformation. The fact that the supervisor, peer reviewer, and company supported the study is also rewarding. While there were limitations in the study due to time constraints and limited

availability, the study achieved its goal of answering the research question and providing insights into the challenges of digital transformation.