Gordon Institute of Business Science
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Delays in the completion of digital transformation projects in the South African banking sector

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A research project submitted to the Gordon Institute of Business Science, University of Pretoria, in partial fulfilment of the requirements for the degree of Master of Business Administration.

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ABSTRACT

As the banking sector progressively adopts digital transformation as a core pillar for overall organisational strategies, the timely completion of digital transformation projects is becoming increasingly vital for organisational performance. Existing literature has highlighted the prevalence of delays in the completion of digital transformation projects and the problematic effects thereof, however, it does not adequately explain the factors that contribute to these delays in the South African banking sector. An understanding of these factors is crucial given the increasing technological adoption by the South African banking customers. The purpose of this research was to seek an understanding of the factors that contribute to delays in the completion of digital transformation projects in the South African banking sector. Thus, equipping the sector with the necessary knowledge to effectively mitigate the adverse effects associated with project time delays, thereby ensuring the enhancement of organisational performance.

The research methodology employed was a qualitative, exploratory approach in order to acquire new insights. To enhance the understanding of this phenomenon, a total of 14 semi-structured, in-depth interviews were carried out with project managers who possess experience in digital transformation projects within the banking sector of South Africa and have encountered delays in project completion.

The main findings suggest that in order to achieve timely and successful completion of digital transformation projects, it is essential for banks to sufficiently prepare their culture, processes, and employees for such projects. Moreover, the bank's strategy ought to include digital transformation as a fundamental component. Furthermore, there must be a governance framework for digital transformation projects that drives accountability and facilitates efficient project decision-making. Finally, the findings highlight the importance of top management in providing support for digital transformation projects in order to facilitate the attainment of elevated rates of digital adoption and seamless integration into existing organisational processes.

The research findings confirm established digital transformation theories and introduce a South African banking perspective to the current body of literature. As a result, these findings could serve as a basis for the formulation of propositions.

KEYWORDS

digital transformation, project delays, banking

DECLARATION

I declare that this research project is my own work. It is submitted in partial fulfilment of the requirements for the degree of Master of Business Administration at the Gordon Institute of Business Science, University of Pretoria. It has not been submitted before for any degree or examination in any other University. I further declare that I have obtained the necessary authorisation and consent to carry out this research.

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CHAPTER 1: INTRODUCTION TO RESEARCH PROBLEM

1.1 Introduction

This section provides an overview of the study's background and context, followed by an exploration of the research problem and purpose. Subsequently, the study's justification from a business and theoretical perspective is discussed. The section will therefore provide an overall introduction to the research problem with respect to delays experienced by organisations in the South African banking sector in completing digital transformation projects.

In order to provide a coherent structure for introducing the research problem, the background section has been organised as depicted in Figure 1.

Figure 1 Structure of the background section

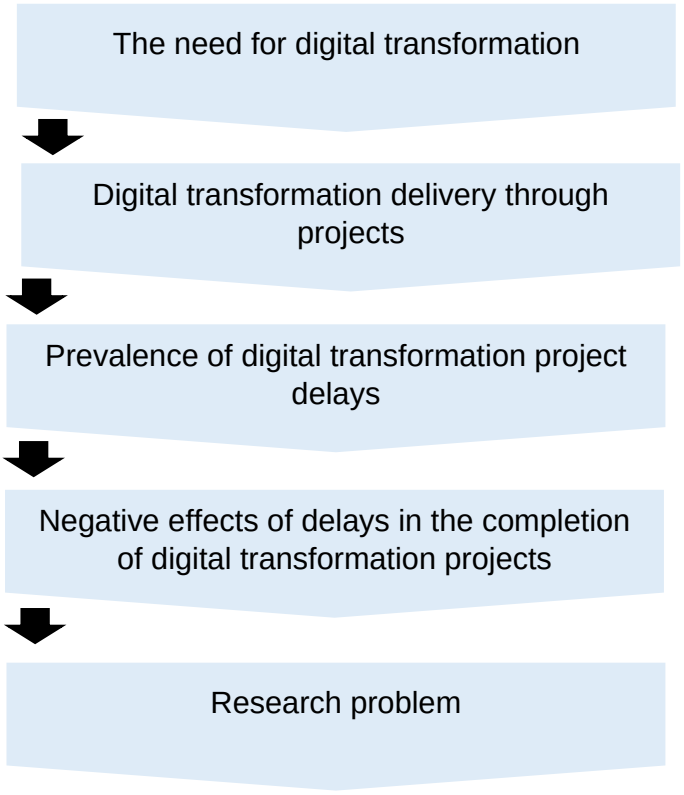

Figure 1 Structure of the background section

Source: Author's compilation

1.2 Background

During its initial conceptualisation, the notion of digital transformation was employed interchangeably with conventional interpretations of digitisation. However, Mikalef and Parmiggiani (2022) contest the interchangeable use of the terms digitisation, digitalisation, and digital transformation, positing that each concept carries a unique meaning and necessitates specific business strategies. Hence, it is imperative to conduct an analysis of the historical development of these three terminologies in scholarly works.

The literature widely acknowledges the commonly accepted definition of digitisation as a process involving the conversion of analogue data into binary code, which enables computers to store, manipulate, and transmit information (Bloomberg, 2018). Alternatively, digitisation can be defined as the technical procedure of transforming analogue signals into digital format (Legner et al., 2017). Mikalef and Parmiggiani (2022) concur that digitisation is merely the transition from analogue to digital. Evidently, the process of digitisation primarily entails the conversion of signals from one format to another, without prioritising signal quality enhancement or implementing any procedures during their creation.

There is also broad consensus among academics on the definition of digitalisation. Digitalisation pertains to the rate of transformation in a community propelled by advancements in digital technology (McAfee, 2009). As McAfee expands, this involves various technologies in different phases of development that will merge and generate novel technologies. Too, it is a sociotechnical procedure that employs digitisation methods to wider social and institutional settings, which establish digital technologies as infrastructure (Tilson et al., 2010). Therefore, simply put, digitalisation refers to the restructuring of various domains of social life around digital communication and media infrastructures (Brennen & Kreiss, 2016).

On the other hand, Horlacher et al. (2016) define digital transformation as the application of new digital technologies to enhance fundamental business operations, such as client services, operational efficiency through digitisation, and new business opportunities. As posited by Wessel et al. (2021), digital transformation denotes a fundamental shift in the manner in which business operations are conducted. The authors differentiate between digital transformation and information technology by contending that the latter pertains to the improvement of pre-existing organisational

procedures, whereas the former relates to the emergence of new organisational procedures and identity.

Digital transformation is a process an organisation undergoes as it transitions from an old approach to new methods of working and thinking by utilising digital, social, mobile, and new technologies (Terrar, 2015). However, Krasonikolakis and Tsarbopoulos (2020) warns that the potential for digital transformation to cause significant harm is high, resulting in lasting effects on technical competencies and behaviours that are pertinent to organisational outcomes. It is a disruption which allows companies to get rid of archaic practices, challenge the status quo, examine uncertainties, and create a new future (Farris, 2020). The interrelatedness of the concepts of digitisation, digitalisation, and digital transformation is apparent. However, it is imperative to recognise them as distinct entities. This study focuses on the concept of digital transformation as delineated in the academic literature reviewed.

1.2.1 The need for digital transformation

The literature contains a substantial body of evidence that underscores the advantages of digital transformation for organisations. For example, Khrais and Shidwan (2020) reported an increasing trend in the commencement of digital transformation projects by organisations, with the aim of improving competencies to maintain competitiveness and satisfy the demands of stakeholders.

Additionally, as asserted by Rodrigues et al. (2022), the banking sector is currently experiencing a digital transformation wave to optimise aspects such as departments, policies, procedures, and even entire business models. Therefore, evidence illustrates that digital transformation offers various advantages for organisations, such as improving competencies, maintaining competitiveness, and satisfying stakeholder demands. Thus, if there are delays in completing digital transformation projects, banks will not be able to reap the aforementioned commercial benefits.

Various academics have shown that organisations have gone through digital transformations in order to meet evolving customer needs. As an example, the banking sector has widely embraced the use of technology in the delivery of financial services in order to match how consumers utilise digital financial systems (Ajigini & Chinamasa, 2023). Due to the exponential increase in the number of consumers using the internet and online technologies over the last few decades, organisations

across various sectors have begun to digitise and establish new digital business models (Louw & Nieuwenhuizen, 2020). Therefore, evidence in the literature supports the notion that the banking sector's embrace of digital technology is coordinated with the growing use of these technologies by banking consumers. Thus, in order to effectively respond to the rapidly evolving demands of banking customers, it is imperative for banks to successfully complete digital transformation projects within predetermined timelines, without encountering any delays.

Scholarly research further suggests that the banking sector is initiating digital transformation projects to deliver digital systems in an effort to optimise costs, thereby enhancing profitability. For instance, Sackschewsky et al. (2019) posit that banks have initiated digital transformation projects to achieve cost savings through the elimination of inefficiencies and the automation of operational tasks. The authors underscore the competitive advantages that ensue from significant enhancements in the productivity of employees, organisational procedures, and internal communications. Consequently, it is evident how important digital transformation projects are to increasing organisational profitability through lower operating costs.

Moreover, academic research indicates that the banking sector is implementing new digital financial services to develop new revenue streams, thereby enhancing profitability. To illustrate, Miers (2017) highlights the importance of enhancing revenue by augmenting operational capacity through the delivery of digital transformation projects. Thus, it is apparent that the banking sector reaps commercial benefits through the timely completion of digital transformation projects. Thus, any delays in the completion of revenue-generating digital transformation projects will have an adverse impact on the revenues of the banks.

Scholarly research further suggests that the banking sector is exposed to numerous cyber security risks, as a result, the inability to timely complete digital transformation projects targeted at mitigating cyber-attacks could pose a threat to a bank and its customers. For example, Tornjanski et al. (2015) have expounded that banks encounter significant cyber risks and as a result of their limited capacity to timeously innovate to respond to these external technology-based threats, customers data may be compromised. Consequently, potential delays in the completion of digital transformation projects, which are designed to provide innovative cybersecurity capabilities, may leave the banking sector vulnerable to external technology-driven risks.

In a similar notion, Ben-Asher and Gonzalez's (2015) findings indicate that cyber-attacks frequently target public web servers that facilitate the connection between banking networks and the internet. Thus, banks must undertake digital transformation projects aimed at yielding security advantages for customers, the existing banking infrastructure, and the broader community (Ali et al., 2020). Therefore, time overruns or delays in the completion of digital transformation projects, which are designed to enhance the cyber security of banks, have the potential to expose both the banks and their customers to cyber-attacks.

Sinigaglia et al. (2020) have observed a notable disparity in the frequency of cyber-attacks directed toward the banking sector in comparison to other industries. This disparity is cited by the authors as the reason for the substantial financial resources allocated by banking sector organisations to digital transformation projects intended at enhancing cyber security measures. This is aligned with the explanation that the implementation of digital transformation provides banks with prospects to enhance global financial security systems, as provided by Cockburn et al. (2019).

In the context of the South African banking sector, Capitec Bank's (2022) Risk and Management Committee reported that the principal aim for the fiscal year 2023 is to create a dedicated project team that would focus solely on executing projects pertaining to the protection, detection, and mitigation of cybersecurity risk. Therefore, evidence demonstrates that the timely completion of digital transformation projects is crucial for enhancing the cybersecurity posture of the banking sector.

The banking sector is presently facing significant pressure from stakeholders to migrate to emerging technologies through digital transformation projects (Rodrigues et al., 2022). Therefore, the banking sector is embracing digital transformation for a variety of stakeholder related reasons.

Several academic researchers have illustrated the beneficial societal impact that can be facilitated through the implementation of digital technologies by banks. As indicated by Mavlutova et al. (2023), digital transformation has been found to result in the financial sector's contribution to sustainable development by means of financial inclusion and operational efficiencies.

The study conducted by Amudhan et al. (2022) examined the effects of digital banking services on rural customers in India. The authors advocated for the adoption of digital transformation by banks as a means of increasing the proportion of

individuals with access to banking services. Therefore, scholars have provided evidence that the implementation of digital transformation in the banking sector yields significant societal advantages, including but not limited to financial inclusion.

Furthermore, there exists empirical evidence indicating that financial services providers operating within the South African banking sector have adopted digital transformation strategies in order to capitalise on other benefits. For example, as reported by Nedbank Group (2022), the implementation of its Managed Evolution digital transformation project has enabled continued double-digit growth in digital metrics, client satisfaction scores at the top of the South African banking peer group, higher levels of cross-sell, main-banked client gains, market share gains in household deposits, and improved efficiencies as evidenced by cumulative operating model.

The integration of technology constitutes a fundamental element of Capitec's strategy, enabling the creation of tailored and user-friendly solutions that promote prudent financial decision-making among its customers (Capitec Bank, 2022). In order to stay competitive, FirstRand is investing in digital platforms with sector-leading user interfaces that make it possible to deliver integrated financial services that are contextual, affordable, and innovative to both retail and business customers (FirstRand Limited, 2022). Therefore, it is evident that in South Africa, the banking sector employs digital transformation strategies to achieve advantages such as enhanced customer satisfaction and increased product sales.

It is evident that in order to maintain competitiveness, organisations have to undertake digital transformation projects, as the impact of digital technologies is already being experienced across a diverse spectrum of industries (Scott & Orlikowski, 2022).

1.2.2 Delivery of digital transformation through projects

Digital transformation is delivered through projects that seek to implement innovative practises in the operational processes of organisations, utilising one or more advanced technologies (Kala, 2023). As a result, undertaking digital transformation projects is widely recognised as a complex and ever-evolving endeavour, given that it involves the ongoing and concurrent adaptation of various aspects of an organisation, including its resources, employees, cultural norms, and decision-making processes (Davenport, 2019). Therefore, the delivery of digital

transformation is accomplished by the commencement and completion of digital transformation projects within the project timelines.

In the South African banking sector, there is an ongoing commitment to allocate significant resources towards projects aimed at the delivery of digital transformation. For example, Capitec Bank is set to commence projects aimed at enhancing machine learning capacity in areas such as client insights, business bank credit, anti-money laundering, fraud, and digital commerce (Capitec Bank, 2022). Standard Bank Group's (2022) financial reports state that the bank invests in digital transformation projects such as cloud migration solutions to improve business agility and system resilience. As a result, it is apparent that the South African banking sector is actively pursuing projects aimed at putting digital transformation strategies into practise in order to improve operational capabilities and address organisational inefficiencies. Thus, for banks to accomplish these objectives, the timely completion of digital transformation projects is essential.

The importance of projects and their management in facilitating digital transformation has been emphasised in scholarly literature. It has been underscored that completing these projects within the designated timeframe, without any delays, is of utmost importance. For instance, Ullah et al. (2018) asserted that the timely completion of digital transformation projects plays a crucial role in enabling the successful and efficient development of new products, procedures, and services for organisations and conversely the delays adversely impact the successful and efficient development thereof.

Additionally, Iansiti and Lakhani (2020) argue that undertaking digital transformation projects poses a considerable challenge for organisations due to the varying scope and complexity of such projects. Hence, the authors concluded that completing these projects in a timely manner is crucial for organisations to gain a competitive advantage. Indeed, this argument was supported by Chouaibi et al. (2022) by demonstrating a positive correlation between organisational performance and the timely completion of digital transformation projects.

Furthermore, digital transformation projects that are successfully completed within time limits considerably improve the organisation's decision-making process and guarantee consistency and reliability across all organisational divisions and geographical locations (Barth & Koch, 2019). Therefore, literature elucidates the

manifold organisational benefits associated with the timely completion of digital transformation projects.

1.2.3 Project delays

However, various researchers have drawn attention to the frequency of delays in the completion of digital transformation projects (Shahibi et al., 2019). Firstly, a “delay” is a circumstance that leads to an increase in the time required to complete a project (Aljamee et al., 2020). As per Adamu’s (2022) definition, a “delay” refers to the circumstance where projects are not completed within the designated or contracted period due to factors involving vendors, clients, advisors, and other relevant parties. Tariq and Manuel (2020) argue that the measurement of project success can be attributed to time performance as a crucial factor.

Literature provides evidence indicating the prevalence of delays in the completion of digital transformation projects, necessitating an exploration of the factors that contribute to these delays. For example, Edwards (2019) reported that despite the presence of enthusiastic spending, the rate of large-scale digital transformation projects experiencing time overruns is as high as 70%.

Furthermore, The Standish Group's (2020) Chaos Report indicates that 69% of global technology projects in 2019 encountered delays in their completion. This is corroborated by Bilir and Yafes (2021) who found technology projects success rates to be as low as 44% in their 2021 study of projects success and failure rates in Turkey.

These low success rates are comparable to the findings of Gaikema et al. (2019), who found that only 43% of Dutch digital transformation projects were successfully completed on time in 2018. The problem of delays in the timely completion of digital transformation projects is evidently substantial and impacts both emerging and established economies.

1.2.4 Negative effects of delays

Various academic researchers have conducted studies on the effects of digital transformation project delays on the performance of organisations (Hampton et al., 2012; Paraskevopoulou et al., 2022). For example, Priyono et al. (2020) argue that delays in the completion of digital transformation projects have the potential to pose a significant threat to the survival of organisations.

Moreover, Paraskevopoulou et al. (2022) expounded on the adverse effects of delays in technology projects on the financial performance of clients, consultants, and other stakeholders. Therefore, scholarly evidence substantiates the notion that delays in the completion of digital transformation projects pose a significant risk to the survival of organisations and exerts adverse effects on crucial stakeholders, including customers and suppliers.

1.3 Research problem

Various factors have been identified as having an impact on the completion timelines of digital transformation projects. These factors include project size, limited end-user involvement, poor project planning, insufficient top management support, and project complexity (Schmidt et al., 2001; Cleland, 2007; Bashir et al., 2020). Hence, it is imperative for organisations to possess an understanding of the factors that contribute to delays in the completion of digital transformation projects. This understanding is essential for the development of effective strategies aimed at mitigating uncertainties in project timelines. By doing so, organisations can fully harness the advantages offered by emerging technologies. The present study sheds light on both the commercial benefits associated with timely completion of digital transformation projects, as well as the negative organisational consequences resulting from their delays.

Additionally, talent has been identified by Sawy et al. (2015) as one of the primary factors that substantially affect the successful execution of digital transformation projects. This is supported by Kane et al. (2017), who assert that an organisation's ability to effectively adapt to change is contingent on its talent pool. The ability and inclination of an organisation's workforce to embrace technological advancements to enhance business outcomes is a crucial factor in ensuring the timely completion of digital transformation projects (Kotter International, 2022). Throughout the 2022 financial year, Capitec hired a total of 335 professionals with expertise in digital technology to support the bank's strategic efforts toward digital transformation (Capitec Bank, 2022).

When executing digital transformation projects, the banking sector must be aware of the major risks associated with the change as well as the threats it faces (Rodrigues et al., 2022). The banking sector is presently encountering various uncertainties concerning the assimilation of digital transformation, alongside the plausible hazards linked to these procedures. Conducting an analysis of the factors that impact digital

transformation in the banking sector is a crucial task for researchers. The process involves the identification of the main constraints and opportunities, while considering the perspectives of influential stakeholders regarding this topic, as noted by Rodrigues et al. (2022).

Understanding the reasons behind project delays provides stakeholders the foresight required to prepare for and minimise the problematic effects of time overruns (Karami & Olatonji, 2020). Multiple studies have been conducted to understand these causes of digital transformation project delays in various organisations and countries. There is, however, a paucity of academic research focused on the banking sector in South Africa (Van Dyk & Van Belle, 2019).

In the South African banking sector, Standard Bank Group has recently increased its investments in digital technology systems with the aim of enhancing client services, infrastructure resilience, and client relationship management platforms (Standard Bank Group, 2022). Similarly, Capitec has initiated digital transformation projects to implement technology-driven solutions, which are a crucial component of the bank's overall strategy. These projects facilitate the development of customised and user-friendly solutions that encourage sound financial decision-making by clients and improve their digital experience (Capitec Bank, 2022).

By studying the factors that project managers believe contribute to delays in the completion of digital transformation projects in the South African banking sector, this research intends to close this gap.

1.4 Purpose statement

The aim and purpose of this research is to add to the existing literature on factors that contribute to delays in the completion of digital transformation projects, particularly in the South African banking sector.

1.5 Theoretical relevance of the research

The literature on digital transformation indicates that the timely completion of digital transformation projects is highly uncertain within organisational contexts (Kraus et al., 2022). However, the current state of the literature on digital transformation indicates a limited understanding of the underlying causes of project delays in the banking sector. Thus, this research will investigate the contributors to digital transformation project completion delays in the South African banking sector.

According to Nahidi and Sifat (2023), there is a research gap in understanding the underlying factors that contribute to time overruns in digital transformation projects. The authors posit that an understanding of these factors would empower managers to effectively address elements that could potentially lead to project delays, thereby resulting into commercial benefits such as cost savings for organisations.

By investigating the phenomenon through the perspectives of project managers in banking in South Africa, this research will provide novel insights that will facilitate a better understanding of digital transformation in the context of the South African banking sector. Van Dyk and Van Belle (2019) emphasised the need for managers to comprehend the factors that contribute to digital transformation project delays in order to identify and address them, and thus ameliorate their negative effects.

1.6 Business rationale for study

This study will assist managers in anticipating what obstacles may arise during the delivery of digital transformation projects by understanding the causes of completion delays. An understanding of risk factors that may lead to delivery delays is crucial in preparation for the launch of digital transformation projects, given their disruptive nature to an organisation, as noted by Lee et al. (2018) and Wessel et al. (2021).

The issue of digital transformation poses a significant challenge for business managers worldwide, with particular emphasis on those operating within the African continent, as noted by Kala (2023). Thus, understanding the various factors that lead to digital transformation project delays will be useful in assisting managers to contextualise digital transformation within the broader desired organisational transformation strategy. This research will also assist managers in understanding the challenges encountered by project managers in charge of digital transformation projects, thereby enabling organisational leaders to offer appropriate executive support to ensure the timely completion of such projects. As referenced in the previous section (theoretical relevance of the research), Nahidi and Sifat (2023) assert that there exists a research gap in understanding the driving factors of digital transformation projects that necessitate active monitoring by managers to ensure timely completion.

This research will further assist management by providing insights on a variety of factors to be considered and prioritised when allocating capital to ensure the successful implementation of strategic digital transformation projects within an

organisation. Ultimately, it is the aim of this research to assist managers in the South African banking sector in executing digital transformation projects on time.

1.7 Outline of the study

The literature review that serves as the foundation for the research's constructs, concepts, and theoretical viewpoint is covered in the next chapter. Literature-based evidence is used to formulate propositions. The concluding remarks of the chapter provide a summary of the findings from the literature.

The research question and 3 research sub-questions are framed in chapter 3. Also, a depiction of how 13 interview questions were derived from propositions extracted from the literature review presented in chapter 2.

The chosen research methodology is outlined in chapter 4 along with its limitations, sampling strategy, sample size, measurement tools, data collection and analysis framework, and quality controls that were considered to produce the research findings.

Subsequent to the research methodology chapter, chapter 5 follows and presents the main findings drawn from the data analysis. The sample is explained at the beginning of the chapter in order to put the findings into context. Furthermore, the sample's suitability is evaluated to verify that it meets the predetermined standards. The main themes that emerged during the qualitative analysis process are then discussed in relation to each of the research question and sub-questions presented in chapter 3.

The research results are then discussed in chapter 6 and are contrasted with the reviewed literature from chapter 2. The conclusion of this chapter presents a framework that was derived from the findings.

The research's primary conclusions are outlined in the last chapter, which also shows how the research question was addressed by combining the findings with previously reviewed literature. Additionally, recommendations based directly on the research findings are included, including managerial implications. Research limitations are also indicated along with suggestions for future research.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

The following section provides an overview of the literature review that forms the basis for the constructs, concepts, and theoretical perspective of the research. The seven elements of the literature review are shown in Figure 1. High-level literature reviews of digital transformation and project within an organisation are the focus of the first and second parts. To understand how a digital transformation project differs from other types of projects, the third component combines the first two parts. The fourth element focuses on digital transformation in South Africa's banking sector. The performance of digital transformation projects is evaluated in the fifth component, with a focus on projects completion schedules and delays. The project manager's function in a digital transformation project is examined in the sixth part. The seventh and last section concludes the literature review.

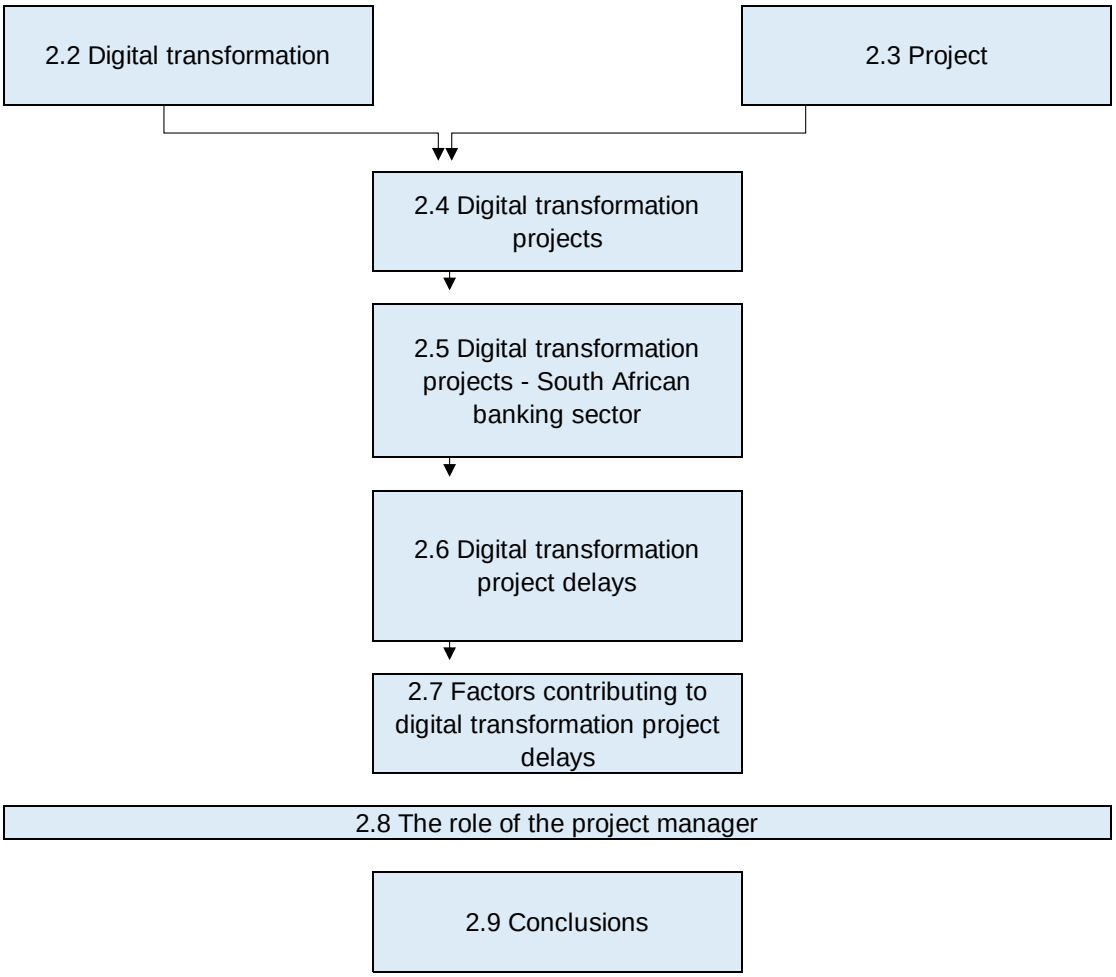

Figure 2 Structure of literature review

Source: Author's compilation

2.2 Digital transformation

Digital transformation projects that have large scopes, according to Taylor et al. (2012), are typically more complex and possess greater levels of delivery risk. Such projects require the participation of large project teams and the establishment of highly efficient lines of communication; consequently, these add to the complexity of the project and reduce the likelihood of its successful and timely completion.

The notion of high delivery risks within digital transformation is supported by the findings of Hartono et al. (2019) which showed that a rise in a project's complexity is frequently associated with a corresponding increase in risks, including uncertainty related to the project's completion dates. In this regard, the following proposition is made:

Proposition: The greater the digital transformation project's size/scope, the greater the likelihood of project delivery delays.

Thus, the below interview question is formulated to investigate this proposition through the research methodology outlined in chapter 4:

Interview question: *Within digital transformation projects that you were involved in; in what way did the project scope/size, or changes therein, affect the project's timely successful completion?*

Academic literature has shown that the implementation of digital transformation has brought about significant changes in various aspects of business, including processes (Hinings et al., 2018), organisational operations (Bonina et al., 2021), industries (Riasanow et al., 2020), and the economy as a whole (Scholz et al., 2018). The impact of digital transformation on business processes has been substantial, with the resultant increase in agility being identified as a crucial factor for achieving competitiveness and fostering innovation (Teece, 2020).

2.3 Project

Project Management Institute (2021) defines a project as a delimited and time-constrained endeavour that seeks to produce a unique outcome. As per the guidelines of the Institute, projects possess a distinctive characteristic of being concluded upon the attainment of their objectives or termination.

Similarly, Wysocki (2019) defined a project as a collection of interdependent and complex undertakings that possess unique characteristics and are directed towards

accomplishing a unified goal. As Wysocki explains, it is crucial to complete these tasks within a specified time frame, while adhering to predetermined standards and financial constraints. Therefore, by definition, a project must be completed within set timelines.

Therefore, a project refers to a time-bound undertaking aimed at generating a distinctive output or service and achieving advantageous outcomes that could have enduring effects (Hadian & Rahimifard 2019). Haq et al. (2019) assert that a project is a complex and ever-changing undertaking that requires the participation of multiple stakeholders who rely on each other. The outcome of a project is predetermined and well-defined in terms of its scope, timeline, and budget (Teubner, 2019). As a result, timely completion is an important aspect in determining the success of any project.

Organisations allocate resources towards projects, whether it be for the development of novel products and services or the optimisation of business processes, with the aim of generating value (Wu, 2022). The challenges posed by projects are often greater than those encountered in conventional management undertakings due to the presence of various constraints such as scope of work, time, resources, and budget (Williamson & Wu, 2019).

Artto and Dietrich (2007) assert that project categories exhibit a wide range of characteristics, each with unique strategic importance, necessitating the adoption of varied management approaches. Cadle and Yeates (2008) distinguish digital transformation projects from other projects based on their incorporation of software, systems package implementation, system enhancements, systems migration, infrastructure development, systems disaster recovery, and other minor systems projects.

2.4 Digital transformation projects

Digital transformation projects leverage new technologies to significantly transform an organisation's operations to enhance efficiency, minimising waste, optimising information management, and facilitate improved decision-making capabilities (Gertzen et al., 2022). As per the authors, projects geared towards the implementation of digital transformation exhibit notable distinctions from conventional projects, underscoring the importance of timely completion of such projects for organisations to sustain their competitive edge.

As reported by Kääriäinen et al. (2020), it is widely agreed that digital transformation projects typically involve alterations to an organisation's business operations and work methodologies, resulting from the incorporation of digital technologies.

Mitchell (2006) stated that digital transformation projects typically involve extensive, corporate-level undertakings that interconnect company processes, infrastructure, and information technology.

Porfírio et al. (2021) have noted that the execution of digital transformation projects can be a complex endeavour. The reason for this is that organisations that engage in such projects may be required to implement alterations to commercial frameworks (Warner & Wäger, 2019), organisational identities (Wessel et al., 2021), and entrenched customs and practices (Gurbaxani & Dunkle, 2019).

Market forces are prompting organisations all over the world to embark on digital transformation projects (Van Dyk & Van Belle, 2019). Edwards (2019) asserts that the prevalent digital transformation trend in the sector has led to a tendency among businesses to overlook the importance of setting clear and feasible project goals, which in turn causes delays in project completion.

In light of the ambiguity surrounding the expenses and advantages associated with the latest information technology, executives may opt to partake in observational and experiential learning by scrutinising the digital transformation investment choices sector peers (Gangopadhyay & Nilakantan, 2021).

The study conducted by Ochurub et al. (2012) examined the degree of employee preparedness for change as a measure of organisational readiness for implementing new technology systems. The findings of their study indicate that despite the initial objective of enhancing productivity and performance through the implementation of the new system, the project's success was influenced by pre-existing organisational conditions and the prevailing culture. Based on the authors' research, it is imperative to ensure that organisations possess the necessary readiness to implement new technology systems and offer effective change leadership in order to complete the project successfully.

Numerous scholarly studies have underscored the importance of organisational readiness, as manifested by the development of a deliberate, comprehensive digital transformation strategy, in enhancing digital transformation project performance. As an illustrative example, Wang et al. (2020) conducted a study evaluating the

influence of digital transformation strategies on organisational performance. Their findings demonstrate that the adoption of digital transformation strategies not only leads to immediate performance improvements but also yields long-term technological benefits, accordingly affirming the pivotal role of such strategies in achieving the desired outcomes of digital transformation projects, including adherence to project timelines.

Based on these, the below proposition is put forwards.

Proposition: When an organisation is not prepared for a digital transformation project but decides to commence one, delays in the project's completion are common.

Thus, the below interview question is formulated to investigate this proposition through the research methodology outlined in chapter 4:

Interview question: *Within digital transformation projects that you were involved in; what effect, if any, do you believe organisational readiness and preparedness have on the timely successful completion of a digital transformation project?*

2.5 Digital transformation projects in the banking sector

The banking services sector is undergoing significant changes due to the widespread adoption of digital solutions through complex digital transformation projects. This has led to the disruption of conventional intermediary practices, particularly those of traditional banks, as highlighted by Rodrigues et al. (2022). In South Africa, Capitec intends to enhance its data and technology academies by incorporating additional specialised programs. Furthermore, the organisation aims to provide capacity-building opportunities for its employees to facilitate the digital transformation of the bank (Capitec Bank, 2022).

Absa Group's sustained investment in digital platforms and rising spending on cybersecurity are reflected in its information technology expenditures, which increased 12% to R6 billion for the fiscal year that ended on 31 December 2022 (Absa Group Limited, 2022). Similarly, the financial year which ended 31 December 2022 saw a 12% increase in Standard Bank Group's operating expenses, which was attributed to a rise in investments made in digital transformation projects (Standard Bank Group, 2022).

Academic studies indicate that the banking sector is utilising digital capabilities more frequently to enhance the customer experience. For example, scholars such as Westerman et al. (2014) noted the use of digital communication platforms by banks to cultivate customer relationships earlier in the last decade. In recent years, Newman's (2019) report notes that the global banking sector has embraced digital transformation as a means of appealing to new customers via omnichannel communications. Lawson (2019) supports this viewpoint by arguing that banks are shifting towards digital solutions to improve services and meet customers' digital needs. As a result, the importance of digital transformation projects in delivering digital solutions for the benefit of customers is apparent.

2.6 Digital transformation project delays

2.6.1 Project delay definition

Delay is defined as the amount of time that exceeds the originally planned project completion date, indicating a project's inability to meet the agreed-upon schedule (Ansah & Sorooshian, 2018). As per the findings of Sambasivan et al. (2017), the incidence of delays can lead to substantial costs and consequential challenges for all involved parties, which may have an adverse impact on the broader economic sector. The authors contend that given the intricate nature and considerable financial investments associated with projects, it is imperative for project managers to prioritise the reduction of delays in the project completion process.

Due to the rapid evolution of digital technologies, delays in completing a project are widely regarded as a crucial factor in the ultimate failure of a digital transformation project (Leal et al., 2018). From the point of view of Buday et al. (2014), the aspect of time plays a crucial role in digital transformation projects, as an innovative technology that is initially incorporated into the project may be eclipsed by a more disruptive alternative by the time the project is concluded. In the literature on digital transformation projects, the issue of scheduling to ensure timely completion is known as the project scheduling problem (Vega-Velázquez et al., 2018).

2.6.2 Prevalence of digital transformation project delays

The topic of digital transformation projects has been extensively researched over the years, with a particular focus on identifying the key factors that contribute to their timely and successful completion. Despite the availability of surveys conducted by reputable organisations such as The Standish Group (2020) and Project

Management Institute (2021), the failure rates of projects remain significant and show little improvement compared to previous surveys.

As demonstrated by Weingartner et al. (2015), the unique technological obstacles associated with hardware and software misconfiguration, network failure, security threats, or interoperability issues contribute to a greater failure rate for digital transformation projects.

2.6.3 Digital transformation project delays effects on organisations

Achieving the timely and successful completion of a digital transformation project carries considerable importance, often necessitating a substantial financial commitment on the part of the organisation (Sanchez et al., 2017). This assertion is corroborated by Guida and Sacco (2019), who emphasise the paramount importance of on-schedule completion of digital transformation projects for an organisation's holistic prosperity. Furthermore, Varajão (2018) affirms this viewpoint, underscoring the timely completion of digital transformation projects as a pivotal determinant for an organisation's survival.

The timely completion of digital transformation projects bears noteworthy implications for an organisation's operational efficacy, spanning both its immediate and long-term performance outcomes, as underscored in the study by Shahibi et al. (2019). Extending this rationale to the banking sector, Diener and Špaček (2021) underscore the imperative of timely completion of digital transformation projects within banking institutions. They emphasise that such timely completion is indispensable for preserving competitiveness and ensuring the long-term sustainability of banks, given the intricate nature of contemporary banking technologies. Furthermore, Kala (2023) has observed that the timely completion of digital transformation projects confers resilience characteristics upon organisations.

Crucially, any delays in the timely completion of digital transformation projects can have negative effects on employees, as these projects can significantly impact both staff professional and personal lives (Kaplan & Haenlein, 2019). In agreement, Saarikko et al. (2020) argued that delays in the completion of digital transformation projects pose a significant challenge for employees, as they can result in disruptive changes to their personal and professional lives. People are naturally averse to change, claims Edwards (2019), and this tendency is accentuated when an organisation is starting a digital transformation project. Edwards emphasises the

underlying fear of workers that technology will eliminate jobs, particularly when it automates and accelerates traditional procedures.

Proposition: Employees who are not adequately informed about the nature of an organisation's digital transformation project will continue to harbour concerns about the project, delaying its completion.

Thus, the below interview question is formulated to investigate this proposition through the research methodology outlined in chapter 4:

Interview question: *Within digital transformation projects that you were involved in; prior to project initiation, were employees adequately informed about the impact of the digital transformation project on the organisation, and how did that affect/impact its timely completion?*

Planning for the timely completion of individual project phases is a crucial task that has a substantial impact on the success of digital transformation projects and, by extension, the competitive advantage of businesses (Nan & Harter, 2009).

2.7 Factors contributing to digital transformation project delays

2.7.1 Introduction

Over the last decades, scholars, including Mitchell (2006), have recognised that digital transformation project delivery timelines are influenced by various factors, as a consequence presenting a significant challenge for project managers and project sponsors when attempting to estimate project completion dates. The challenges commonly encountered in project management, such as adhering to deadlines, budgetary limitations, and resource constraints, are among the factors that may lead to delays in the completion of digital transformation projects (Wang, 2016).

Buday et al. (2014) provide further insight into the potential challenges that may impede the timely completion of digital transformation projects. The authors suggest that an inadequate understanding of requirements, managerial complications, technological constraints, and legal barriers are among the factors that may contribute to delays in the completion of such projects. However, the existing literature suggests that the high rates of completion delays in digital transformation projects cannot be attributed to a discernible pattern of failure or a singular underlying cause (Al-Ahmad & Al-Fagih, 2009; Dwivedi et al., 2015; Hughes et al., 2015).

2.7.2 Project complexity

Complexity is a key determinant in project success and failure in the field of project management (Rodríguez Montequín et al., 2018). However, Andersen (2018) observed that a widely accepted academic definition of complexity does not exist. Baccarini (1996) was among the pioneers in formulating the theoretical framework for the constructs of project complexity. The author's preliminary perspective posited that project complexity revolved around both organisational and technical complexities. As per Vidal and Marle's (2008) assertions, the evaluation of project complexity should encompass environmental factors, as these factors can significantly impact the successful delivery of a project, both directly and indirectly.

Evidently, project complexity is a multifaceted concept that is subject to various interpretations and perceptions. However, ongoing research endeavours are progressively broadening and clarifying the parameters that define project complexity. Geraldi and Soderlund (2016) put forth the argument that there is a pressing need for further research to delve into novel categorisations of project complexity, particularly in diverse industries.

In the digital transformation field, the study conducted by De Rezende et al. (2018) examined the research patterns on project complexity spanning from 1965 to 2015. The findings revealed a noticeable increase in digital transformation project complexity research from the mid-1990s. However, Bakhshi et al. (2016) demonstrated that the research of digital transformation project complexity constituted a mere 8% of the overall research on project complexity. As highlighted by Sandberg et al. (2020), the delays in the completion of digital transformation projects can be attributed to the swift emergence and expansion of new complex digital technologies.

For the purposes of this research, the conceptualisation of project complexity offered by Joseph et al. (2021) in terms of project goals, requirements management, technology management, and norms and standards are utilised. As explained by the authors, effective management of complexity is crucial for the successful and timely completion of a digital transformation project. This can be achieved through the accurate definition and understanding of project goals, updating requirements to facilitate strategic alignment, and recruiting participants with relevant technological expertise.

Pursuant to the findings of Vaz-Serra et al. (2022), developing a tool for measuring project complexity in the early phases is feasible. Individual project stakeholders should use this tool since it has the potential to improve project management practises. The authors argue that this assumption is correct, notwithstanding a lack of understanding about the scope and composition of such complexity during the early stages of project development. As a result, the following proposition is advanced:

Proposition: Ineffective complexity management hinders the timely and successful completion of digital transformation projects.

Thus, the below interview question is formulated to investigate this proposition through the research methodology outlined in chapter 4:

Interview question: *Within digital transformation projects that you were involved in; how did the existence or non-existence of a project complexity management process impact the digital transformation project's timely completion?*

2.7.3 Degree of uncertainty

The notion of uncertainty has been defined in the information processing domain as the variance between the information that an entity possesses and the information that it requires (Galbraith, 1973). Additionally, it encompasses the obscurity that arises from the coexistence of numerous and contradictory interpretations pertaining to a particular organisational scenario (Cooper & Wolfe, 2005).

In the context of projects involving digital transformation, uncertainty is described in terms of a project's scope, changes in the needs of potential system users, and technological complexity (Sakka et al., 2016). As shown by the works of academics such as Barki et al. (2001), Tiwana and Keil (2004), and Han and Huang (2007), the subject of uncertainty in digital transformation project management has been extensively researched with the goal of developing project management methodologies. This extensive research is necessary as digital transformation projects are characterised by a high degree of knowledge intensity and entail varying degrees of uncertainty and equivocality (Sakka et al., 2016).

As demonstrated by Martens and Vanhoucke (2019), the occurrence of such uncertainty and variability thereof during project implementation makes it inevitable for deviations from the original schedule to arise. To guarantee the timely successful completion of a project, the authors argue that it is crucial to monitor its progress and

execute remedial actions to restore the project's alignment with its proposed trajectory. Wang (2016) asserts that early identification of uncertainty causes in a project is crucial for effective management of such uncertainties.

Gölcük (2020) concurs and expands by noting that digital transformation projects are difficult to deliver on schedule due to their complexity and dynamic nature. Gölcük posits that the completion of digital transformation projects within the designated timeframe is a challenging undertaking, primarily due to the considerable uncertainty and interdependence relationships inherent in such projects. Wied et al. (2020) adopt a positive perspective towards uncertainties, contending that they are an inevitable component of any project. The authors emphasise the importance of being aware of both the favourable and unfavourable effects that uncertainties can have on a digital transformation project over its entire lifespan.

In contrast to other project types, digital transformation projects are typically characterised by a shorter duration and a higher degree of uncertainty (Wang, 2016). Digital transformation projects typically feature a large team, numerous cost lines, stringent deadlines, a wide range of users who will be impacted, and numerous systems that will be connected to the new system, which increases degrees of uncertainty (Davila, 2000; Sicotte & Langley, 2000). Buday et al. (2014) concur and posit that the expensive contingency measures are a drawback of the elevated degree of uncertainty that characterises digital transformation projects.

Proposition: The greater the level and frequency of uncertainty inside a digital transformation project, the less likely it is to be completed successfully and on time.

Thus, the below interview question is formulated to investigate this proposition through the research methodology outlined in chapter 4:

Interview question: *Within digital transformation projects that you were involved in; what effect did aspects of the project such as complexity and uncertainty have on its timely completion?*

2.7.4 Time management

Shahibi et al. (2019) posit that efficient time management is crucial to avoid unnecessary delays and the eventual failure of a project. As a result, the authors argue that proper risk assessment techniques are required to assist decision-makers in identifying associated risks before undertaking these projects.

Proposition: The likelihood of the project's overall completion being delayed increases when time management on critical project milestones is poorly managed.

Thus, the below interview question is formulated to investigate this proposition through the research methodology outlined in chapter 4:

Interview question: *Within digital transformation projects that you were involved in; in what way did effective/ineffective time management of key project milestones affect/impact the ultimate duration of the project?*

2.7.5 Stakeholder management

Based on stakeholder theory, organisations are shaped by the expectations of their stakeholders, which are referred to as groups that can either influence or be influenced by a project (Blair & Stout, 1999; Harrison et al., 2010). The degree to which managers take into account the interests of diverse stakeholders is referred to as stakeholder orientation (Jones et al., 2018). By allowing for closer interaction with stakeholders to incorporate their interests into organisational choices, stakeholder orientation in an organisation increases stakeholder management capacity. Stronger stakeholder orientation therefore means project managers have a better knowledge of the interests and influence of various stakeholders (Harrison et al., 2010).

The objective of stakeholder management is to establish and sustain connections between the project team and stakeholders in order to fulfil project objectives and demands (Costantino & Lewis, 2015). As maintained by the authors, the project manager is responsible for managing the engagement and influence of stakeholders during the project by assessing their involvement, re-evaluating the stakeholder register, and adjusting engagement strategies as needed.

In the context of digital transformation projects, their timely completion has been noted by scholars to be influenced by stakeholder management, as evidenced by the works of Almajed (2017) and Purna Sudhakar (2012). Consistence with Bourne and Walker (2008), the success or failure of a digital transformation project is contingent upon the perceptions of stakeholders involved. Managing stakeholders' expectations is a critical function of project management, despite the fact that stakeholders frequently possess divergent and occasionally conflicting objectives (Rose, 2013).

Gupta et al. (2019) have determined that deficient stakeholder management in the context of a complex digital transformation project is a notable factor contributing to project delays. In conformity, Cuppen et al. (2016) stated that stakeholders wield

significant influence across various dimensions and must be in sync with the strategic objectives of the project team. Enhanced project performance can be attributed to the collaboration among various stakeholders (Civera et al., 2019). Figueiredo Filho et al. (2022) posit that stakeholder management holds particular importance in the context of digital transformation projects, given the considerable number of stakeholders who are involved either directly or indirectly.

Thus, within the context of digital transformation, it is common for projects to experience a notable failure rate as a result of insufficient stakeholder management and organisational elements, such as team member dynamics (Pimchangthong & Boonjing, 2017). The successful execution of a project requires the involvement of stakeholders and the development of a contingency plan to address uncertainties, especially as remote teams are becoming more commonplace (Gallego et al., 2021). The authors Muhammad et al. (2022) highlighted the importance of developing a structured and inclusive framework to empower external stakeholders, thereby enhancing project outcomes.

Based on the study conducted by Nathaniel and Henry (2021), several crucial elements contribute to the achievement of effective stakeholder management. These elements encompass the establishment and cultivation of favourable relationships with stakeholders, the identification and fulfilment of stakeholders' concerns and requirements, and the facilitation of efficient communication pertaining to the project's impacts. Leonard and van Zyl (2014) argued that stakeholder management fosters the development of robust interpersonal relationships among project stakeholders, leading to the establishment of cooperation, trust, support, and knowledge sharing. The establishment of solid interpersonal relationships is a critical aspect of digital transformation project environments due to the collaborative nature of project life cycles. Hence, the influence of interpersonal relationships on team performance is considered significant.

As claimed by Agata and Joanna (2021), the practise of stakeholder management enables the recognition and examination of significant project stakeholders, as well as the development of a strategy to effectively oversee their involvement and the activities of the project team. The authors propose that by means of this process, the attitudes of the primary stakeholders involved in the project are identified in order to assess the likelihood of project success.

Proposition: Insufficient stakeholder management process can impede the progress of a digital transformation project, resulting in delays.

Thus, the below interview question is formulated to investigate this proposition through the research methodology outlined in chapter 4:

Interview question: *Within digital transformation projects that you were involved in; in what way did effective/ineffective stakeholder management, during the digital transformation project execution stage, affect/impact the project's successful timely completion?*

2.7.6 Project governance framework

Following the definition provided by the Project Management Institute (2021), the term project governance refers to a set of guidelines and procedures that direct project management endeavours with the aim of producing a distinct outcome, service, or consequence, and accomplishing the strategic and operational objectives of an organisation. It covers the entire project lifecycle and offers a standardised approach to managing the project, guaranteeing its success by establishing, documenting, and communicating project procedures. In addition, project governance can improve project performance by promoting prompt and effective risk management and the construction of a rigorous control environment (Abednego and Ogunlana, 2006).

Various studies have indicated that the creation and implementation of project governance is a significant factor in achieving successful project completion. For instance, as demonstrated by the research of Bowen et al. (2007), project governance has been proven to offer a systematic method for managing project progress, enabling important stakeholders to understand and make use of decision-making governance processes throughout the project life cycle.

In a follow-up study, Brunet and Aubry (2016) discovered that the application of project governance can improve project success by streamlining managerial and administrative activities and improving stakeholder management through the establishment of documented governance guidelines. As a result, this group of authors demonstrated that the development and implementation of project governance frameworks contribute to the successful timely completion of projects.

A number of scholars have studied the function and the benefits of project governance in relation to digital transformation projects. For instance, project

governance in the context of digital transformation, as argued by Johnstone and Tate (2017), comprises the creation of authoritative structures, regulations, and mechanisms to supervise and manage such projects.

The research findings of Sirisomboonsuk et al. (2018) demonstrated that project governance has a favourable effect on the success of digital transformation projects. As a result, the authors suggested that in order to ensure the success of digital transformation projects, project governance should always be a component of the operational plan. Therefore, the literature provides evidence that project governance positively contributes to the timely and successful completion of digital transformation projects.

Proposition: The creation and implementation of project governance frameworks positively contributes to the timely and successful completion of digital transformation projects.

Thus, the below interview question is formulated to investigate this proposition through the research methodology outlined in chapter 4:

Interview question: *Within digital transformation projects that you were involved in; in what ways did the existence or absence of a project governance framework affect/impact the project's timely successful completion?*

2.7.7 Existing technological landscape

Edwards (2019) posits that the failure to conduct an audit of the existing technology infrastructure prior to embarking on digital transformation projects is a contributing factor to the protracted completion of such projects. As Edwards maintains, a critical aspect of achieving success in a digital transformation project is to thoroughly examine all existing systems, processes, tasks, and assets. This consolidation of various components, including processes that are already utilising technology to some extent, is crucial for the success of the project.

Proposition: Prior to initiating a new digital transformation project, failure to conduct a comprehensive assessment of the existing technological landscape is likely to drive project completion delays.

Thus, the below interview question is formulated to investigate this proposition through the research methodology outlined in chapter 4:

Interview question: *Within digital transformation projects that you were involved in; prior to initiating the digital transformation project, was an assessment of the existing technological landscape conducted, and how did that (assessment or lack thereof) impact the project's timely successful completion?*

2.7.8 Change management

As per the definition of Martins and Geldenhuys (2020), change can be defined as a transition from an old to a new state. In the context of an organisation, the term "change" refers to modifications made to work activities or tasks, encompassing roles, processes, structures, and values, with the aim of achieving a well-defined objective (Errida & Lotfi, 2021). Therefore, change management can be described as the utilisation of various tools, processes, and techniques to effectively plan, allocate resources, and oversee system-wide projects aimed at implementing change (Cummings et al., 2020).

Various researchers have demonstrated that the successful execution of change management tactics enhances the overall performance of projects. For example, referencing Williams and Williams' (2007) study analysing the effect of change management on the performance of information and communications technology (ICT) projects, the inadequacy of the change management strategy is a significant factor in the delays in the completion of technology projects. This inadequate change management strategy, in turn, usually affects the resilience of the organisation during a digital transformation project (Diaz et al., 2020).

In addition, Kirmizi and Kocaoglu's (2020) research into the secret to the success of enterprise systems projects, the implementation of digital transformation projects is a lengthy, difficult, and risky process that must adhere to a structured change management strategy encompassing various organisational components. Aranyossy et al. (2018) concluded that the timely completion of digital transformation projects depends on the change management that accompanies those projects. Consequently, the aforementioned scholars showed the affirmative influence of an effective change management process on the successful completion of digital transformation projects.

Although the advantages of a sound change management strategy have been demonstrated, various studies have indicated that change management remains a challenge in numerous digital transformation projects. For example, Fletcher and

Griffiths (2020) argued that several digital transformation projects lack a comprehensive change management strategy that involves all relevant stakeholders and guarantees a seamless project implementation process.

Zaoui and Souissi (2020) suggested that the creation of an effective change management strategy that ensures timely completion is the one problem frequently faced by digital transformation projects. Consequently, there is evidence in the literature to support the contention that inefficient change management practices within digital transformation projects have a negative effect on project performance.

Some scholars have attempted to explore the potential reasons for the existence of ineffective change management practices. For example, the authors Buchanan et al. (2005) and Burnes (2005) argued that change management in an organisational setting is a challenging task as it requires the adoption of a fundamental skill set and systematic approach that entails engaging employees at all levels of the organisation to attain favourable and sustainable results. In light of the available literature evidence, the following proposition is advanced:

Proposition: The absence of a change management strategy or plan to tackle the change-related obstacles linked to a digital transformation project could potentially impede the timely completion of the project.

Thus, the below interview question is formulated to investigate this proposition through the research methodology outlined in chapter 4:

Interview question: *Within digital transformation projects that you were involved in; was there a change management strategy/plan in place prior to project initiation to address the change-related activities connected with the digital transformation project, and how did the presence/absence of such a change management strategy affect/impact the project's timely completion?*

2.7.9 Top management support

The term "top management" typically refers to those occupying high-level positions such as Chief Executive Officer (CEO), President, Chairperson, Director, or other senior management officials (Denis & Denis, 1995). For the project implementation process, top management support involves the provision of a conducive and encouraging project environment (Bryde 2008). Thus, for a variety of reasons, the timely completion of digital transformation projects is contingent upon the support of top management.

Scholarly research into the viewpoints of project managers have brought to light instances where projects have faced challenges such as lack of expeditious decision-making processes within projects due to insufficient engagement of executives, inadequate sponsorship, and a general lack of commitment from top management (Emam & Koru, 2008; Lemon et al., 2002; Standing et al., 2006). Thus, the lack of support from top management can lead to slow resolution of issues, leading to the ultimate failure of a digital transformation project (Purna Sudhakar, 2012; Aggarwal, 2010). Similarly, Bonner et al. (2002) and De Bakker et al. (2010) have posited that digital transformation projects that do not receive support from senior management are more prone to collapsing. Evidently, in keeping with the literature, the successful completion of digital transformation projects is dependent on the support of top management.

Research has demonstrated that project performance is enhanced by the existence of support from top management. Basamh et al. (2013) concluded that top management's appetite to be involved and provide the necessary resources is crucial to the timely completion of a digital transformation project. In addition, when top executives explicitly endorse a digital transformation project, members of the organisation perceive digital transformation positively (Ifinedo, 2008).

The hypothesis made by Kala (2023) suggests that there exists a positive and significant relationship between top management support and the success of digital transformation projects. This is backed up by Kanwal et al. (2017), who assert that senior management support improves the success of digital transformation projects. There is, therefore, sufficient scholarly evidence to argue that the presence of top management support improves project performance.

Also, studies conducted with a focus on project teams suggest that project managers can enhance project team performance by utilising shared leadership tactics and seeking assistance and direction from top management (Sudhakar et al., 2011; Stagnaro & Piotrowski, 2014). Therefore, scholars concur that adequate support from top management is a crucial factor in driving commitment across the board and ensuring that the project is treated as a priority and therefore resulting into the timely and successful completion of digital transformation projects by project teams (Bennett, 2009; da Silva et al., 2019). Therefore, it may be inferred from the research that top management support can motivate project teams.

The following proposition is advanced based on the above review of the literature on the influence of top management support on digital transformation project performance:

Proposition: One of the contributing factors that can facilitate the timely and successful completion of a digital transformation project is an elevated level of support from top management.

Thus, the below interview question is formulated to investigate this proposition through the research methodology outlined in chapter 4:

Interview question: *Within digital transformation projects that you were involved in; in what way did the existence or absence of top management support affect the timely completion of the digital transformation project?*

2.7.10 Communication and collaboration

The scholarly literature has established a consensus regarding the pivotal role of effective communication in the attainment of successful project teams and digital transformation projects (Monteiro de Carvalho, 2014; Kala, 2023). As per Kala (2023), effective communication plays a crucial role in the success of digital transformation projects. As Rosario (2000) stated, it is imperative to receive, manage, and act upon staff comments and feedback to ensure the timely completion of the project. Evidently, academic research has emphasised the significant correlation between effective communication and a positive outcome in the process of organisational change (Chomsky, 1992). Effective internal communication is a crucial factor in achieving project success within an organisation, as noted by Laframboise et al. (2002).

As reported by Weimar et al. (2013), the exchange of information among members of a digital transformation project team is facilitated by effective communication. This involves ensuring that information is delivered to the appropriate recipient and interpreted in a manner consistent with the sender's intended meaning. In the event of multiple stakeholders being involved in a project, it is imperative that project teams meticulously deliberate on the optimal approach, frequency, and mode of communication to avert potential issues (Hughes et al., 2015).

The inadequate exchange of information and the existence of communication obstacles may have an adverse effect on the timely completion of digital transformation projects (Monteiro de Carvalho, 2014). These communication barriers

are exacerbated when the digital transformation project team is required to work together on shared tasks that are subject to great uncertainty, strict time constraints, and differing cultural and capability perspectives (Mastrogiacomo et al., 2014). Therefore, insufficient communication across different levels of an organisation's hierarchy, namely executive, middle management, and front-line staff, has been identified as a potential factor contributing to project failure (Philip et al., 2009).

Digital transformation projects involve the collaboration, communication, and mutual influence of diverse specialists and stakeholders across various organisations within a development network (Levina, 2005; Damsgaard, 2010). As per the findings of their study on collaboration in information systems projects, Smolander et al. (2021) concluded that for a long-term collaborative project to succeed, the parties' cooperation practises must adapt in reaction to internal and external events.

In their study, Majeed et al. (2021) sought to examine the influence of project communication on project success. Their findings indicated that inadequate communication can significantly impede project success and contribute to its ultimate failure. Based on the results of their research, it is imperative for project managers and line managers to, through communication, ensure the active involvement of all employees in order to effectively contribute to the achievement of project objectives.

Proposition: During a digital transformation project, ineffective communication between stakeholders is likely to cause delays in the project's completion.

Thus, the below interview question is formulated to investigate this proposition through the research methodology outlined in chapter 4:

Interview question: *Within digital transformation projects that you were involved in; during the digital transformation project execution stage, how effective was communication between stakeholders and how did that affect the project's completion timelines?*

2.7.11 People impact

The execution of a digital transformation project is a socio-technical undertaking that impacts both people and technological resources in order to accomplish a shared objective (Baxter & Sommerville, 2011; Eason, 2014). Therefore, people management issues, such as failing to involve staff in the project at an early stage, ineffectively managing staff resistance within the organisation, and an emphasis on the technical aspects of a project, can contribute to delays in the completion of digital

transformation projects (Hughes et al., 2015). Diener and Špaček (2021) assert that unaddressed staff resistance can have severe consequences for digital transformation projects, hindering the attainment of project benefits.

Proposition: Ineffectively managing employee resistance inside the organisation may lead to digital transformation project delays.

Thus, the below interview question is formulated to investigate this proposition through the research methodology outlined in chapter 4:

Interview question: *Within digital transformation projects that you were involved in; in what way did the existence or absence of employee resistance within the organisation affect/impact the project's timely completion, and if employee resistance existed, could better management of such employee resistance alter the outcome?*

2.7.12 Conclusion

Thus, there is a growing body of literature on the causes of digital transformation project delays worldwide, however, limited research has been conducted on the causes of digital transformation project time overruns in the South African banking sector. This research seeks to close this gap.

2.8 The role of digital transformation project managers

2.8.1 The need for a project manager

In 1991, Bennett acknowledged the necessity of a proficient project manager for complex projects. In scholarly discourse, project management is perceived as the accountability of the appointed project manager, involving the timely delivery of project outcomes, while conforming to financial constraints and ensuring requisite features and functionalities (Sanchez et al., 2017). The exponential increase in the number of certified project managers registered with the Project Management Institute from under 1,000 in 1989 to more than 700,000 as of December 2022 is indicative of the pivotal importance of this role (Project Management Institute, 2021).

The management of digital transformation projects involves the planning, execution, monitoring, and control of technology projects by a team of professionals led by a project manager, as described by Hsu et al. (2014). As stressed by Sandra (2019), during the initial stages of a project, the project manager is required to inform senior management about the anticipated delivery date of the project outcomes. The

importance of the digital transformation project manager's position has been recognised in guiding the execution and realisation of project goals (Wu et al., 2019).

2.8.2 Delivery of project objectives by the project manager

Project managers are required to establish delivery dates at the outset of projects, despite lacking sufficient data regarding scope and resources (Sandra, 2019). A project manager plays a crucial role in determining the successful timely completion of digital transformation projects (Wu et al., 2019). The role of a project manager is to ensure the achievement of project objectives while adhering to predetermined resource and time limitations (Teubner, 2019).

Project managers require systematic procedures and models to monitor the advancement of projects and furnish accurate information to facilitate their informed decision-making (Hadian & Rahimifard, 2019). A timetable based on the significant project milestones must be created by the project manager in order to oversee the project management process (Georgieva, 2019). As demonstrated by prior research (Agarwal & Ferratt, 2002; Wu et al., 2019), the role of the digital transformation project manager is crucial in achieving favourable outcomes for digital transformation projects.

2.8.3 Project manager’s formal power

El-Sabaa (2001) posits that project managers are tasked with the responsibility of interacting with a varied and significant group of stakeholders, despite the absence of any direct formal power over them. As per Petro and Gardiner's (2015) findings, the level of influence project managers have inside an organisation, reflected in their formal power, has a positive impact on project timelines. An et al. (2019) have posited that project managers may face challenges in exercising control over projects owing to the restricted powers vested in them.

2.8.4 Project manager’s negotiation skills

As per the proposition of Wu et al. (2019), it is imperative for the project manager to possess a keen understanding of organisational politics and adeptly manoeuvre within the organisation. This involves skilled negotiation to obtain essential resources and garner support from project champions and advocates.

2.9 Conclusion

Based on the review of the relevant literature, there is evidence that banks across the globe, including South Africa, have embraced digital transformation; consequently, significant investments are being made in the execution of digital transformation projects. The literature has specifically highlighted the importance of completing digital transformation projects in a timely manner for organisations. Furthermore, the importance of project managers in ensuring the punctual completion of digital transformation projects was apparent. The literature highlights a gap in understanding the factors that contribute to delays in implementing digital transformation projects within the banking sector of South Africa.

This study will therefore explicitly investigate the underlying causes of digital transformation project completion delays in the South African banking sector. Van Dyk and Van Belle (2019) and Mubako (2017) have noted that the lack of literature on the efficacy of digital transformation projects in South Africa is attributable to its recent emergence as a phenomenon.

CHAPTER 3: RESEARCH QUESTIONS

3.1 Introduction

This study is guided by one key central research question which has been formulated as; What are the factors that contribute to delays in the timely completion of digital transformation projects in South Africa's banking sector?

Three research sub-questions have been formulated as:

a. What management actions during the project planning stage ultimately influence the project's timely completion?
b. What management actions, during the project execution stage, influence the project's timely completion?
c. What effect does the project's nature, including elements such as size, scope, complexity, and uncertainty have on its timely completion?

The following propositions were formulated:

Proposition 1: When an organisation is not prepared for a digital transformation project but decides to commence one, delays in the project's completion are common.

Proposition 2: The creation and implementation of project governance frameworks positively contributes to the timely and successful completion of digital transformation projects.

Proposition 3: Prior to initiating a new digital transformation project, failure to conduct a comprehensive assessment of the existing technological landscape is likely to drive project completion delays.

Proposition 4: The absence of a change management strategy or plan to tackle the change-related obstacles linked to a digital transformation project could potentially impede the timely completion of the project.

Proposition 5: Employees who are not adequately informed about the nature of an organisation's digital transformation project will continue to harbour concerns about the project, delaying its completion.

Proposition 6: One of the contributing factors that can facilitate the timely and successful completion of a digital transformation project is an elevated level of support from top management.

Proposition 7: During a digital transformation project, ineffective communication between stakeholders is likely to cause delays in the project's completion.

Proposition 8: Ineffectively managing employee resistance inside the organisation may lead to digital transformation project delays.

Proposition 9: The likelihood of the project's overall completion being delayed increases when time management on critical project milestones is poorly managed.

Proposition 10: Insufficient stakeholder management process can impede the progress of a digital transformation project, resulting in delays.

Proposition 11: The greater the digital transformation project's size/scope, the greater the likelihood of project delivery delays.

Proposition 12: The greater the level and frequency of uncertainty inside a digital transformation project, the less likely it is to be completed successfully and on time.

Proposition 13: Ineffective complexity management hinders the timely and successful completion of digital transformation projects.

In order to address the research question and sub-questions, a set of 13 interview questions has been developed. These 13 interview questions were derived from propositions extracted from the literature review presented in chapter 2:

3.2 Research sub-question 1

What management actions during the project planning stage ultimately influence the project's timely completion?

Interview question 1:

Within digital transformation projects that you were involved in; what effect, if any, do you believe organisational readiness and preparedness have on the timely successful completion of a digital transformation project?

Interview question 2:

Within digital transformation projects that you were involved in; in what ways did the existence or absence of a project governance framework affect/impact the project's timely successful completion?

Interview question 3:

Within digital transformation projects that you were involved in; prior to initiating the digital transformation project, was an assessment of the existing technological landscape conducted, and how did that (assessment or lack thereof) impact the project's timely successful completion?

Interview question 4:

Within digital transformation projects that you were involved in; was there a change management strategy/plan in place prior to project initiation to address the change-related activities connected with the digital transformation project, and how did the presence/absence of such a change management strategy affect/impact the project's timely completion?

Interview question 5:

Within digital transformation projects that you were involved in; prior to project initiation, were employees adequately informed about the impact of the digital transformation project on the organisation, and how did that affect/impact its timely completion?

Scholarly debate:

The academic literature below provided guidance for **research sub-question 1.**

Table 1 Scholarly debate research sub-question 1

Research sub-questions	**Interview question themes**	**Propositions from literature**	**Citation**
What management actions during the project planning stage ultimately influence the project's timely completion?	Organisational readiness and preparedness.	When an organisation is not prepared for a digital transformation project but decides to commence one, delays in the project's completion are common.	(Edwards, 2019)
	Project governance framework.	The creation and implementation of project governance frameworks positively contributes to the timely and successful completion of digital transformation projects.	(Bowen et al., 2007) ;(Brunet & Aubry, 2016);(Johnstone & Tate, 2017);(Sirisomboonsuk et al., 2018);
	Assessing of the existing technological landscape.	Prior to initiating a new digital transformation project, failure to conduct a comprehensive assessment of the existing technological landscape is likely to drive project completion delays.	(Edwards, 2019)

	Change management strategy or plan.	The absence of a change management strategy or plan to tackle the change-related obstacles linked to a digital transformation initiative could potentially impede the timely completion of the project.	(Fletcher & Griffiths, 2020) ;(Zaoui & Souissi, 2020); (Kirmizi & Kocaoglu, 2020);(Aranyossy et al., 2018)
	Informing employees.	Employees who are not adequately informed about the nature of an organisation's digital transformation project will continue to harbour concerns about the project, delaying its completion.	(Edwards, 2019)

Source: Author's compilation

3.3 Research sub-question 2

What management actions, during the project execution stage, influence the project's timely completion?

Interview question 6:

Within digital transformation projects that you were involved in; in what way did the existence or absence of top management support affect the timely completion of the digital transformation project?

Potential probe – Can it be misplaced, too involved?

Interview question 7:

Within digital transformation projects that you were involved in; during the digital transformation project execution stage, how effective was **communication** between stakeholders and how did that affect the project's completion timelines?

Interview question 8:

Within digital transformation projects that you were involved in; in what way did the existence or absence of employee resistance within the organisation affect/impact the project's timely completion, and if employee resistance existed, could better **management of such employee resistance** alter the outcome?

Interview question 9:

Within digital transformation projects that you were involved in; in what way did effective/ineffective **time management** of key project milestones affect/impact the ultimate duration of the project?

Interview question 10:

Within digital transformation projects that you were involved in; in what way did effective/ineffective **stakeholder management,** during the digital transformation project execution stage, affect/impact the project's successful timely completion?

Scholarly debate:

The academic literature below provided guidance for **research sub-question 2.**

Table 2 Scholarly debate research sub-question 2

Research sub-questions	Interview question themes	Propositions from literature	Citation
What management actions, during the project execution stage, influence the project's timely completion?	Top management support.	One of the contributing factors that can facilitate the timely and successful completion of a digital transformation project is an elevated level of support from top management.	(Kanwal et al., 2017) ;(Kala, 2023);(Basamh et al., 2013);(Ifinedo, 2008);(da Silva et al., 2019)
	Stakeholder communication	During a digital transformation project, ineffective communication between stakeholders is likely to cause delays in the project's completion.	(Kala, 2023) ;(Rosario, 2000);(Smolander et al., 2021)
	Employee resistance.	Ineffectively managing employee resistance inside the organisation may lead to digital transformation project delays.	(Diener & Špaček, 2021) ;(Hughes et al., 2015) ;(Eason, 2014);(Baxter & Sommerville, 2011)
	Time management of key project milestones.	The likelihood of the project's overall completion being delayed increases when time management on critical project milestones is poorly managed.	(Shahibi et al., 2019)
	Stakeholder management.	Insufficient stakeholder management strategy can impede the progress of a digital transformation project, resulting in delays.	(Gallego et al., 2021) ;(Pimchangthong & Boonjing, 2017);(Civera et al., 2019);(Figueiredo Filho et al., 2022)

Source: Author's compilation

3.4 Research sub-question 3

What effect does the project's nature, including elements such as size, scope, complexity, and uncertainty have on its timely completion?

Interview question 11:

Within digital transformation projects that you were involved in; in what way did the project scope/size, or changes therein, affect the project's timely successful completion?

Interview question 12:

Within digital transformation projects that you were involved in; what effect did aspects of the project such as complexity and uncertainty have on its timely completion?

Interview question 13:

Within digital transformation projects that you were involved in; how did the existence or non-existence of a project **complexity management process** impact the digital transformation project's timely completion?

Scholarly debate:

The academic literature below provided guidance for **research sub-question 3.**

Table 3 Scholarly debate research sub-question 3

Research sub-questions	Interview question themes	Propositions from literature	Citation
What effect does the project's nature, including elements such as size, scope, complexity, and uncertainty have on its timely completion?	Complexity and uncertainty.	The greater the level and frequency of uncertainty and complexity inside a digital transformation project, the less likely it is to be completed successfully and on time.	(Joseph et al., 2021);(Wang, 2016);(Wied et al., 2020)
	Complexity management process.	Ineffective complexity management hinders the timely and successful completion of digital transformation projects.	Vaz-Serra et al. (2022)
	Project scope/size.	Insufficient stakeholder management strategy can impede the progress of a digital transformation project, resulting in delays.	(Schmidt et al., 2001; Cleland, 2007; Bashir et al., 2020)

Source: Author's compilation

CHAPTER 4: RESEARCH METHODOLOGY

4.1 Introduction

This section outlines the selected research methodology, including its limitations, sampling method and size, measurement instruments, data gathering and analysis framework, and quality controls used for the attainment of research findings.

4.2 Philosophy

The term research philosophy is used to describe the researcher's attitudes, presumptions, and views on the research topic that have an impact on the methodology chosen for the study (Saunders & Lewis, 2018). Five research philosophies were identified by Saunders and Lewis as positivism, realism, interpretivism, postmodernism, and pragmatism. This study followed an interpretivism research philosophy.

4.2.1 Interpretivism

When collecting research data through interviews and literature, interpretive techniques are the most appropriate (Rafiq et al., 2021). Interpretivism paradigm relates to an attempt to obtain an understanding of phenomena in their natural environment (Saunders & Lewis, 2018). It seeks to understand the meanings and subjective intentions of particular individuals in a given setting without imposing predetermined analytic categories (Babones, 2016; Gephart, 2004).

Ospina et al. (2018) posit that during the data collection process, researchers utilise interactive techniques and subsequently analyse the outcomes to develop an understanding. To understand the world from the perspective of the participants, researchers are required to engage in an interpretive endeavour, hence the term 'interpretivism' is used to describe this philosophy (Bonache & Festing, 2020).

This research followed an interpretivist approach to get insights into the viewpoints of project managers regarding the factors that contribute to delays in the successful completion of digital transformation projects within the banking sector of South Africa. Alvesson and Sandberg (2011) argue that adopting an interpretivist approach involves cultivating an open-minded stance towards evidence via the continuous scrutiny of preexisting assumptions.

This attitude assisted in obtaining information from respondents regarding factors that contribute to digital transformation projects completion delays in the South African banking sector. Babones (2016) advocates for the interpretive approach,

which posits that there exist various socially constructed perceptions of social reality, rather than a singular and unchanging social reality.

4.3 Approach to theory development

Saunders and Lewis (2018) have described the inductive theory development approach as a "bottom-up" technique that seeks to construct theory by understanding the meanings that individuals attribute to occurrences. Thus, to explore and understand the meanings that project managers attach to various factors that contribute to delays in the delivery of digital transformation projects in South Africa's banking sector, this study adopted an inductive approach to theory development.

The chosen approach aligns with the research's aim of understanding the source of delays in the completion of digital transformation projects. The relevance of the chosen approach is supported by Varpio et al. (2020) when arguing that subjectivist inductive research does not involve the formulation of a hypothesis at the outset, instead, the researcher gathers data pertaining to the phenomenon under investigation and subsequently identifies patterns within the data to develop an understanding of the phenomenon.

4.4 Methodology choice

The process of selecting an appropriate research methodology is a critical undertaking for researchers, necessitating a thorough rationale for its suitability in relation to the research objectives (Thomas, 2023; Clark et al., 2019). The research methodology used in this study was exploratory and qualitative in nature. The data collection process involved the use of semi-structured interviews. The objective was to understand factors that contribute to delays in the completion of digital transformation projects within the banking sector of South Africa.

4.4.1 Qualitative exploratory research methodology

The purpose and questions of the research should facilitate the justification of a research methodology (Viswambharan & Priya, 2016). Thus, a qualitative exploratory methodology was considered appropriate for gaining an understanding of the factors that contribute to the digital transformation project delivery delays in South Africa's banking sector. The utilisation of an exploratory qualitative approach facilitates a flexible process of data gathering, as the researcher abstains from any pre-existing assumptions (Clark et al., 2021).

Various scholars have advocated for the utilisation of qualitative research as a means to acquire insights into a given phenomenon. For example, Polit (2018) asserts that the purpose of qualitative research is to uncover the fundamental nature of a phenomenon in its entirety. Thus, this research has followed a qualitative research methodology to gather insights into factors that contribute to delays in the completion of digital transformation projects in the context of the South African banking sector.

Furthermore, scholars have recommended the use of an exploratory approach when performing qualitative research. For example, Quinlan et al. 2019 asserted that the primary objective of exploratory qualitative research is to gain an understanding and facilitate the explanation of a phenomenon (Quinlan et al., 2019). In alignment with this argument, Saunders and Lewis (2018) posit that exploratory research is a suitable approach for obtaining fresh perspectives, examining original inquiries, and assessing subjects from a new vantage point. Furthermore, as stated by Tracy (2020), exploratory research is a systematic and intentional methodology that encompasses a wide range of activities aimed at maximising the identification of generalisations that facilitate an understanding of a particular domain of social or psychological existence. Thus, this study followed an exploratory approach when collecting data.

4.5 Phenomenological research strategy

Phenomenology is a research strategy which facilitates research participants to provide more than mere accounts of empirical data; rather, it enables them to reveal fundamental insights into their lived experiences (Crowther & Thomson, 2020). Therefore, a phenomenology research strategy was followed for an understanding of the experiences of project managers, which in turn contributed to an understanding of factors driving delays in the completion of digital transformation projects.

The use of this research strategy for qualitative studies is supported by various researchers. For example, Saunders and Lewis (2018) noted that the phenomenology strategy is most often used in qualitative exploratory research studies to understand the reasons behind phenomena. In this context, Van Manen (1990) note that a phenomenology approach goes beyond descriptions of experiences to an ontological inquiry to uncover the root causes behind phenomena. Phenomenological research approaches are extensively applied to develop a deeper understanding of complex issues (Bhar, 2019).

4.6 Time horizon

This study adopted a cross-sectional design, with a primary focus on conducting interviews within the South African banking sector during the year 2023. A cross-sectional study is a research methodology that involves gathering data at a specific and unchanging point in time (Suswardany et al., 2017). Asiamah et al. (2021) assert that cross-sectional studies involve the collection and analysis of data at a single point in time, without comparing datasets collected over multiple time periods.

4.7 Population

Melville and Goddard (1996) define a research population as a pertinent assemblage of study individuals and/or objects. Saunders and Lewis (2018) claim that a consensus exists on the conceptualisation of research population as a comprehensive collection of individuals belonging to a specific group.

The demographic of interest for this study comprises project managers responsible for digital transformation projects within the banking sector of South Africa. The research population consists of digital transformation project managers who, according to Hwang and Ng (2013), play a crucial role in efficiently and effectively managing digital transformation projects till their desired completion.

Various studies have highlighted the importance of a project manager in the completion of digital transformation projects. For example, the role of a project manager is recognised as critical by Goedknegt (2013) who concluded that the project manager has a massive influence on the outcome of a project. The role of a project manager is crucial in a project as it has a significant impact on various aspects of the project (Silvius & de Graaf, 2019). The findings of Sohail's (2022) study on the responsibilities of project managers support the argument that the project manager is accountable for creating an environment that is conducive to a project's success. Therefore, the research population consisted of project managers with experience in completing digital transformation projects within the banking sector of South Africa.

4.8 Sampling method

Sampling is defined by Patil and Aditya (2020) as a process of selecting a part of a population to serve as the representative of that population.

The research used a purposive non-probability sampling technique, which was guided by the researcher's expertise and familiarity with the subject matter. Kakulu (2008) asserts that purposive non-probability sampling is a prevalent method utilised

by qualitative researchers. As explained by Saunders and Lewis (2018), purposive non-probability sampling enables the researcher to exercise discretion in the identification of participants who are considered pertinent to research objectives. Patil and Aditya (2020) agree that the research objective may necessitate the use of a non-random sampling technique to ensure the collection of relevant data.

In situations where a full population list is not available, the purposive non-probability sampling approach can be a valuable tool (Saunders & Lewis, 2018). The utilisation of purposive sampling enables the researcher to deliberately choose research participants based on the research's intended purpose, through the application of qualifying criteria such as age, status, or functional role within an organisation (Saunders & Lewis, 2018).

Additionally, the use of a non-probability sampling technique is deemed suitable for exploratory studies that aim to gain insights and an understanding of phenomena (Bloomberg & Volpe, 2012). Purposive sampling is a technique that can be used to select participants who are appropriately situated to furnish relevant and valuable data (Campbell et al., 2020). Consequently, a non-probability sampling technique was used to sample project managers with experience in completing digital transformation projects within the banking sector of South Africa.

4.8.1 Sample size

This research comprised a sample of 14 project managers with experience in completing digital transformation projects within the banking sector of South Africa.

In the event that saturation was not achieved after conducting interviews with the 14 participants, it would have been necessary to expand the sample size, however saturation was reached after the 14 interviews. This is as recommended by Guest et al. (2006), that data collection should stop when saturation is reached. The phenomenon of data saturation in qualitative research is characterised by the point at which further interviews fail to yield new information (Gugiu et al., 2020).

4.9 Unit of analysis

The unit of analysis is the central entity to be analysed in a research study (Hair et al., 2013). In this study, project managers with experience in completing digital transformation projects within the banking sector of South Africa have been identified as units of analysis. To attain the research objective of gaining an understanding of the factors that contribute to delays in the completion of digital transformation

projects in the South African banking sector, these project manager's perspectives were researched.

4.10 Measurement instrument

Semi-structured interviews of an open-ended nature were carried out with project managers with experience in completing digital transformation projects within the banking sector of South Africa. The interviews were conducted using remote digital communication methods. The interview sessions were recorded to facilitate transcription at the stage of data analysis.

The use of semi-structured interviews for this study is substantiated by Patil and Aditya (2020), who emphasised the adaptability afforded to researchers by semi-structured interviews, which also guarantee the full coverage of all questions listed on the interview schedule. Aligned to this is Quinlan et al. (2019), when positing that it is advisable to use a probing interview technique that utilises open-ended and adaptable questions to gather full insights for understanding a specific phenomenon. Indeed, Saunders and Lewis (2018) agree that semi-structured interviews are a suitable method for conducting exploratory qualitative research.

4.11 Data gathering

Bell et al. (2022) reported that the most used data collection method in qualitative research is participant interviews. Similarly, as noted by Saunders and Lewis (2018), using open-ended semi-structured interview questions is a suitable methodology for qualitative exploratory research.

This study involved conducting semi-structured interviews with project managers with experience in completing digital transformation projects within the banking sector of South Africa. This approach provided the researcher with the necessary flexibility to ask probing questions while ensuring that core questions are consistently asked of all participants, as recommended by Bell et al. (2022).

4.11.1 Interviews' duration

A single interview session, on average, required an hour to conclude, as there were instances where questions and responses were reiterated, abridged, and rephrased throughout the interview. Indeed, as asserted by Sigstad and Garrels (2018), the utilisation of repetition in exploratory qualitative research interviews can prove to be a valuable technique as it affords the respondent the opportunity to confirm their responses.

4.11.2 Interviews' location

Interviews were conducted virtually. Bhar (2019) argued that the researcher should obtain background information about participants to ensure that their preferences are accommodated when deciding on the interview location. However, decisions about the interview location and other relevant factors that may affect the wellbeing and comfort of participants are not fixed and should continually be evaluated as researchers are well positioned to assess what is good for the respondent (Daley, 2012).

Komesaroff (2008) supports this when positing that the researcher needs to, through a 'microethics' process, read the "room" by understanding hidden clues that may point to the participants not feeling comfortable. For this study, respondents were made aware that they could withdraw from the interview session at any time without any penalty should they encounter discomfort.

4.12 Analysis approach

Creswell and Plano Clark (2018) described data analysis as a process of allocating meanings to raw data with the aim of formulating research conclusions.

The transcription of interviews was performed to facilitate the analysis of participants' responses. As stated by Kvale (1996), transcription refers to the process of converting spoken language, which adheres to a specific set of rules, into written language that follows a distinct set of rules. Similarly, Flick (2018) argued that the evaluation, management, copying, sorting, examination, and quotation of data can only be accomplished through the analysis of written language. As a result, the interviews with the project managers were transcribed first and then analysed utilising transcriptions.

Various scholars have recommended the use of a thematic approach to analysis data. For example, a thematic approach to data analysis is said to be best suited for exploring research subjects' views (Braun & Clarke, 2022; Cassol et al., 2018). Therefore, to facilitate the identification of patterns, a thematic analysis was performed to group the responses into concise themes.

Various benefits of following a thematic approach are highlighted in literature. For example, Barker et al. (2016) state that one key advantage of utilising thematic analysis in exploratory qualitative research is its impartiality towards any particular theoretical framework.

4.13 Quality controls

Credibility, transferability, dependability, and conformability as suggested by Crowther and Thomson (2020) were used to evaluate and ensure the quality of research findings. The application of credibility techniques is necessary for qualitative research to support the justification of the credibility of findings (Liao & Hitchcock, 2018). The utilisation of triangulation, which involved the gathering of converging evidence from literature review of published studies was used to validate or contrast research findings. This approach is supported by Nastasi and Schensul (2005) and Patton (2015).

4.14 Limitations

The subjective nature of qualitative studies poses inherent risks of being influenced by various biases, as noted by Saunders and Lewis (2018) and Quinlan et al. (2019). For example, the researcher's biases may have influenced the selection of project managers with experience in completing digital transformation projects within the banking sector of South Africa.

Responding to open-ended interview questions can pose a challenge for the interviewees, as noted by Kothari (2004). During interviews, open-ended questions were utilised to investigate the underlying reasons and factors that contribute to delays in the timely completion of digital transformation projects. However, it is important to note that this approach posed a challenge for some respondents, however this was managed by ensuring that the focus remains on the semi-structured interviews on the interview guide.

Agee (2009) argued that the researcher's inadequate experience in conducting interviews may have an impact on the quality of the collected data. The lack of training of the researcher in conducting research interviews posed a limitation in data collection as some posing questions could have been crystallised.

Scientific generalisability to other industries outside of the researched population may not be valid as only the South African banking sector was researched. Liu and Wang (2014) emphasised that scientific generalisability is the validity of applying findings made in a particular target population to other populations. This study aimed to contribute to existing theories rather than test them, thus, future research is required to ensure that findings may be generalised further.

The study's sample size was restricted to a specific group of individuals residing in Gauteng, South Africa, which may have resulted in a geographical bias that could potentially impact the quality of the research findings. Leitão Pedro et al. (2011) have provided support for the notion that the quality of research findings decreases as the degree of geographical bias in a given data set increases.

No data regarding organisational culture and other material dynamics was examined. Consequently, the relationship between these variables and the timely completion of digital transformation projects was not researched.

CHAPTER 5: FINDINGS

5.1 Introduction

Chapter 5 outlines the principal findings subsequent to analysing the data obtained from the conducted semi-structured interviews. The chapter commences with an exposition of the sample, which serves to contextualise the findings presented. Furthermore, the suitability of the sample is assessed to confirm its adherence to the established criteria, which criteria are outlined in the next section. This is followed by a discussion of the primary themes that developed during the qualitative analysis process, as they relate to each of the 3 research sub-questions posed in chapter 3.

5.2 Sample description

The study's data pertaining to the 14 interview participants is presented in Table 1. To ensure confidentiality, a distinctive participant code has been assigned to each participant to safeguard their identities. The utilisation of pseudonyms was employed as a means to substitute the identities of individuals and organisations mentioned by respondents in their answers.

The objective of this study was to explore the viewpoints of project managers who possess experience in digital transformation projects that failed to be completed within the designated timeframes. The purpose of this exploratory research was to gain an understanding of this phenomenon and ensure the reliability of the findings. The study employed judgement sampling and snowball sampling techniques to select interviewees who met the sample criteria, namely project managers with previous involvement in digital transformation projects that encountered delays in their completion. All 14 interviews were conducted exclusively via virtual platforms.

Table 5.2: Participants in the research study

Table 4 Participants in the research study

Participant code	Sector	Managed digital transformation project?	Position
PM001	Banking	YES	Project Manager
PM002	Banking	YES	Project Manager
PM003	Banking	YES	Project Manager
PM004	Banking	YES	Project Manager
PM005	Banking	YES	Project Manager

PM006	Banking	YES	Project Manager
PM007	Banking	YES	Project Manager
PM008	Banking	YES	Project Manager
PM009	Banking	YES	Project Manager
PM010	Banking	YES	Project Manager
PM011	Banking	YES	Project Manager
PM012	Banking	YES	Project Manager
PM013	Banking	YES	Project Manager
PM014	Banking	YES	Project Manager

5.3 Results for research sub-question 1

Research sub-question 1:

What management actions during the project planning stage ultimately influence the project's timely completion?

The purpose of this question was to explore the extent to which managerial decisions and actions made during the initial project planning stage or phase of a digital transformation project impact its timely completion.

Table 5.3 presents an overview of the results related to research sub-question 1 by showing the categories that emerged from each theme.

Table 5.3 Overview of results to research sub-questions 1:

Table 5 Overview of results to research sub-question 1

Theme	Category
Organisational readiness	People, process, and culture readiness
	Digital transformation strategy
	Externally imposed timelines
Governance framework	Execution of activities
	Decision-making process
	Adaptive/Flexible governance framework
	Accountability and compliance
	Leadership activities

Existing technological landscape	Systems integration
	Commercial competitiveness
	Systems duplications avoidance
	High end-user adoption rates
Change management	The impact of change
	End-user adoption
Adequately informing employees about the impact of the project	Employee participation
	Continuous employee communication
	End-user requirements

Research sub-questions 1 findings:

5.3.1 Organisational readiness and preparedness

The respondents indicated that a digital transformation project is more likely to face delays in its completion if management does not first determine whether the organisation has the capacity, expertise, and employee commitment necessary for the project. Based on the insights provided by the respondents, the organisational preparedness process guarantees that discussions on the specifics of the digital transformation project with employee are held to ensure that employees are prepared for the project and have the essential abilities to contribute to it.

The respondents indicated that, prior to initiating a digital transformation project, the organisation must be adequately prepared and organised in order for it to be effectively completed on schedule.

5.3.1.1 People, process, and culture readiness

Respondents further indicated that people, culture, and processes, as well as existing technology, are crucial components of organisational readiness. Noting that if any of these elements are not ready and prepared for a digital transformation project, then the project's completion may be delayed.

> **PM001:** *"Generally, an organisation needs to understand the reasoning behind why we're going through some sort of change. Otherwise, you are going to get resistance. So, organisational readiness is important. If we were to try and have adopted MS Teams while working in the office without people being prepared for it, I don't think it would work and it would then affect your project timelines and in terms of success, I don't think you'll get the adoption."*

PM002: *"So, the organisation needs to be ready from, first the people's perspective as well as from a cultural perspective. And I think from their processes as well as the technology platforms. Because, for example, if you're taking on a new technology or you're trying to build a project and you want it to be a success, you need to be sure that, where you are landing the technology, everything is compatible and you are able to maximise on the capability that you're building, otherwise you are just wasting money because you may build something that's not compatible with the organisation. You need to make sure that there's some sort of a capability for it to be able to adapt and to be applicable in the environment that you're building it for."*

PM003: *"For example, procurement processes as well as other organs need to be aligned and capacitated to be able to adequately support and onboard vendors."*

5.3.1.2 Digital transformation strategy

The creation of a digital transformation strategy is a critical part of organisational readiness, this is based on insights provided by the respondents. Noting that the digital transformation project's completion may be delayed if there isn't a group-wide digital transformation strategy that all business units within the bank must adhere to**.**

PM006: "…. *digital transformation is driven by strategy. The organization must actually have a strategy to transform and go digital. Then every technological change that you make needs to talk to that strategy. I think the readiness of the business must be reflected in its strategy. The strategy must reflect the organisation's intention to carry out digital transformation…… Once you define digital transformation at a strategic level, it's easy to cascade it down to business units and the heads of those business units…*"

5.3.1.3 Externally imposed timelines

It is important to highlight that, participants emphasised the possibility of initiating and effectively concluding a digital transformation project within the designated timeframe, despite the organisation's lack of preparedness in certain instances.

PM001: *"However, in the case of something like COVID and using an example of us rolling out Microsoft Teams. We had no other choice. No one was able to work without immediately adopting, which made it a lot easier in*

terms of that. So, in that case, they weren't necessarily ready or prepared for that sort of shift."

PM001: *"I mean, we had people who had to have laptops assigned to them because they simply didn't even have laptops at that point. And so, in certain circumstances, no, it's not that important for the organisation to be ready because it is just what it is, you have to do it."*

5.3.2 Project governance framework

The respondents indicated that it is necessary to have a robust and repeatable structure for the governance of the digital transformation project in order to enable project delivery and standardisation and to conform with best practise standards.

5.3.2.1 Execution of activities

The findings were that the creation and implementation of a clear project governance framework positively contributes to the timely and successful completion of digital transformation as it enables the execution of project activities in a controlled manner.

PM001: *"So, without the project governance frameworks, you are first of all going to struggle with many activities because there is a need for governance and to move forward in certain aspects of projects and if you're doing it without that, you're going to have major issues. So, project governance framework is absolutely critical to the success of a digital transformation project."*

5.3.2.2 Decision-making process

Based on the insights provided by the respondents, project governance frameworks play a crucial role in facilitating decision-making processes at appropriate levels of authority to effectively address project-related challenges.

PM001: *"It's impossible to get something done successfully or on time if you don't have your governance processes in place, it is there to help unblock issues and to make strategic decisions."*

PM002*: "You have to have the right mandate at the right levels to empower the individuals to execute to the benefit of the project completion, and governance framework clarifies those mandates."*

PM003: *"There has to be accountability. There has to be feedback and also these governance forums are the same forums that are decisive in removing any blockages or blockers or obstacles that can be delaying the project."*

5.3.2.3Adaptive/Flexible governance framework

The participants emphasised the importance of project governance frameworks in facilitating the timely completion of projects. They pointed out that these frameworks should prioritise flexibility rather than imposing bureaucratic processes or hindrances that may impede project progress**.**

> **PM002:** *"Now it's important to have a governance structure, but it mustn't be too much governance, then it ends up being a red tape. Basically, when you encounter an issue at an operational level of the project, then you can't wait for a steerco to act on something that requires immediate attention."*

5.3.2.4Accountability and compliance

The participants emphasised that project governance frameworks have a positive effect on project performance through the promotion of accountability and compliance. These frameworks establish a set of principles that aid in tracking the progress of the project. In numerous instances cited by the participants, this is accomplished by providing regular reports to project governance structures, such as project steering committees.

> **PM003:** *"if you don't have governance, it's very easy to fall into the trap of actually not managing or not being accountable in terms of reporting, in terms of how you're tracking the project."*

> **PM002:** *"You need to have governance in your project delivery, you need to have some sort of a methodology that you adopt in landing your projects, because that'll give you structure because you know what you're tracking against."*

5.3.2.5Leadership activities

The participants expressed that the implementation of project governance frameworks has a beneficial impact on the timely completion of digital transformation projects. This is attributed to their capacity to streamline and enhance administrative leadership activities, such as the approvals and resolution of challenges, by employing mechanisms such as the formation of a steering committee comprising senior managers.

> **PM005:** *"So, if project governance works properly and there are challenges on the project, it's very quick to get some form of resolution from leadership."*

PM004: *"If a project governance framework exists, it tends to push the efficiency and the quicker turnaround of making decisions and it brings effectiveness to completion of tasks on time and supporting the project plan to meet its own deadline."*

5.3.3 Assessing the existing technological landscape

The respondents indicated that prior to the execution of a digital transformation project, it is crucial to assess the current technological landscape as this gives management a complete understanding of an organisation's technological capabilities.

5.3.3.1 Systems integration

Based on the insights provided by the respondents, this enables management to determine whether starting a new project is necessary and how such a project should be structured to ensure fit for purpose solution with a successful integration into existing organisational systems.

PM001: *"So, you have to do as assessment of the current technological landscape because otherwise you could potentially be introducing a tool/system that has the same functionality as something that already exists, which means you would be wasting money. It's a waste not to understand the landscape. You need to understand what's going to fit in. For example, if we use Microsoft, as we do as an organisation, using Zoom would not have been as effective as using MS Teams."*

PM003: *"The technological assessment is very important so that you also don't bring in technologies that cannot integrate if they need to integrate with other technologies or solutions that are already in that environment. There's also committees and forums that you need to present the proposed technology to, so that they can assess the impact and technical fit of the solution for the environment that you're bringing the solution to."*

PM009: *"…an enterprise architecture assessment is performed in order to have linkages so that technologies talk to each other. So, there's a word called fit for purpose. That is why we are conducting the technological landscape assessment at the initiation stage…"*

PM009: *"…you also want your technology to fit into the existing landscape, hence enterprise architecture assessment…"*

> **PM013:** *"…you want to work with the existing technological landscape. You need to know the current challenges, the risks that exist, and the opportunities. This is important as you want to consider, avoid, and mitigate the risks and challenges within the existing landscape and you want to maintain and explore the opportunities that exist within your existing technological landscape when introducing new systems, which will assist in completing those projects on time…"*

> **PM011:** *"…it (an assessment of the existing technological landscape) will impact your project positively because, whatever project you like to embark on, you'll be 100% sure that you've got the infrastructure in the bank that will support it. And then, in terms of technology, to check if it's something that will be received by the existing technology in the organisation very well…"*

5.3.3.2 Commercial competitiveness

Based on the insights provided by the respondents, an assessment of the existing technological landscape enables the organisation to benchmark its existing technological capabilities against developing market trends, allowing top management to identify gaps in the organisation's current technology that may be negatively affecting its competitiveness.

> **PM014:** *"…but I believe that a technological landscape assessment was done and Customer One was introduced because the world is shifting. Technology is becoming more and more advanced, so if the bank had stuck with its legacy systems, we probably wouldn't have been able to remain competitive in the market. We wouldn't have that cutting-edge Customer One solution. So, making that decision to say, OK, we need to do away with the legacy systems and to utilise Customer One was, in a way, to get the bank digitally transformed…"*

5.3.3.3 Systems duplications avoidance

The respondents placed significant emphasis on the avoidance of duplications within systems as a primary advantage of doing an assessment of the current technological landscape. Based on the provided responses, the timely completion of digital transformation projects can be achieved by refraining from allocating resources to technological aspects that are already present inside the organisation's current technological landscape.

PM013: *"…you want to do that (an assessment of the existing technological landscape) so that you don't duplicate the technologies and go and look for systems that you already have…"*

PM011: *"For example, if we want to start a project to deliver an asset management system, an assessment will check if the bank does not have something that has that asset management functionality to avoid duplication of systems."*

PM006*: "The assessment actually benefited the project because we managed to reuse quite a lot of the technological features that were already built in instead of starting the whole thing afresh."*

5.3.3.4 High end-user adoption rates

Moreover, the importance of end-user adoption in the timely and successful completion of digital transformation projects has been recognised. Based on the feedback provided by the participants, performing a technological landscape assessment plays a crucial role in promoting end-user adoption. This is because such an assessment allows for a comprehensive understanding of the usage characteristics of existing systems, which can then be taken into consideration while developing new systems. Ultimately, this leads to the timely successful completion of projects with high adoption rates.

PM010: *"It's very important because if you understand the current system, you understand what the users are used to. So, when you develop the new system, you are developing it to enhance, not to take out what's currently available and working, but to enhance it and not make it difficult for the people who are going to be using it."*

5.3.4 Change management plans and strategies

5.3.4.1 The impact of change

Based on the feedback provided by the participants, having a change management plan or strategy in place prior to launching a digital transformation project is critical because it provides management with an understanding of the impact of change and allows them to communicate it to the rest of the company.

PM001: *"Without a change management plan, you are going to struggle, because you aren't going to be able to explain the importance or the benefits*

of the digital transformation project and you're not going to get the message out to the right people."

PM003: *"It is really about making sure that you understand the impact that you are bringing into the environment and the impact that is going to have on the end users or for example, the business process owners or the teams that will have to be supporting this technology going forward. So, change management is perhaps the biggest undermined, but the one area that is key in driving the success of the project through communications and through training."*

PM001: *"There has to be a change management plan, without that plan, you're not going to be as successful. And, because you're not going to be able to tell how big of a change is for the individual, as transformation projects are massive in terms of how they affect people."*

5.3.4.2 End-user adoption

Based on the feedback provided by the participants, this also increases the end-user adoption of the new system within the organisation.

PM001: *"So, a change management plan has to exist, otherwise, you will struggle, especially with the adoption of the tool and an understanding of the functionality."*

PM003: *"So change management is really about driving campaigns and the right campaigns to make sure that the message is effective by the time you go live so that there is adoption of the solution."*

PM006: *"Remember that the success of any digital implementation is dependent on adoption. So, you must ensure that the employees and users of that solution are aware of what it is, how it will benefit them, and how to use it so that people and employees can adopt it."*

PM006: *"It is crucial since that's the area of the adoption. That's what motivates adoption. While it is simple to implement, the project will truly be considered successfully completed once users and staff begin to adopt it."*

5.3.5 Informing employees about the impact of the project

5.3.5.1 Employees participation

The research revealed that a lack of communication with employees prior to commencing a new digital transformation project can lead to a lack of awareness among employees regarding its benefits. Consequently, this can impede the successful completion of the project, as end-user testing and adoption play a crucial role in the finalisation of a digital transformation project.

> **PM001:** *"Yes. So, we do focus on making sure that everyone knows what's coming down the line so that it's not a massive surprise to them." if you're implementing a new software completely, then yes, you do need to keep them adequately informed, so you need to give some sort of updates and explanations of what you're doing, why you're doing it, how it's going to affect them, so, the employees need to know what it's going to do for them."*

5.3.5.2 Continuous employee communication

Respondents also stressed the need of continuing to update employees on the project, and that the effectiveness of such communication can only be judged after the project is completed. As a result, communicating the project's impact at the project's inception is insufficient.

> **PM003:** *"It's really easy to think that you've communicated sufficiently with end users or with stakeholders, but you continuously have to test this either through quizzes or competitions. So, in our instance, I think in a number of instances, in the beginning, you think you've communicated, but as you start rolling out the training, you start realising that there are some participants who aren't very familiar with the project."*

5.3.5.3 End-user requirements

It is also worth noting that one of the most difficult tasks in starting a project, based on the feedback provided by the participants, is gathering accurate requirements from end-users; thus, the findings indicate that when employees are well informed about the project, they are more likely to provide accurate requirements to the project team on time.

> **PM006:** *"It's easier to get the requirements, you know the difficult part in the project is to actually elicit the right requirements from the users*

and the people who need to provide the requirements. If they are well informed upfront, it's easy to get the requirements and therefore it makes the project move quicker."

5.4 Results for research sub-questions 2

Research sub-questions 2:

What management actions during the project execution stage influence the project's timely completion?

The purpose of this question was to explore the extent to which managerial decisions made during the execution phase of a digital transformation project impact its timely completion.

Table 5.4 presents an overview of the results related to research sub-questions 2 by showing the categories that emerged from each theme.

Table 5.4 Overview of results to research sub-questions 2:

Table 6 Overview of results to research sub-question 2

Theme	Category
Top management support	Lead by example
	Top management with the highest authority
	Resolution of challenges
	Provision of resources Accessible support Top Management as an enabler
Communication between project stakeholders	Project performance feedback
	Coordination by the project manager
Employee resistance	Employee system usage rates
Project milestones	Interconnected nature
Stakeholder management	Stakeholders' concerns
	Project delivery risk
	Managing stakeholders' deliverables
	Managing expectations

Research sub-questions 2 findings:

5.4.1 Top management support

The participants emphasised the importance of top management support in facilitating the timely completion of a digital transformation project.

5.4.1.1 Lead by example

This support is demonstrated through the actions and behaviour of top management, which serves as a source of inspiration for the project team when encountering challenges. In addition, the support of top management contributes to the successful adoption of the project by end users.

> **PM001:** *"It comes back to something I said earlier about authority because it is often sort of a 'lead-by-example' that helps to really affect how people adopt systems. And so, you need top management to be in support of it and to display that support for it to work."*

5.4.1.2 Top management with the highest authority

The findings of the study indicate that in order to achieve optimal effectiveness, it is imperative for management support to be situated at the highest echelons. Based on the feedback provided by the participants, certain issues may necessitate the involvement of top-level executives, as middle-level managers may lack the capacity to offer effective resolutions.

> **PM001:** *"In terms of what it's going on at the slightly lower levels of management, that is, lower than the C level, i.e., lower than the CIO, the CTO, CFO etc, it does make it more difficult, as lower levels of management may not be able to unblock issues as they come up so often. If you especially look at something like an adoption issue, your higher-level stakeholders who are able to talk to strategy and the way forward, they are going to be able to put their voice to the work that you're doing and that is going to make a big difference and it's going to kind of get rid of the road bumps along the way."* "*That's why we often talk about sponsors of projects and why those sponsors are always high-level people*."
>
> **PM003:** *"Top management support ties in with the Steering Committee composition. The Steering Committee has to have management that is able to make decisions, is empowered to make those decisions."*
>
> **PM002:** *"So, it's up to them because they've got the enterprise view, and they're the ones who say, OK, I'm going to support you by reallocating these*

resources in order to enable this project to go ahead. Whether it's a people issue or a process issue or a technology issue, top management, when at the right level, has got the power, and the influence to support your initiative."

5.4.1.3 Resolution of challenges

The respondents highlighted the benefits of top management support, the most important of which was the quick resolution of challenges, which eventually translated into the timely completion of the project.

PM003: *"…For example, if you are running into delays or maybe there's additional scope creep, then you're able to present these and top management is then able to expedite the resolution of those issues…"*

PM006: *"I mean there was a small change that we needed to do, and by the way, this was the easiest project, but that small change resulted in a massive delay because of slow resolution due to top management not being supportive."*

PM005: *"I mean, top management are the ones that actually drive a lot of things and also drive the speed of decisions being made and can assist where there are big blockers. If they don't support the project, the project takes forever. I doubt if the project would even be successful if there isn't some form of support from leadership or management."*

PM004: *"My team is currently struggling to get top management involved in a project. That project is already showing a red flag of running behind by three weeks due to things that are related to change. I mean resolution of issues such as change requests, approvals of the change requests in terms of resource changing, and data management, all require top management to be involved."*

5.4.1.4 Provision of resources

The respondents emphasised the importance of sufficient support from top management in order to foster resource commitment and prioritisation within the project team and the broader organisation. As per the respondents, this support serves as an indication that the project is considered a priority and should thus be treated accordingly.

PM008: *"OK, the lack of support from top management results in the lack of commitment from resources that need to participate in the project. There are always competing priorities between operations and projects, so people will just come in, not participate, and prioritise other things. Thus, there's just not going to be that push and commitment from the team."*

PM002: *"Senior management has got an understanding of what the right levers are to enable you to deliver your initiative or to prioritise the right things for the benefit of the overall business. You as the project team are solely driving the landing of your initiative, but the organisational benefit is being seen by the sponsors, so they can either enable or disenable you for the overall benefit of the organisation because they understand what the overall benefit is."*

5.4.1.5 Accessible support

Based on the feedback provided by the participants, top management support is generally accessible in the majority of circumstances. Based on the feedback provided by the respondents, it is evident that the motivation behind the prioritisation of digital transformation projects by top management stems from their recognition of the high failure rates when top management support is lacking.

PM004: *"Look, they are the key stakeholders, the buck stops with them. Top managers are the owners of the project. Their failure to contribute effectively to these projects often and from my experiences, has caused a lot of havoc and made the project ungovernable and very difficult to deploy."*

PM002: *"OK, for me, in my experience top management is important. You won't succeed if you don't have senior management or a sponsor in your initiative, because what they do is that as a project you will highlight certain challenges or barriers to your progress and the role of the sponsor is to basically remove those challenges or enable you to deliver your initiatives."*

5.4.1.6 Top management as an enabler

Based on the feedback provided by the participants, top management positively contributes to project timelines only when it is not excessive or misplaced. As per the respondents, excessive involvement by top management without delegation of appropriate powers to the project team or lower managers may constitute red tape, causing delays in decision-making processes.

PM002: *"But you can't be reliant on taking decision to be waiting for the senior guys in relation to operational matters, so the right mandates need to be allocated to the right individuals in the right roles."*

5.4.2 Communication between project stakeholders

5.4.2.1 Project performance feedback

The participants emphasised that effective stakeholder communication offers the significant benefit of providing performance feedback on project to stakeholders, ultimately resulting in the timely project completion**.**

PM001: *"That's why we do weekly progress meetings, because everyone needs to know where everyone is in terms of the work that they're doing because no one man is an island, you know, that's saying that everything we do in a project talks to other elements of the project, therefore, everyone needs to be communicating. So, everyone needs to understand where everyone else is in terms of their work because somewhere along the line it is going to affect you as well."*

PM003: *"So this communication between the stakeholders is paramount, especially when you've got an implementation partner, then you'll also have partnership meetings just to give feedback in terms of the strategic partnership on the project."*

5.4.2.2 Coordination by the project manager

The results suggest that effective project communication is of utmost importance for timely completion, to the extent that the respondents highlighted that the primary responsibility of a project manager is to coordinate the dissemination of information regarding the project to relevant stakeholders.

PM001: *"We largely use project managers to run progress sessions and to keep updating the different teams in order to make sure that there is proper communication happening between the different teams, example, communication of developer's needs, and keeping a tester informed of when a system or a function is going to be ready for testing." "so, communication is one of the most important factors in a project in terms of making deadlines."*

5.4.3 Management of employee resistance

Based on the data provided by the participants, the effective management of employee resistance is crucial in mitigating potential delays in the completion of a digital transformation project.

5.4.3.1 Employee system usage rates

Based on the feedback provided by the participants, the willingness of employees to embrace digital transformation projects plays a crucial role in determining the level of adoption by end-users who are directly affected. This, in turn, ensures that the organisation is able to derive benefits from its investments in such projects.

> **PM001:** *"So, employee resistance can really affect a project, you need some level of employee acceptance in order for employees to get involved. So, we do end-user testing, so obviously there, we need employees to be very involved, so, employee resistance is going to cause you to not realise the benefits on a project because you do that through the use of the tool by employees."*
>
> **PM003:** *"In some projects, the very people that you are providing the solution to, are needed for testing, therefore they are needed when you get to user acceptance testing, for example, you do see resistance manifesting in the lack of participation, lack of attendance to testing and thus the project timelines are affected."*
>
> **PM004:** *"…we discovered that the Home Loans Division was extremely eager and actively involved in accepting the project, and because their management had demonstrated the value of the project or the outcome of the project in order for it to be effective and quick to deploy and roll out, they sort of led the pack. Then there was the Credit Card Division, where management and employees were resisting even after the management team was changed. Employees continued to resist for various reasons, and we struggled to roll it out to the point where we pushed them to the bottom of the list…"*

5.4.4 Time management of key project milestones

The study revealed that in the context of digital transformation projects, the interconnected nature of components implies that failing to meet a delivery milestone in one area will have an immediate impact on the timing of all other related components.

5.4.4.1 Interconnected nature

Consequently, the respondents indicated that inadequate management of delivery milestones, regardless of their magnitude, will ultimately impede the timely completion of the overall digital transformation project.

> **PM001:** *"There are very few things we do where systems are not, in some way, connected to some other part and so, I'm trying to think of an example, but yeah, so if you've got a developer running behind, testing is going to start late, which means testing's going to end late, because any element of the project that runs late will have an effect on the overall timelines of the program."*

5.4.5 Stakeholder management

Based on the data provided by the participants, effective stakeholder management plays a significant role in facilitating the timely completion of digital transformation projects.

5.4.5.1 Stakeholders' concerns

This study found that the establishment and cultivation of positive relationships with stakeholders, the identification and fulfilment of stakeholders' concerns and requirements, and the facilitation of efficient communication regarding the project's deliverables are crucial elements for the timely completion of digital transformation projects. The respondents emphasised that these crucial elements can only be accomplished through an effective stakeholder management process.

> **PM001:** *"So, stakeholder management is necessary to really get everyone to work together and to understand that we have one singular goal and to be comfortable to raise concerns, that's an issue because people don't like to necessarily have conflict. So, some people avoid raising their concerns and that is a stakeholder issue. It's managing your stakeholders to really be open. It could be that a developer isn't happy with the quality of testing and if we aren't close enough and managing those stakeholders well enough to get them to be open, to share that sort of concern, you could go live with a project, and a product that doesn't necessarily work as well as it should because you know if testing isn't done properly, there may be flaws that have been missed."*

5.4.5.2 Project delivery risk

In addition, respondents emphasised the importance of effective stakeholder management as a means of reducing delivery risks by fostering transparency in project performance. They stated that when an effective stakeholder management process is in place, emergent delivery risks are adequately managed, reducing the overall risk of project delays in digital transformation projects.

> **PM007:** "*On one project that I worked on, stakeholder management was effective to a point where all stakeholders actually understood all the stages of the project, in terms of where they were, and how the project was progressing. Creating a situation where if one stakeholder was slacking, the other stakeholders would actually jump in and assist and that actually made sure that the project went live timely and without any issues here."*

5.4.5.3 Managing stakeholders' deliverables

The participants emphasised the importance of implementing an effective stakeholder management strategy in order to effectively oversee the deliverables of all stakeholders involved in the digital transformation project. Based on the input provided by the participants, it is evident that effectively managing the tasks, activities, and deliverables of stakeholders through an efficient stakeholder management method plays a crucial role in expediting the completion of individual tasks within a project, hence facilitating the timely completion of the entire project.

> **PM005:** *"So, if you don't manage your stakeholders during the execution stage, it really does impact a lot of the deliverables, including getting some of the deliverables signed off, approved, accepted, and things like that. If stakeholder management is ineffective, your timelines are going to be extended, because you're not managing your people. How are you going to manage what they do?"*

5.4.5.4 Managing expectations

By effectively managing stakeholders, project teams are able to effectively address the expectations of both internal and external stakeholders, hence minimising any delays caused by miscommunications or misunderstandings during project execution.

> **PM006:** *"Yeah, look, stakeholder management has a major impact. Remember stakeholder management includes management of expectations, right? When we*

are at the requirements level stage, the developer needs to know when and what is coming right, so if you don't manage those, you get the requirements done and the developer is not ready. So, you need to manage those expectations and not only in the project team itself, but also in the outside."

5.5 Results for research sub-questions 3

Research sub-questions 3:

What effect does the project's nature have on its timely completion?

The purpose of this question was to explore the extent to which the nature of the digital transformation project affects its timely completion.

Table 5.5 presents an overview of the results related to research sub-questions 3 by showing the categories that emerged from each theme.

Table 5.5 Overview of results to research sub-question 3:

Table 7 Overview of results to research sub-question 3

Theme	Category
Project scope and/or size	High delivery risk on large projects
Uncertainty	The impact of perpetual fluidity within a project
	Employee impact uncertainty
Complexity	The presence of complexity
	Low complexity projects

Research sub-questions 3 findings:

5.5.1 Project scope and/or size

5.5.1.1 High delivery risk on large projects

Based on the feedback provided by the participants, it is evident that the timely completion of a project is influenced by its scope and size. Specifically, it was stated that larger projects with broader scopes tend to carry a greater risk of encountering complications or setbacks.

> **PM001:** *"It's impossible that scope or the size of a project isn't going to affect the completion timing. So, the bigger the scope is, the more areas you have for things to potentially go wrong, which affects your timelines. Rolling out something like an upgrade to Windows, as an example, it's a big thing in terms*

of it touching on every single user, so the scope of what you're trying to do is very large. If you hit issues with one element, it's going to have serious effects for the rest of the project timing because we have finite resources available to us. We can't just put more people on that one element to make timelines work."

PM014: *"…So, for example 'Customer One' project in itself is a huge project in both scope and size, and therefore, I don't anticipate that we will be done with this project anytime soon. I don't even think that we will decommission the old ESP system in the next year or two just because of the amount of work that is still required to ensure the success of this project..."*

PM012: *"…yeah, I have smaller projects; they are easier to deliver, as you've got a smaller number of people that you need to deliver the project with. It's more manageable. The bigger you grow the project, the more it becomes difficult to manage the numbers…"*

PM010: *"…yes, I think the bigger the project, the higher the risk of failure, as a bigger project means more things to expect from, for example, the end users to understand, and the more you want end-users to comprehend, the more they become resistant to that as it just becomes too much…"*

5.5.2 Uncertainty in digital transformation projects

5.5.2.1 The impact of perpetual fluidity within a project

This study found that the presence of uncertainty significantly influenced the timely completion of digital transformation projects. Based on the data provided by the participants, the prevalence of uncertainty in digital transformation projects results in the perpetual fluidity of essential parts, such as scope and requirements, as they are never clear in the presence of uncertainty.

PM001: *"So, uncertainty and complexity play a big role. Uncertainty, I would say probably more so because if they are still questions hanging in the air about different things that you're doing, it's really going to affect how you move forward because you're never quite sure of what the size of the scope is."*

5.5.2.2 Employee impact uncertainty

Further, the participants reported that uncertainty regarding the project's impact on employees' future can lead to project delays, as employees may exhibit reduced willingness to contribute to project delivery when their job security is uncertain.

> **PM004**: "…*the project was severely disrupted by the uncertainty that arose immediately after some of the workers realised that 16 to 20 people needed to be retrained or deployed somewhere in the world. Some stakeholders also made a concerted effort to delay the project because they believed their roles would be impacted. They made a great effort to avoid being present.*"

5.5.3 Complexity and complexity management

5.5.3.1 The presence of complexity

Some respondents indicated that the presence of complexity does not significantly contribute to delays in the completion of digital transformation projects, as long as the project is appropriately resourced to effectively manage the complexity.

> **PM001:** *"…If you know that a project is going to be complex, you can resource it in the right way. That complexity is dealt with in the planning of the project and in that way, it shouldn't affect timely completion. You really need to have some sort of a process in order to plan for complexity. I've got a project I'm working on now. There are 6 different work streams working on different elements. It's very complex and if we didn't get enough resources in the form of people and funds, we could be sitting with serious problems..."*

5.5.3.2 Low complexity projects

However, several participants in the study expressed a high level of certainty when citing empirical evidence to support the notion that projects with low complexity are more likely to be completed within the designated timeframes.

> **PM004:** "…*they expected us to complete the project in six months, but we managed to complete it within five months because the complexity was minimal…"*

5.6 Conclusion

This chapter presented the findings of the study. The next chapter will provide an analysis of the research findings by comparing and contrasting the results of this study with the existing body of reviewed literature.

CHAPTER 6: DISCUSSION OF RESULTS

6.1 Introduction

The purpose of this chapter is to discuss the results of the study and compare them with the existing literature. The conclusion of this chapter presents a framework that is derived from the findings of this study. This framework aims to facilitate the timely completion of digital transformation projects.

6.2 Management actions during the project's planning stage

Research results relating to management actions during the planning stages are discussed in this section.

6.2.1 Organisational readiness and preparedness

As reported by the findings of Ochurub et al. (2012), it is crucial to ensure that organisations possess the requisite preparedness to effectively execute the implementation of new technological systems in order to achieve successful outcomes in technology projects. The current study's findings corroborated the findings of Ochurub et al. (2012)'s research, thereby contributing to the existing body of knowledge. This study emphasised the importance of employees, culture, processes, and existing technology as crucial organisational elements that need to be prepared prior to embarking on a digital transformation project.

Even so, it is imperative to acknowledge that the present study has also revealed instances where certain digital transformation projects were initiated and completed within the designated timeframe, despite the organisation not being adequately prepared. Based on the data obtained from the participants of this study, it was found that this phenomenon was particularly pronounced in a specific group of projects that were initiated as a response to the challenges presented by the COVID-19 pandemic.

This study's findings also suggest that, in the context of large South African banks with multiple business units, organisational readiness for digital transformation should be reflected in strategy formulation. Respondents emphasised that if there is no bank-wide digital transformation strategy that all business units within the bank adhere to, the completion of projects aimed at delivering digital transformation may be delayed.

This finding provides further support for the research conducted by Wang et al. (2020) regarding the impact of digital transformation strategies on the performance

of organisations. Based on the authors' research findings, it has been found that the formulation of digital transformation strategies leads to enhanced organisational performance through the attainment of digital transformation objectives.

6.2.2 Project governance framework

Based on the findings of the present study, management's development, and implementation of a clear project governance framework prior to the start of a digital transformation project encourages compliance and accountability through procedures such as routine reporting to top management about project status and thereby helps the projects to be completed on time.

This is consistent with Abednego and Ogunlana's (2006) assertion in their study of project governance for proper risk allocation in public–private partnerships in Indonesia. The authors asserted that project governance can improve project performance by promoting timely tracking and reporting on project progress and thus ensuring effective management of risks that may lead to project failure.

The finding that management should formulate a robust project governance framework in the planning stage as it plays a crucial role in ensuring the timely completion of a digital transformation project by establishing an effective change control and decision-making mechanism is supported by the research conducted by Bowen et al. (2007) on information technology governance practices. The authors argue that project governance frameworks have been empirically demonstrated to provide a structured approach for overseeing project advancement, enabling key stakeholders to understand and make use of defined decision-making processes throughout the entire project life cycle.

This study's finding that project governance framework can enhance project success through the optimisation of top management administrative tasks and the enhancement of stakeholder management is substantiated by the research conducted by Brunet and Aubry (2016) looking at the dimensions of a governance framework for major public projects. As per their findings, the implementation of a governance framework has the potential to enhance project outcomes by optimising managerial and administrative processes and enhancing stakeholder engagement through the establishment of clearly defined governance protocols.

6.2.3 Assessing of existing technological landscape

Edwards (2019) asserts that the absence of an audit of the current technology infrastructure before initiating digital transformation projects is a significant factor that prolongs the completion of these projects. The validity of this argument has been substantiated by the findings of the present study, which have contributed additional data points applicable to the South African banking sector context.

The present study provides supplementary data that supports Edwards' (2019) argument. This includes the recognition that evaluating the existing technological landscape allows managers to ascertain the need for initiating a new project and to determine the appropriate structure for such a project. This, based on data collected from the respondents, ensures the development of a solution that is suitable for its intended purpose and facilitates successful integration into the organisation's existing systems.

Moreover, the present study has identified the avoidance of duplications within systems as a key benefit of assessing the existing technological landscape. This finding lends support to Edwards' (2019) contention that undertaking an assessment of the existing technological infrastructure prior to commencing digital transformation projects is an important factor in ensuring the timely completion of such projects.

Indeed, within the South African banking sector, which is characterised by the presence of prominent commercial banks operating across multiple locations, the research findings demonstrate that assessing the current technological infrastructure yields significant benefits in terms of both time and cost savings. This is due to the ability to repurpose existing software and/or hardware from one location to another, thereby eliminating the necessity to acquire technology assets that are already available within the organisation. As per the respondents, this ultimately facilitates the timely successful completion of digital transformation projects.

6.2.4 Change management plan

This study’s findings indicate that, having a change management plan or strategy in place prior to launching a digital transformation project positively contributes to its timely completion for a variety of reasons, including providing management with an understanding of the project's impact on the organisation, allowing management to effectively manage the change.

These findings are consistent with Aranyossy et al. (2018)'s conclusion that the effectiveness of the change management process that accompanies digital transformation projects is critical to their timely completion. As per the researchers' findings, an effective change management process has a positive impact on the timely completion of digital transformation projects.

This study has found that the achievement of high end-user adoption rates plays a crucial role in determining the success of a project. Based on the results, this can be accomplished by implementing an effective change management process, which aims to promote acceptance among employees. Moreover, considering that end-user testing is a key stage that precedes the completion of a digital transformation project, when conducted without employee resistance, this leads to the timely completion of the project.

These findings support Fletcher and Griffiths' (2020) concern about the lack of change management plans in digital transformation projects. The authors assert that the lack of change management plans, particularly in terms of involving key stakeholders such as employees, has resulted in significant delays in the completion of digital transformation projects.

6.2.5 Informing employees

The study conducted by Majeed et al. (2021) revealed that insufficient communication can have a substantial negative impact on the success of a project and ultimately lead to its failure. The present study's results validate this assertion and further demonstrate that engaging in communication with employees should commence prior to project initiation and persist until project completion. The results underscored the importance of employee awareness pertaining to the benefits of the project as an essential component in garnering employee support for the project.

6.3 Management actions during the project's execution stage

Research results relating to management actions during the execution stage are discussed in this section.

6.3.1 Top management support

Based on the feedback provided by the participants, the project team can draw inspiration and can leverage problem-solving styles, and resolution approaches demonstrated by top management to address obstacles encountered during a project. This particular aspect was emphasised as a significant advantage of

involving top management in a digital transformation project. The utilisation of the "what would the CEO do" approach is crucial in effectively addressing project challenges and resulting in timely project completion. This finding is corroborated by the research conducted by Stagnaro and Piotrowski (2014) on the importance of leadership within the context of information technology project management. In their study, the authors discovered that project managers can augment the performance of project teams by employing leadership styles as demonstrated by top leaders in the organisation.

This study found that in order to attain maximum efficacy, it is crucial for top management support to be positioned at the highest levels in the organisation. Based on the results, in some cases, obstacles that impede the completion of a digital transformation project may require the participation of high-ranking executives, as middle-level managers may lack the ability to provide effective solutions.

This aligns with the argument made by da Silva et al. (2019) that effective top management support entails the ability to build and sustain a clear vision, strategy, and communication inside a project through exerting influence, providing guidance, monitoring, and assessing the team's performance. However, the authors underscore the importance of determining the appropriate level of management for a project, which is contingent upon various aspects such as the nature of the project, the intricacy of its activities, and the organisational structures in place.

The findings of this study suggest that rapid decision-making and efficient resolution of project challenges supported by top management support contributed to the projects' timely completion. This is consistent with Emam and Koru's (2008) findings in their study of information technology software project failures. The authors discovered that a lack of timely decisions due on the part of top management leads to slow resolution of issues, ultimately leading to project failure.

This research found that support from top management drives resource commitments within the project team and the broader organisation. Based on the results, the provision of top management support, particularly when it is visibly demonstrated, serves as an indication that the project is seen as a priority by leaders and should therefore be accorded appropriate attention by stakeholders.

This finding is corroborated by the research conducted by da Silva et al. (2019) examining the success of information systems projects in relation to leadership competencies. The authors posit that adequate support from top management improves commitment across the board and ensures that projects are treated as a priority and thus resulting into their timely and successful completion.

The finding that excessive or misdirected top management involvement in a digital transformation project can have detrimental effects to its performance is supported by Kanwal 's (2017) study of the role of managerial control and the moderating effects of resource commitment and top management support. As Kanwal (2017) reported, top management must carefully consider how to exercise its support, keeping in mind that project team members still require autonomy to exercise self-management.

Indeed, da Silva et al. (2019) concur when arguing that different project activities call for different top management engagement levels. The authors argue that, for instance, project team members should be responsible for managing activities such as solution specifications, as they possess the necessary knowledge and expertise to fulfil these responsibilities without the involvement of top management. Hence, it can be argued that there are limitations to the extent of top management engagement in project activities.

The respondents revealed that, in the majority of instances, there is consistently a presence of support from top management, which can be attributed to the fact that given the substantial impact that digital transformation projects have on the organisation, they are often initiated and owned by top managers. This finding is supported by Aggarwal (2010) when positing that the existence of digital transformation projects can be primarily attributed to the proactive efforts and dedication of top management. Consequently, the author argues that although top management support is deemed significant, its widespread availability suggests that other factors must be exerting a more critical influence on the failures of digital transformation projects.

6.3.2 Communication between project stakeholders

The assertion made by Shakeri and Khalilzadeh (2020) in their research examining the factors influencing project communications aligns with the finding made in this study, which highlights the importance of stakeholders' effective communication in facilitating the timely completion of a digital transformation project. Based on Shakeri

and Khalilzadeh (2020) assertions, effective project communication management and timely dissemination of information to both internal and external project stakeholders are identified as key determinants of project success.

The present study has discovered that the timely completion of a digital transformation project is heavily dependent on effective communication. In fact, the primary duty of a project manager has been emphasised as the coordination of disseminating project-related information to pertinent stakeholders. The aforementioned finding is substantiated by the study conducted by Alvarenga et al. (2019), whereby they aimed to establish the key competencies of a project manager that contribute significantly to the success of a project. The researchers found that effective communication skills exhibited by project managers are among the three most influential criteria contributing to the successful completion of projects.

6.3.3 Employee resistance management

The findings of Hughes et al. (2015) align with the present study's findings that the willingness of employees to adopt digital transformation projects significantly influences the timely completion of such projects. This is attributed, in part, to the crucial role of end-user testing as a necessary step before the go-live phase of a project. As Hughes et al. (2015) explain, the occurrence of people management issues, such as a lack of employees' involvement in the project during its initial stages and inadequate management of employee resistance within the organisation, can result in delays in the successful completion of digital transformation projects.

Edwards (2019) argued that employees possess an inherent inclination to resist change, a disposition that becomes more pronounced when an organisation starts digital transformation projects. Edwards highlights the prevalent concern among employees regarding the potential job displacement caused by technology, particularly in instances where it automates and expedites conventional processes. Similarly, the results of the present study, as supported by the data gathered from participants, suggest that employees have the ability to prolong the completion of digital transformation projects by purposefully exhibiting a lack of interest and disengagement in order to impede the advancement of the project that they perceive as jeopardising their employment.

6.3.4 Project milestones management

Gölcük (2020) argued that the timely completion of digital transformation projects presents a significant challenge, primarily due to the complex interdependencies and multiple deadlines associated with various milestones. This study's findings confirm the propositions put forth by Gölcük, indicating that the interconnectedness of components within a digital transformation project implies that a failure to meet a delivery milestone in one area will affect the timing of all associated components. The findings of this study indicate that insufficient management of milestones, regardless of their scale, will hinder the timely completion of the digital transformation project.

6.3.5 Stakeholder management

The study conducted by Pimchangthong and Boonjing (2017) regarding the impact of risk management on the efficacy of information technology projects aligns with the findings of this research, indicating that insufficient stakeholder management drives inadequate risk management and can result in project delays. Consistent with the results of the present study, the authors specifically observed that effective stakeholder management plays a crucial role in facilitating interactions among key individuals within the project team, consequently reducing delivery risk. Respondents to the current study indicated that when an efficient stakeholder management framework is in place, emergent delivery risks are sufficiently managed.

The findings of the current study, which emphasise how crucial it is to successfully manage both internal and external stakeholders' expectations for the successful completion of a project, are consistent with those reached by Muhammad et al. (2022) in their study of stakeholder management in public sector infrastructure projects. The authors stressed the importance of creating a framework for the management of stakeholder expectations in order to achieve alignment and reduce the possibility of miscommunications that could cause the project to be delayed.

The present study found that cultivating favourable working relationships inside digital transformation projects is a crucial element in achieving the timely completion of such projects. Based on the findings of the present study, the establishment of a friendly working environment, characterised by relationships that foster optimal project performance, is contingent upon the successful management of stakeholders. This underscores the importance of stakeholder management in ensuring the timely completion of digital transformation projects.

This finding aligns with the conclusions reached by the study conducted by Nathaniel and Henry (2021), which posits that the primary determinants of effective stakeholder management encompass the cultivation of favourable relationships with stakeholders, the acknowledgment and fulfilment of stakeholder concerns and requirements, and the facilitation of efficient project-related communication. As the authors assert, project managers should give priority to the establishment of relationships among project stakeholders in order to enhance project performance. Hence, the current study's findings have confirmed the need to effectively manage relationships with stakeholders in a digital transformation project in order for its timely completion.

Participants in the current study stressed that a successful stakeholder management approach is necessary for the efficient management of all stakeholders' deliverables inside the digital transformation project in order to achieve project success. The respondents stressed the importance of managing stakeholders' tasks, activities, and deliverables through an efficient stakeholder management approach.

This finding is supported by Agata and Joanna's research, which examined the maturity of stakeholder management within small construction enterprises. The authors contend that identifying and managing key project stakeholders throughout the execution phase depends on an effective and efficient stakeholder management process. The authors argue that this entails creating a plan for effectively and efficiently managing the deliverables and tasks of stakeholders as doing so will eventually increase the likelihood of project success.

6.4 Project nature

Research results relating to factors that are associated with the nature of the project are discussed in this section.

6.4.1 Project size and scope

In their study, Bashir et al. (2020) conducted a study that involved the modelling and analysis of various factors driving project delays. They employed an integrated approach combining social network analysis and fuzzy ‘micmac’ methodologies. The results of their study suggest that there exists a positive correlation between the size of a project and its performance, specifically indicating that larger projects are more prone to experiencing delays in their completion.

In the same light, the present study's results indicate that the timely completion of a digital transformation project is impacted by its scope and size. This finding indicates that projects of larger size and wider scope are more prone to experiencing complications or setbacks.

6.4.2 Project uncertainty

The assertion put forth by Martens and Vanhoucke (2019) in their study investigating the effects of effort exerted to minimise activity variability on project time and cost performance is consistent with the findings of this research. This study found that the prevalence of uncertainty in digital transformation projects leads to a continuous state of volatility in various project aspects, including scope and requirements. These fundamental elements are often unclear in the presence of uncertainty, which consequently contributes to delays in the timely completion of digital transformation projects.

As per the assertions made by Martens and Vanhoucke (2019), uncertainty and variability inevitably lead to deviations from the original schedule. In light of this, the authors suggest the implementation of a monitoring process to oversee the execution of remedial actions aimed at realigning the project with its intended timelines.

6.4.3 Project complexity and complexity management

The findings of this study suggest that digital transformation projects with high levels of complexity are more likely to encounter completion delays. This is consistent with the findings of Sandberg et al. (2020) in their research of digitisation in the process automation sector. The authors concluded that delays in the completion of many digital transformation projects were due to the increase in the complexity of new digital technologies.

The proposition made by Joseph et al. (2021) in their study, which intended to measure the complexity of information systems projects using a structural equation modelling approach, is compatible with the findings of this research. The findings of this study indicate that, provided that a digital transformation project is adequately allocated resources to effectively manage its complexity, the presence of said complexity does not have a substantial impact on the project's completion timeline.

The proposition put forth by Joseph et al. (2021) asserts that the effective management of complexity plays a pivotal role in ensuring the timely completion of a digital transformation project. The authors argue that the attainment of effective

complexity management can be realised by means of precise defining and understanding of project objectives and recruiting project team members with relevant technological expertise to deal with project complexity.

6.5 Emerging framework

The present study's findings have led to the development of a proposed framework that outlines factors affecting the timely completion of digital transformation projects. The framework incorporates advantages that arise from effectively managing these factors, with the final result being the timely completion of digital transformation projects.

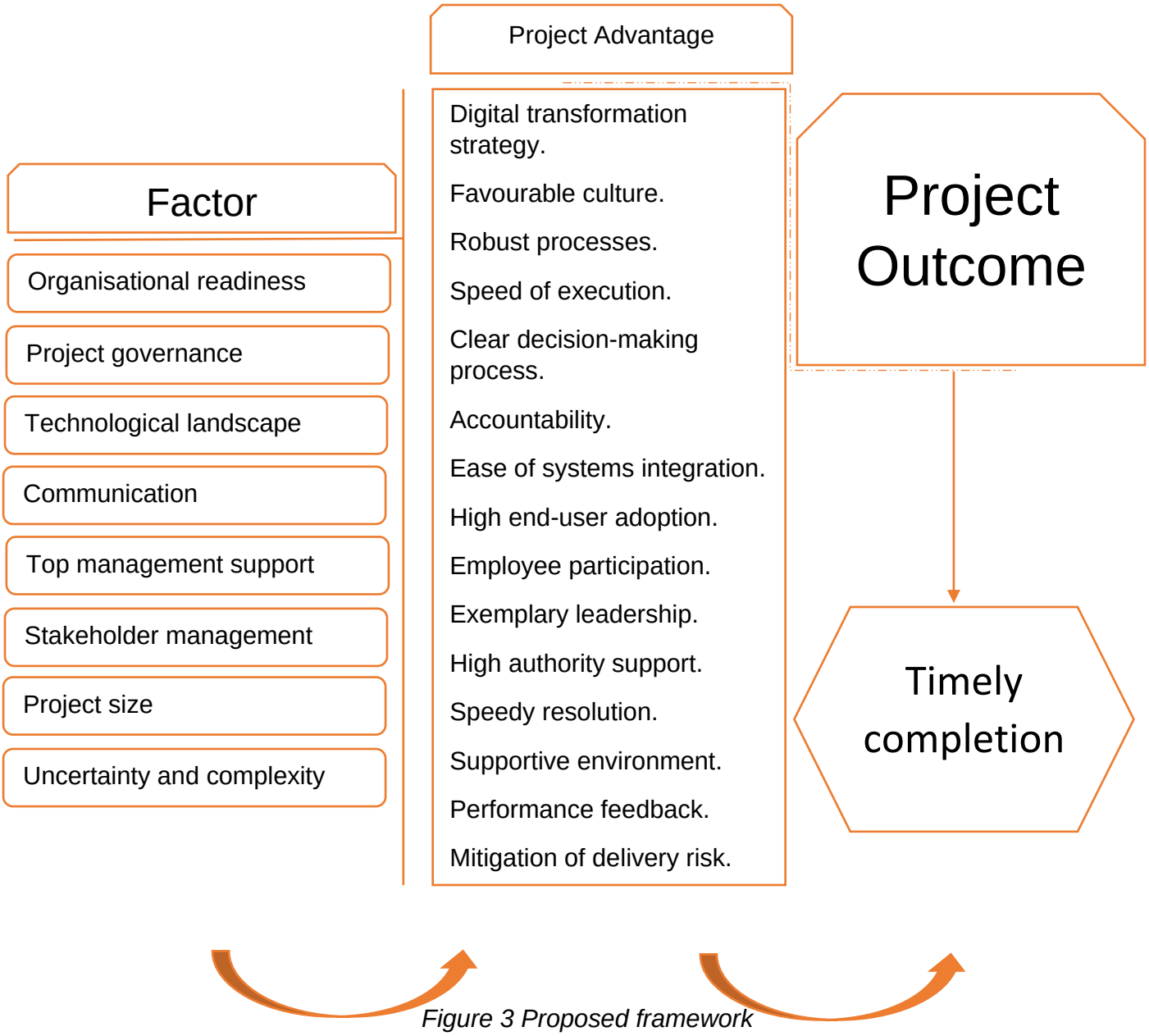

Figure 3 Proposed framework

Source: Author's compilation

6.6 Conclusion

This chapter provided an analysis of the research findings by comparing and contrasting the results of this study with the existing body of reviewed literature. The next chapter will present conclusive remarks that emphasise significant findings to answer the research question, academic contributions of the study, limits of the research, and suggestions for future research.

CHAPTER 7: CONCLUSIONS AND RECOMMENDATIONS

7.1 Introduction

This chapter highlights the main findings of the research and integrates the results with reviewed literature as a demonstration of how the research question and sub-questions were answered. It also includes recommendations to stakeholders, including managerial implications, based directly on the research findings. Also, research limitations are highlighted with recommendations for future research.

7.2 Key findings to the research question

The following section presents the main research findings that address the research questions. These findings have been integrated into the existing scholarly discourse. It is imperative to emphasise that the findings of this study are consistent with the prevailing body of literature. Therefore, the most significant benefit of this study lies in its provision of additional understanding to the current body of knowledge regarding the factors that contribute to delays in the completion of digital transformation projects specifically within the banking sector of South Africa.

7.2.1 Management actions and decisions: Project’s planning stage

According to the findings, management's actions and decisions during the initial planning phase of a digital transformation project have an important impact on the project's performance in terms of achieving deadlines. Thus, in the South African banking sector, management actions and decisions during the planning stages of digital transformation projects contribute to projects' timely completion.

The first finding indicates that when management incorporates digital transformation as a fundamental component of the overarching organisational strategy, actively fosters a culture that embraces digital transformation, and establishes robust processes to facilitate the implementation of digital transformation projects, the organisation becomes adequately prepared and equipped to successfully complete digital transformation projects within specified timelines.

Furthermore, the research findings show that when management implements an efficient project decision-making process and promotes an accountability through the implementation of digital transformation project governance frameworks, the organisation is likely to complete digital transformation projects on time.

Furthermore, the findings from this study pertaining to managerial decisions and actions during the initial phase of project planning suggest that newly acquired digital

solutions and systems can be seamlessly integrated into the pre-existing technological infrastructure of organisations. This seamless integration can only be achieved by conducting an assessment of the organisation's existing technological landscape prior to commencing new digital transformation projects.

7.2.2 Management actions and decisions: Project's execution stage

The study's results suggest that when management actively promotes employee involvement in the process of digital transformation and actively involves employees in driving the adoption of digital transformation systems among end-users, the organisation's communication effectiveness regarding digital transformation is improved. This improvement has a positive effect on the timely completion of digital transformation projects.

Moreover, the research findings indicate that the provision of top management support to a digital transformation project, through the demonstration of exemplary leadership and the allocation of sufficient resources to decision-making structures headed by the highest authority within the organisation, contributes to the timely completion of such projects.

The study's findings indicate that effective stakeholder management during the execution stage of a digital transformation project leads to the timely resolution of stakeholder concerns and challenges, as well as the establishment of a supportive environment within the project team. This, in turn, was found to have a positive contribution to the timely completion of digital transformation projects.

7.2.3 Project nature

The research findings indicate that the size and other characteristics of the project, including factors such as its level of complexity, serve as the foundation for developing strategies to mitigate delivery risks. These risk-mitigating strategies were found to be crucial for the timely completion of digital transformation projects.

7.3 Academic contribution of this study

Although there has been extensive research conducted on digital transformation projects and technology projects in general, the majority of studies tend to concentrate on specific project performance indicators such as project risk (De Bakker et al., 2010; Han & Huang, 2007; Haq et al., 2019), project costs (Martens & Vanhoucke, 2019), and organisational strategies (Wang et al., 2020). Nevertheless, it has been contended by scholars that the elements used to measure project

performance are diverse, and one crucial component in evaluating the achievement of a project is the adherence to defined timelines (Leal et al., 2018). Therefore, this research aimed to address the aforementioned argument by specifically exploring the factors that contribute to delays in meeting project timelines during the implementation of digital transformation projects.

The case study conducted by Van Dyk and Van Belle (2019) identified a gap in the existing literature regarding the factors that impact the implementation of digital transformation in South Africa for example the banking sector. Specifically, there is a dearth of research that specifically examines the unique dynamics of digital transformation projects within the South African context. Mubako (2017) posits that the dearth of literature concerning the performance of digital transformation initiatives in South Africa can be attributed to the nascent nature of this topic, which has only gained prominence in recent years.

This study aimed to investigate the factors that contribute to delays in the completion of digital transformation initiatives within the South African banking sector, in response to the gap noted by Van Dyk & Van Belle (2019). This study contributes to the current body of literature by incorporating a perspective specific to the banking sector in South Africa.

7.4 Business relevance of the research findings

Corley and Gioia (2011) argue that research findings attain business relevance when they can be directly applied to the challenges encountered by businesses and their managers. The authors propose that theories should prioritise their application in solving real-world business problems, rather than solely serving the purpose of addressing theoretical gaps in academia.

Wessel et al.'s (2021) argument that an understanding of factors that contribute to delays in the timely completion of digital transformation projects is crucial prior to the launch of these projects, given that completion delays may result in business disruptions and other negative effects, encapsulates the business problem that this study sought to address. Therefore, the main contribution of this study to business is that it provides an understanding of various factors that contribute to delays in the timely completion of digital transformation projects.

The categorisation of factors into four distinct themes offers businesses a valuable framework to enhance the implementation of digital transformation projects within

their respective organisations. Based on the results of this study, it is imperative for management to direct their attention toward; (a) management actions during the planning stage, (b) management actions during the execution stage, (c) project nature, in order to effectively facilitate the timely completion of digital transformation projects.

Thus, it is imperative for management to recognise that their decisions and actions during the project planning phase have a direct influence on the timely completion of a project during subsequent execution stages. Therefore, it is vital for management to establish project governance frameworks, formulate change management strategies, and assess the existing technological landscape before commencing digital transformation projects.

It is also important for management to recognise that their decisions and actions during the project execution phase have a direct influence on the timely completion of a project. Therefore, it is vital for management to continue providing support to the project team, actively manage any employee resistance, and ensure effective management of stakeholders.

Finally, the findings underscore the importance of effective project management in navigating project complexities and considering project size as a crucial factor in decision-making regarding project initiation.

7.5 Recommendations for organisations

7.5.1 During the project's planning stage

The research underscores the importance of thorough planning and assessment before embarking on digital transformation projects. Conducting a comprehensive evaluation of the existing technological landscape is essential for seamless integration of new digital solutions and systems. This initial phase allows organisations to identify potential roadblocks, assess compatibility issues, and plan for necessary infrastructure changes. By addressing these considerations early on, organisations can mitigate risks and complications that may arise during the implementation phase, ultimately ensuring a smoother and more efficient digital transformation journey.

In light of the research findings, it is evident that organisations can significantly enhance their success in digital transformation initiatives by adopting a holistic approach to integration. Firstly, it is recommended that management should integrate

digital transformation into the core of their organisational strategy. This means not merely viewing digital transformation as a side project but making it an integral part of the overall business strategy.

Additionally, fostering a culture that embraces digital transformation is essential. This involves encouraging employees at all levels to adapt to and adopt digital tools and technologies. Furthermore, the establishment of robust processes to facilitate the implementation of digital transformation projects is crucial.

The next recommendation centres on the importance of effective decision-making and accountability mechanisms. Management should implement an efficient project decision-making process that empowers teams to make informed choices during digital transformation projects. Simultaneously, promoting an accountability culture through the implementation of digital transformation project governance frameworks is essential. Such frameworks can help in defining roles, responsibilities, and decision-making authorities, ensuring that every stakeholder is held accountable for their contributions and actions. By doing so, organisations are better equipped to maintain project timelines and achieve successful digital transformation outcomes.

7.5.2 During the project’s execution stage

Based on the study's findings, it is evident that cultivating a climate of employee engagement in the process of digital transformation is crucial for augmenting an organisation's efficacy in communication and expediting the completion of digital transformation projects. As a result, management should actively promote and include employees in the implementation of digital transformation projects within the end-user community.

The study highlights the importance of top management support and endorsement in projects related to digital transformation. Hence, organisations should give utmost importance to obtaining support from top management in order to cultivate a conducive climate that facilitates the timely completion of digital transformation projects.

The efficient management of stakeholders emerges as a vital factor in accelerating digital transformation projects. Organisations should therefore foster a supportive environment within the project team by promptly and effectively resolving the concerns and issues of stakeholders.

7.5.3 Project nature

The research findings indicate that the nature of a project, including aspects such as its complexity and size, significantly influence the approach taken to manage delivery risks. This finding emphasises the importance of customising risk-mitigation tactics to the unique attributes of a project, as employing a standardised approach is unlikely to produce the most favourable outcomes within the realm of digital transformation projects.

Hence, it is important for organisations undertaking digital transformation projects to acknowledge that an understanding of the complexities inherent in the project can empower them to pre-emptively recognise and mitigate prospective risks, thereby augmenting the probability of timely project completion. Therefore, it is recommended that project managers and stakeholders allocate time and resources to evaluate and manage potential risks, considering the unique characteristics of each digital transformation project.

In addition, the research highlights the importance of risk-mitigation measures in achieving the timely completion of digital transformation projects. These methods not only function as a protective measure against prospective obstacles but also foster the ability to adjust and persevere in response to unexpected difficulties. It is recommended that organisations prioritise the development and implementation of comprehensive risk-mitigation strategies as a key component of their digital transformation project completion approach.

7.6 Research limitations

This study is subject to certain limitations due to the chosen research design and the defined boundaries of the research. The study employed a qualitative research design, which inherently includes the presence of researcher bias. The study is also subject to limitations that arise from the chosen research methodology.

The research findings in chapter 5 were predominantly presented through a thematic framework, wherein the researcher subjectively identified and formulated emerging themes. Instead of aggregating themes that arose from a single participant, the process of subjectively organising these themes into clusters was conducted across multiple individual participants. This approach may have led to a potential limitation in fully presenting the perspectives of individual project managers. This is in line with the arguments of Brooks et al. (2015), that the thematic method often places more

emphasis on across case analysis than on within case analysis, which inevitably leads to some loss of holistic understanding in relation to individual narratives. Therefore, due to high level consolidation into themes, the accounts of individual project managers on factors that contribute to delays in the timely completion of digital transformation projects may have been lost.

Regarding the study's boundaries, the focus was on how digital transformation project managers experienced and made sense of delays in the completion of digital transformation projects in which they played a part. The interviews with project managers were conducted retrospectively, several months or even years after the completion of the projects. No data was collected during the actual execution phase of the projects. As a result, the findings of this study are constrained in their ability to investigate potential differences in responses had data been collected during the project's execution.

As Asiamah et al. (2021) emphasise that cross-sectional studies are commonly limited by their susceptibility to alternative explanations of the tested effect or association. The authors posit that cross-sectional studies are unable to establish causation between variables in the same way that randomised controlled trials can. The authors argue that this is due to the inherent limitations of cross-sectional studies, which do not ensure the complete elimination of alternative explanations for relationships that are susceptible to confounding variables.

The primary limitation of this study pertains to the aspect of generalisability, given that a single business sector in the form of the South African banking sector was researched. Therefore, scientific generalisability to other sectors outside of the researched population may not be valid as only one sector was researched. Liu and Wang (2014) underscored the importance of recognising the potential invalidity of scientific generalisation when applying research findings from one specific target population to another population that possesses distinct characteristics. The factors that contribute to delays in the timely completion of digital transformation projects in the banking sector may vary when compared to other sectors, such as healthcare or construction.

This study primarily examined the perspectives of project managers, who were key stakeholders with a vested interest in digital transformation projects. Consequently,

their viewpoints may be influenced by their involvement and may diverge from those of external parties who have no direct engagement in these projects.

7.7 Recommendations for future research

The recommendations for future research are formulated considering the acknowledged limitations of this study and in consideration of the theoretical propositions that extend beyond the boundaries of the current study.

An increased theoretical understanding of the factors that affect the timely completion of digital transformation projects has been offered by this study, and from it, propositions can be generated and researched. This opens up possibilities for more research into the following areas, especially when paired with factors that this study did not address:

- When an organisation has sufficient financial resources and adequate top management support to address change management challenges as they arise, does the absence of a change management strategy or plan to address the change-related obstacles linked to a digital transformation project impede its timely completion?
- Can the lack of an evaluation of the current technological landscape hinder the timely completion of a digital transformation project, even if sufficient financial resources are allocated to address any challenges that may emerge during the integration with existing technology?
- What measures should be in place to achieve the timely completion of a digital transformation project without effectively managing employee resistance within an organisation?
- What are the obstacles that create delays in the timely completion of a digital transformation project, from the perspective of parties that are not participating in the project?
- Do the factors that affect the timely completion of digital transformation projects vary by sector?
- Do the perceptions of project managers change overtime in relation to the factors that contribute to delays in the completion of digital transformation projects?
- Do project managers' opinions on the factors that cause delays in the completion of digital transformation projects evolve over time?

7.8 Conclusions

The main research question, which was what factors contribute to delays in the timely completion of digital transformation projects in the South African banking sector, has been answered in the study. This study has also addressed the research's subsidiary questions. The subsidiary questions focused on management actions during the project planning stage, management actions during the project execution stage, project size, and project nature.

The study has successfully fulfilled its objective of adding a South African banking sector perspective to the existing theories of digital transformation. Additionally, it has established a foundation for scholars to further explore the factors that lead to delays in the timely completion of digital transformation projects.

Furthermore, the study has shed light on the interconnections between digital transformation and various aspects such as project management, change management, governance, stakeholder management, leadership support, and project complexity. The research contributions made by this study, along with the potential for future research, highlight its importance in both practical and academic contexts.

Significantly, the study of the banking sector in South Africa as a means of understanding the factors contributing to delays in timely completion of digital transformation projects has responded to the concerns raised by Van Dyk and Van Belle (2019) regarding the limited amount of scholarly research centred on the banking sector in South Africa.

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9 APPENDICES

9.1 Appendix 1: Interview guide

Name:

……

Date:……..

Start time:……..End time:……..

……

Name of digital transformation project:

……

I appreciate you allowing me to interview you. I sincerely appreciate your assistance with this research and your time.

As the banking sector progressively adopts digital transformation as a core pillar for overall organisational strategies, the timely completion of digital transformation projects is becoming increasingly vital for competitiveness. Existing literature on digital transformation has highlighted the prevalence of delays in the completion of digital transformation projects, however, it does not adequately explain the factors that contribute to these delays in the context of the South African banking sector. Thus, the purpose of this research is to seek an understanding of the various factors that drive delays in the completion of digital transformation projects in the South African banking sector.

In light of your experience in this area, the purpose of this interview is for you to offer your perspective on the factors that contribute to delays in the completion of digital transformation projects. Please note that the information you share will remain confidential and you will remain anonymous. You are also free to withdraw at any time without penalty. Before we start, I will take you through the interview consent form. I would also like to request your permission to record this interview, as well as take notes during the interview?

Clarifying the concept of digital transformation:

There are various definitions of digital transformation in literature, however, the definition adopted for this study is that posited by Horlacher et al. (2016) as the application of new digital technologies to enhance fundamental business operations, such as client services, operational efficiency through digitisation, and new business opportunities. Thus, the focus of this study is on factors that lead to delays in the completion of projects that seek to deliver digital transformation. The structure of the questions will be as follows to facilitate the interview:

Title question	What factors contribute to delays in the completion of digital transformation projects?		
Research questions	**What management actions during the project planning stage ultimately influence the project's timely completion?**	**What management actions during the project execution stage influence the project's timely completion?**	**What effect does the project's nature, including elements such as size, scope, complexity, and uncertainty have on its timely completion?**
Interview questions	**Interview question 1:** Within digital transformation projects that you were involved in; what effect, if any, do you believe organisational readiness and preparedness have on the timely successful completion of a digital transformation project?	**Interview question 6:** Within digital transformation projects that you were involved in; in what way did the existence or absence of top management support affect the timely completion of the digital transformation project?	**Interview question 11:** Within digital transformation projects that you were involved in; in what way did the project scope/size, or changes therein, affect the project's timely successful completion?
	Interview question 2: Within digital transformation projects that you were involved in; in what ways did the existence or absence of a project governance framework affect/impact the project's timely successful completion?	**Interview question 7:** Within digital transformation projects that you were involved in; during the digital transformation project execution stage, how effective was **communication** between stakeholders and how did that affect the project's completion timelines?	**Interview question 12:** Within digital transformation projects that you were involved in; what effect did aspects of the project such as complexity and uncertainty have on its timely completion?
	Interview question 3: Within digital transformation projects that you were involved in; prior to initiating the digital transformation project, was an assessment of the existing technological landscape conducted, and how did that (assessment or lack thereof) impact the project's timely successful completion?	**Interview question 8:** Within digital transformation projects that you were involved in; in what way did the existence or absence of employee resistance within the organisation affect/impact the project's timely completion, and if employee resistance existed, could better **management of such employee resistance** alter the outcome?	**Interview question 13:** Within digital transformation projects that you were involved in; how did the existence or non-existence of a project **complexity management process** impact the digital transformation project's timely completion?
	Interview question 4: Within digital transformation projects that you were involved in; was there a change management strategy/plan in place prior to project initiation to address the change-related activities connected with the digital transformation project, and how did the presence/absence of such a change management strategy affect/impact the project's timely completion?	**Interview question 9:** Within digital transformation projects that you were involved in; in what way did effective/ineffective **time management** of key project milestones affect/impact the ultimate duration of the project?	
	Interview question 5: Within digital transformation projects that you were involved in; prior to project initiation, were employees adequately informed about the impact of the digital transformation project on the organisation, and how did that affect/impact its timely completion?	**Interview question 10:** Within digital transformation projects that you were involved in; in what way did effective/ineffective **stakeholder management,** during the digital transformation project execution stage, affect/impact the project's successful timely completion?	

Source: Author's compilation

(Research sub-questions 1) What management actions during the project planning stage ultimately influence the project's timely completion?

Focusing on the **project planning stage**, i.e., prior to project initiation, and management actions, could we please unpack the following questions:

Interview question 1:

Within digital transformation projects that you were involved in; what effect do you believe organisational readiness and preparedness have on the timely completion of a digital transformation project?

Interview question 2:

Within digital transformation projects that you were involved in; was there a project governance framework in place prior to project initiation, and if so, how did that help the project's timely completion?

Interview question 3:

Within digital transformation projects that you were involved in; prior to initiating the digital transformation project, was an assessment of the existing technological landscape conducted, and how did that impact the project's timely completion?

Interview question 4:

Within digital transformation projects that you were involved in; was there a change management strategy or plan in place prior to project initiation to address the change-related challenges connected with the digital transformation project, and how did that impact the project's timely completion?

Interview question 5:

Within digital transformation projects that you were involved in; prior to project initiation, were employees adequately informed about the nature of the digital transformation project, and how did that impact its timely completion?

(Research sub-questions 2) What management actions during the project execution stage influence the project's timely completion?

Now, moving the focus to the project **execution stage**, i.e., when the project has been initiated, and assessing management actions, could we please unpack the following questions:

Within digital transformation projects that you were involved in;

Interview question 6:

Within digital transformation projects that you were involved in; what effect did the support of **top management** have on the timely completion of the digital transformation project?

Interview question 7:

Within digital transformation projects that you were involved in; during the digital transformation project execution stage, how effective was **communication** between stakeholders and how did that affect the project's completion timelines?

Interview question 8:

Within digital transformation projects that you were involved in; how did employee resistance within the organisation impact the project's timely completion, and could better **management of employee resistance** alter the outcome?

Interview question 9:

Within digital transformation projects that you were involved in; how did the **time management** of key project milestones impact the ultimate duration of the project?

Interview question 10:

Within digital transformation projects that you were involved in; how effective was **stakeholder management** during the digital transformation project execution stage, and what impact did it have on the project's timely completion?

(Research sub-questions 3) What effect does the project's nature, including elements such as size, scope, complexity, and uncertainty have on its timely completion?

Now, let us move our focus to the project's **nature**, and assess how this affects project performance, could we please unpack the following questions:

Within digital transformation projects that you were involved in;

Interview question 11:

Within digital transformation projects that you were involved in; did the scope/size of the digital transformation project affect its timely completion time?

Interview question 12:

Within digital transformation projects that you were involved in; what effect did the nature aspects of the project such as complexity and uncertainty have on its timely completion?

Interview question 13:

Within digital transformation projects that you were involved in; how did the project **complexity management process** impact the digital transformation project's timely completion?

TOTAL NUMBER OF INTERVIEW QUESTIONS **13.**

9.2 Appendix 2: **Consent pro-forma form**

I am currently a student at the Gordon Institute of Business Science at the University of Pretoria, conducting research in partial fulfilment of an MBA.

I am conducting research into the factors that contribute to delays in the completion of digital transformation projects in the South African banking sector. The purpose of the interview is to glean insights from your personal experiences relating to the topic; the interview is anticipated to last approximately one hour.

Your participation is voluntary, and you can withdraw at any time without penalty. All data will be reported without identifiers, ensuring your confidentiality is maintained. If you have any concerns, please contact my supervisor or me. Details are provided below.

Name	Role	Phone number	Email
Student : 25418514	Researcher	0**********1	25418514@mygibs.co.za

Signature of researcher

…….

Date

……

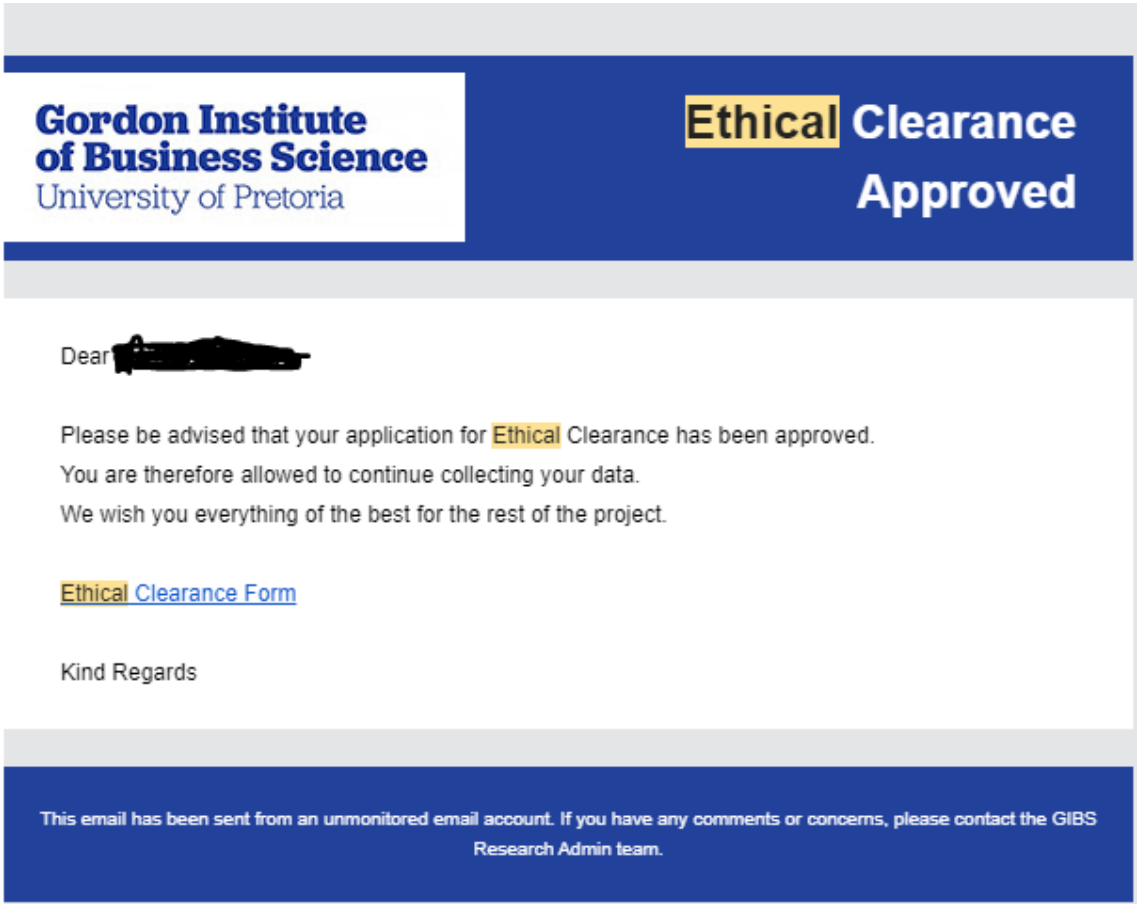
Signature of participant

……..

Date

……..

9.3 Appendix 3: **Ethical clearance**



Gordon Institute of Business Science
University of Pretoria

Ethical Clearance Approved

Dear [redacted]

Please be advised that your application for Ethical Clearance has been approved.
You are therefore allowed to continue collecting your data.
We wish you everything of the best for the rest of the project.

Ethical Clearance Form

Kind Regards

This email has been sent from an unmonitored email account. If you have any comments or concerns, please contact the GIBS Research Admin team.

9.4 Appendix 4: **Consistency matrix**

Chapter 2 Literature	Propositions	Chapter 3 Research Sub-questions	Interview Questions	Chapter 5 Results	Chapter 6 Discussion	Chapter 7 Conclusions
2.4 Digital transformation projects	When an organisation is not prepared for a digital transformation project but decides to commence one, delays in the project's completion are common.	What management actions during the project planning stage ultimately influence the project's timely completion?	Within digital transformation projects that you were involved in; what effect, if any, do you believe organisational readiness and preparedness have on the timely successful completion of a digital transformation project?	5.3.1 Organisational readiness and preparedness	6.2.1 Organisational readiness and preparedness	7.2.1 Management actions and decisions: Project's planning stage
2.7.6 Project governance framework	The creation and implementation of project governance frameworks positively contributes to the timely and successful completion of digital transformation projects.		Within digital transformation projects that you were involved in; in what ways did the existence or absence of a project governance framework affect/impact the project's timely successful completion?	5.3.2 Project governance framework	6.2.2 Project governance framework	
2.7.7 Existing technological landscape	Prior to initiating a new digital transformation project, failure to conduct a comprehensive assessment of the existing technological landscape is likely to drive project completion delays.		Within digital transformation projects that you were involved in; prior to initiating the digital transformation project, was an assessment of the existing technological landscape conducted, and how did that (assessment or lack thereof) impact the project's timely successful completion?	5.3.3 Assessment of the existing technological landscape	6.2.3 Assessment of the existing technological landscape	
2.7.8 Change management	The absence of a change management strategy or plan to tackle the change-related obstacles linked to a digital transformation project could potentially impede the timely completion of the project.		Within digital transformation projects that you were involved in; was there a change management strategy/plan in place prior to project initiation to address the change-related activities connected with the digital transformation project, and how did the presence/absence of such a change management strategy affect/impact the project's timely completion?	5.3.4 Change management plans and strategies	6.2.4 Change management plans and strategies	
2.6.3 Digital transformation project delays effects on organisations	Employees who are not adequately informed about the nature of an organisation's digital transformation project will continue to harbour concerns about the project, delaying its completion.		Within digital transformation projects that you were involved in; prior to project initiation, were employees adequately informed about the impact of the digital transformation project on the organisation, and how did that affect/impact its timely completion?	5.3.5 Adequately informing staff about the impact of the project	6.2.5 Adequately informing employees about the impact of the project	
2.7.9 Top management support	One of the contributing factors that can facilitate the timely and successful completion of a digital transformation project is an elevated level of support from top management.	What management actions, during the project execution stage, influence the project's timely completion?	Within digital transformation projects that you were involved in; in what way did the existence or absence of top management support affect the timely completion of the digital transformation project?	5.4.1 Top management support	6.3.1 Top management support	7.2.2 Management actions and decisions: Project's execution stage
2.7.10 Communication and collaboration	During a digital transformation project, ineffective communication between stakeholders is likely to cause delays in the project's completion.		Within digital transformation projects that you were involved in; during the digital transformation project execution stage, how effective was communication between stakeholders and how did that affect the project's completion timelines?	5.4.2 Communication between project stakeholders	6.3.2 Communication between project stakeholders	
2.7.11 People impact	Ineffectively managing employee resistance inside the organisation may lead to digital transformation project delays.		Within digital transformation projects that you were involved in; in what way did the existence or absence of employee resistance within the organisation affect/impact the	5.4.3 Management of employee resistance	6.3.3 Management of employee resistance	

			project's timely completion, and if employee resistance existed, could better management of such employee resistance alter the outcome?			
2.7.4 Time management	The likelihood of the project's overall completion being delayed increases when time management on critical project milestones is poorly managed.		Within digital transformation projects that you were involved in; in what way did effective/ineffective time management of key project milestones affect/impact the ultimate duration of the project?	5.4.4 Time management of key project milestones	6.3.4 Time management of key project milestones	
2.7.5 Stakeholder management	Insufficient stakeholder management process can impede the progress of a digital transformation project, resulting in delays.		Within digital transformation projects that you were involved in; in what way did effective/ineffective stakeholder management, during the digital transformation project execution stage, affect/impact the project's successful timely completion?	5.4.5 Stakeholder management	6.3.5 Stakeholder management	
2.2 Digital transformation	The greater the digital transformation project's size/scope, the greater the likelihood of project delivery delays.	What effect does the project's nature, including elements such as size, scope, complexity, and uncertainty have on its timely completion?	Within digital transformation projects that you were involved in; in what way did the project scope/size, or changes therein, affect the project's timely successful completion?	5.5.1 Project scope and/or size	6.4.1 Project scope and/or size	7.2.3 Project nature
2.7.2 Project complexity 2.7.3 Degree of uncertainty	The greater the level and frequency of uncertainty inside a digital transformation project, the less likely it is to be completed successfully and on time.		Within digital transformation projects that you were involved in; what effect did aspects of the project such as complexity and uncertainty have on its timely completion?	5.5.2 Uncertainty in digital transformation projects	6.4.2 Uncertainty in digital transformation projects	
2.7.2 Project complexity	Ineffective complexity management hinders the timely and successful completion of digital transformation projects.		Within digital transformation projects that you were involved in; how did the existence or non-existence of a project complexity management process impact the digital transformation project's timely completion?	5.5.3 Complexity and complexity management	6.4.3 Complexity and complexity management	

9.5 Appendix 5: Frequency analysis

	Theme	Category	Code	Project Manager	Count
1	Organisational readiness	People, process, and culture readiness	People	PM001, PM002,	7
			Process	PM003	
			Culture	PM002	
		Digital transformation strategy	Strategy	PM001, PM006,	
		Externally imposed timelines	No choice	PM001	
2	Governance framework	Execution of activities		PM001	9
		Decision-making process	Decisions	PM001, PM002, PM003	
		Adaptive/Flexible governance framework	Flexible	PM002	
		Accountability and compliance	Accountable	PM002, PM003	
		Leadership activities	Completion of approval tasks	PM004, PM005	
3	Existing technological landscape	Systems integration	Supported by existing system	PM001, PM003, PM009, PM011, PM013	5
			Fit into existing system		
			Intergrade		
		Commercial competitiveness		PM014	1
		Systems duplications avoidance	Already built	PM013, PM011, PM006	3
			Reuse		
			Avoid duplications		
		High end-user adoption rates	Adoption	PM001, PM006, PM008, PM002, PM007, PM010, PM011,PM012,	9
			Usage		
4	Change management	The impact of change	Change benefits	PM001,	6
			Impacted by change	PM013, PM003	
		End-user adoption	End-user	PM001, PM003, PM006	
5	Adequately informing staff about the impact of the project	Employees participation	participate	PM001	3
		Continuous staff communication	Communicate	PM003	
		End-user requirements	User	PM006	
	Theme	**Category**	**Code**	**Project Manager**	**Count**
6	Top management support	Lead by example	Exemplary	PM001	13
		Top management with the highest authority	Authority	PM001, PM003, PM002	
		Resolution of challenges	Resolution	PM003, PM006, PM005, PM0	
		Provision of resources	Resources	PM002, PM008	
		Accessible support	Access	PM002, PM004	
		Top Management as an enabler	Enabler	PM002	
7	Communication between project stakeholders	Project performance feedback	Weekly progress, partnership	PM003, PM001	3
		Coordination by the project manager	Project manager coordination	PM001	
8	Employee resistance	Employee system usage rates	End-user, end-user testing,	PM001, PM003, PM004	3
9	Project milestones	Interconnected nature	Connected systems	PM001	1
10	Stakeholder management	Stakeholders' concerns	Concerns	PM001	4
		Project delivery risk	Delivery risk	PM007	
		Managing stakeholders' deliverables	Deliverables	PM005	
		Managing expectations	expectations	PM006	
	Theme	**Category**	**Code**	**Project Manager**	**Count**
11	Project scope and/or size	High delivery risk on large projects	High risk	PM010, PM012, PM014, PM0	4
12	Uncertainty	The impact of perpetual fluidity within a project	Fluidity	PM001	2
		Employee impact uncertainty	Impact of uncertainty	PM004	
13	Complexity	The presence of complexity	Complex	PM001	2
		Low complexity projects		PM004	

9.6 Appendix 6: Code book

	Theme	Category	Sub-category	Code
1	Organisational readiness	People, process, and culture readiness	People	people who are going to be using it (People)
			Process	procurement processes as well as other organs need to be aligned (Process)
			Culture	from a cultural perspective (Culture)
		Digital transformation strategy	Strategy	have a strategy to transform and go digital (Strategy)
		Externally imposed timelines	No choice	No one was able to work without immediately adopting (No choice)
2	Governance framework	Execution of activities		
		Decision-making process	Decisions	governance forums are the same forums that are decisive in removing any blockages (Decisions)
		Adaptive/Flexible governance framework	Flexible	you can't wait for a steerco to act on something that requires immediate attention (Flexible)
		Accountability and compliance	Accountable	not being accountable in terms of reporting (Accountable)
		Leadership activities	Completion of approval tasks by leaders.	it brings effectiveness to completion of tasks on time (Completion of tasks)
3	Existing technological landscape	Systems integration		Supported by existing system
				Fit into existing system (fit)
			Intergrade	Integration into existing technology (Intergrade)
		Commercial competitiveness		
		Systems duplications avoidance		
			Reuse	to reuse quite a lot of the technological features that were already built (Reuse)
			Avoid duplications	that you don't duplicate the technologies (Avoid duplications)
		High end-user adoption rates		Employees will accept the new system (Adoption)
			User adoption	what the users are used to (Usage)
4	Change management	The impact of change	Change benefits	Advantages from the new system (Change benefits)
			Impacted by change	understand the impact that you are bringing (change Impact)
		End-user adoption	End-user	people and employees can adopt it (End-user adoption)
5	Adequately informing staff about the impact of the project	Employees participation	participate	everyone knows what's coming down (participate)
		Continuous staff communication	Communicate	you've communicated sufficiently (Communicate)
		End-user requirements	User	the difficult part in the project is to actually elicit the right requirements from the users (User requirements)

	Theme	Category	Sub-category	Code
6	Top management support	Lead by example	Exemplary	lead by example (Exemplary)
		Top management with the highest authority	Authority	.to have the right mandate at the right levels. The CIO, the CTO, CFO (Authority)
		Resolution of challenges	Resolution	expedite the resolution of those issues (Resolution)
		Provision of resources	Resources	commitment of resources (Resources)
		Accessible support	Access	you need them when delivering (Access)
		Top Management as an enabler	Enabler	enable you to deliver your initiatives (Enabler)
7	Communication between project stakeholders	Project performance feedback	Weekly progress, partnership meetings	we do weekly progress meetings (Performance tracking)
		Coordination by the project manager	Project manager coordination	use project managers to run sessions (Project manager coordination)
8	Employee resistance	Employee system usage rates	End-user, end-user testing,	we do end-user testing (end-user testing)
9	Project milestones	Interconnected nature	Connected systems	connected to some other part (Connected systems)
10	Stakeholder management	Stakeholders' concerns	Concerns	some people avoid raising their concerns (Concerns)
		Project delivery risk	Delivery risk	if one stakeholder was slacking, the other stakeholders would actually jump in (Delivery risk)
		Managing stakeholders' deliverables	Deliverables	it really does impact a lot of the deliverables (Deliverables)
		Managing expectations	expectations	includes management of expectations (Expectations)
	Theme	**Category**	**Sub-category**	**Code**
11	Project scope and/or size	High delivery risk on large projects	High risk	more areas you have for things to potentially go wrong (High risk)
12	Uncertainty	The impact of perpetual fluidity within a project	Fluidity	you are never sure (Fluidity)
		Employee impact uncertainty	Impact of uncertainty	their roles would be impacted (Impact of uncertainty)
13	Complexity	The presence of complexity	Complex	you plan for complexity (Presence of complexity)
		Low complexity projects		complexity was minimal (Low complexity)