



Exploring digital transformation in banking operations at the Development Bank of Southern Africa

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DECLARATION

I, **Tlou Judith Mogaila**, hereby declare that the contents of this mini dissertation represent my own original and independent work, and that it has not previously been submitted in full or in part for academic evaluation or for the attainment of any qualification. The views and opinions expressed herein are my own and do not necessarily reflect those of the North-West University. All sources that have been used, cited, or quoted are duly acknowledged and fully referenced in the reference list.

Tlou Judith Mogaila

DEDICATION

This mini-dissertation is dedicated with deep appreciation to the following people.

To my mother, Gladys Phuti Mogaila, your unwavering love, strength, and faith in me formed the foundation of all my accomplishments. Your steadfast support has been my anchor and source of courage.

To my daughter, Kamogelo Mogaila, you remain my greatest motivation and the reason behind my continual pursuit of growth and excellence. Your presence gives my work meaning and purpose.

To my nephew, Hlalefang Mogaila, your constant encouragement and belief in my potential inspired me to embark on this MBA journey. Your support has been a consistent source of strength, and this achievement belongs to you as much as it does to me.

PREFACE

This mini-dissertation represents a significant milestone in my academic and professional journey. The study, titled *Exploring digital transformation in banking operations at the Development Bank of Southern Africa* (DBSA), stems from my deep interest in understanding the impact of digital technology in the development finance sector. Drawing upon both academic grounding and practical experience in the financial environment, I have observed first-hand the opportunities and challenges presented by digital transformation in complex institutions such as the DBSA.

The research process has been both enlightening and demanding. It required sustained reflection, perseverance, and a commitment to understanding not only the technical dimensions of digital transformation, but also the organisational and psychological dynamics that accompany it. Through this study, I have grown substantially, particularly in analysing, implementing, and evaluating digital initiatives within the context of public-sector banking.

I am deeply grateful for my supervisor's insightful guidance and constructive feedback, and to the colleagues at DBSA whose invaluable contributions enriched this study. I also extend heartfelt thanks to my family and colleagues for their unwavering encouragement and support throughout this journey.

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ABSTRACT

The Fourth Industrial Revolution has redefined how financial institutions operate, compelling both commercial and developmental entities to adopt digital transformation as a strategic imperative. This study explored the extent to which the Development Bank of Southern Africa (DBSA) has implemented digital transformation, and how employees and stakeholders perceive the influence on operational efficiency, service delivery, and organisational performance. The research further evaluates the DBSA's alignment with established frameworks of digital maturity and changes management, identifying enablers, barriers, and opportunities for advancement. Guided by an interpretivist paradigm, a qualitative approach, and a case study design, data were collected through semi-structured interviews with 11 DBSA employees across hierarchical levels, complemented by document analysis. Thematic analysis, supported by Atlas.ti software, revealed five interrelated themes: modernisation of operations, mixed employee experiences, leadership and change management, structural and cultural challenges, and future opportunities and lessons. The findings indicate that the DBSA has achieved significant operational modernisation through technologies such as cloud computing, robotic process automation, and digital dashboards. However, transformation remains uneven due to legacy systems, regulatory complexity, and varying levels of digital literacy. The study positions the DBSA between the Integration and Optimisation stages of the Digital Maturity Model. Theoretically, this study addresses a gap by adapting digital transformation and change management frameworks to the context of governance-driven institutions, emphasising the role of leadership alignment, cultural adaptation, and governance integration. Practically, it offers actionable recommendations for leadership development, workforce capability building, and regulatory-aligned digital governance to strengthen digital maturity in development finance institutions.

Keywords: digital transformation; development finance institutions (DFIs); Digital Maturity Model; change management; governance; organisational culture; leadership; South Africa; interpretivist paradigm; case study

LIST OF ABBREVIATIONS

AI	artificial intelligence
ADKAR	Awareness, Desire, Knowledge, Ability, Reinforcement
DBSA	Development Bank of Southern Africa
DFI	development finance institution
fintech	financial technology
IT	information technology
IoT	Internet of Things
ISO	International Organization for Standardization
IT	information technology
ML	machine learning
PFM Act	Public Finance Management Act 1 of 1999
POPI Act	Protection of Personal Information Act 4 of 2013
RPA	robotic process automation
TAM	Technology Acceptance Model
VRIN	valuable, rare, inimitable, and non-substitutable

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CHAPTER 1: INTRODUCTION

1.1 BACKGROUND AND CONTEXT

The Fourth Industrial Revolution has accelerated the integration of digital technologies across all sectors, compelling financial institutions to redesign their operational models, client interfaces, and decision-making systems. In the banking industry, digital transformation has become a strategic imperative rather than a discretionary innovation- Advances in digital technologies have increasingly been leveraged to enhance operational efficiency, governance, and decision-making within financial institutions. (Rashiti & Sopi, 2022; Verhoef et al., 2021). These technologies have enabled commercial banks to automate high-volume processes, offer personalised services, and maintain competitiveness in a rapidly evolving market.

While commercial banks have advanced considerably in digitalisation, development finance institutions (DFIs) which combine developmental and financial mandates face a more complex transformation path. DFIs are expected to remain financially sustainable while simultaneously achieving socio-economic objectives such as infrastructure development, financial inclusion, and poverty reduction (Khadiagala, 2021). This dual mandate introduces institutional and governance constraints that shape the pace and depth of digital transformation (Gutierrez & Kliatskova, 2021). Digital transformation in DFIs is therefore not merely a technical upgrade; it represents an institutional evolution in which technology must align with governance frameworks, development priorities, and organisational culture.

In the South African context, the Development Bank of Southern Africa (DBSA) occupies a pivotal position in financing large-scale infrastructure projects across sectors such as energy, transport, water, and social services (Garane, 2024). In recent years, the DBSA has introduced digital initiatives aimed at improving internal processes, governance, and decision-support capabilities. In recent years, the DBSA has introduced several digital initiatives, ranging from automated procurement systems to data-driven decision-support platforms, to improve its internal operations and project-management capabilities (Tirivanhu, 2022).

Despite these initiatives, there has been no systematic evaluation of the scope, maturity, and organisational impact of the DBSA's digital transformation efforts. Existing documentation tends to describe implementation activities rather than assess outcomes. As a result, the current level of digital maturity within the DBSA remains unclear in terms of performance, capability development, and user adoption. Consequently, it remains unclear to what extent digitalisation has enhanced the DBSA's operational efficiency, governance mechanisms, and developmental

effectiveness. This knowledge gap also extends to the perceptions of employees and external stakeholders, whose acceptance and use of digital tools are critical to achieving sustainable transformation.

Understanding digital transformation within the DBSA is important given increasing expectations placed on DFIs to demonstrate value from digital investments, not only financially but also in governance and developmental outcomes. The present study therefore situates the DBSA within the wider discourse on digital transformation in development banking. By critically examining the institution's digital initiatives, employee experiences, and organisational enablers and barriers, the research was aimed at generating empirical and theoretical insights that contribute to both the scholarly understanding of DFI digitalisation and the practical advancement of technology-enabled development finance in South Africa. The next section describes the study problem.

1.2 PROBLEM STATEMENT

Although digital transformation has become a defining feature of contemporary banking, its application and implications in DFIs remain underexplored (Chima, Nwachukwu, & Okolo, 2025). DFIs operate under a dual mandate to remain financially viable while advancing socio-economic development making their digital transformation process distinct from those of commercial banks (World Bank Group, 2025). The DBSA has implemented digital initiatives intended to enhance efficiency and transparency; however, their organisational impact has not been empirically assessed (DBSA, 2022). However, there has been no comprehensive empirical assessment of how effectively these initiatives have been implemented, how they are perceived by employees and stakeholders, or how they contribute to the organisation's operational and developmental objectives.

Existing research on digital transformation in the banking sector focused predominantly on commercial institutions, where profitability and customer experience drive innovation (Ranjan, 2024; Verhoef et al., 2021). In contrast, DFIs, such as the DBSA, face unique institutional, regulatory, and cultural challenges that shape their capacity to digitalise. These include legacy systems, limited agility due to public-sector governance structures, compliance with legislation such as the Public Finance Management (PFM) Act 1 of 1999 (PFM Act) and the Protection of Personal Information (POPI) Act 4 of 2013 (POPI Act), and a workforce with varying levels of digital literacy (Gutierrez & Kliatskova, 2021; Khadiagala, 2021). Consequently, digital adoption in DFIs cannot be viewed through commercial banking models alone, as the determinants of success, risk, and organisational change differ substantially.

. This theoretical gap limits understanding of how technological, organisational, and human factors interact to influence transformation outcomes in development-oriented institutions. From a managerial perspective, the DBSA's leadership lacks empirical insights into the current level of digital maturity, the effectiveness of digital investments, and the organisational barriers constraining progress. Without such evidence, it is difficult to formulate data-driven strategies for enhancing efficiency, improving service delivery, and fostering a culture of digital readiness.

In summary, the problem addressed by this study is the limited understanding of organisational and technological factors influencing digital maturity at the DBSA. This gap restricts both academic comprehension and practical decision-making regarding digital transformation within DFIs. The following section details the study's research aim and objectives.

1.3 RESEARCH AIM, OBJECTIVES, AND QUESTIONS

This section states the overall aim of the research, together with the research objectives and questions that guided the inquiry.

1.3.1 Research Aim

. The aim of this study is to explore the organisational and technological factors influencing digital maturity at the Development Bank of Southern Africa

1.3.2 Main Research Question

What organisational and technological factors influence the digital maturity of the Development Bank of Southern Africa?

1.3.3 Research Objectives

To achieve the stated aim, the study pursued the following interrelated objectives.

RO1: Examine technology acceptance among employees

RO2: Assess organisational resources and capabilities

RO3: Explore change management practices

RO4: Determine DBSA's digital maturity level

The related research questions are listed below.

1.3.3 Research Questions

RQ1: How can the DBSA's current level of digital transformation be characterised and benchmarked using digital maturity models?

RQ2: What are employees' and stakeholders' perceptions of the usefulness, ease of use, and trustworthiness of the DBSA's digital initiatives?

RQ3: Which digital resources and competencies provide the DBSA with a strategic or operational advantage, and to what extent are these capabilities distinctive and sustainable?

RQ4: What organisational, technological, and regulatory barriers constrain the DBSA's digital transformation, and how can effective change management approaches mitigate these challenges?

RQ5: In what ways has digital transformation influenced the DBSA's performance, efficiency, and ability to deliver on its developmental mandate?

The next section discusses the significance of the study.

1.4 SIGNIFICANCE OF THE STUDY

The significance of this study lies in its contribution to both academic knowledge and managerial practice in the field of technology management within the financial sector. While digital transformation has been extensively studied in commercial banking, DFIs remain underrepresented in this discourse despite their pivotal role in promoting sustainable socio-economic development. The DBSA, as one of South Africa's leading DFIs, presents a unique institutional context through which to explore the complexities of digital transformation in development banking.

From an academic perspective, this study advances theoretical understanding of digital transformation that contributes to understanding digital transformation within African DFIs: the Technology Acceptance Model (Davis, 1989), the resource-based view (Barney, 1991), change management theories, and digital maturity models. In previous studies, these theories and models were often applied in isolation. In the present study, a composite approach was adopted to capture the interdependence between technological adoption, organisational capabilities, human factors, and strategic maturity. The resulting synthesis contributes to the theoretical refinement of digital transformation models in public and hybrid financial institutions, addressing a notable gap in current literature.

From a managerial and policy perspective, the study offers empirical insights that are applicable to the governance and implementation of digital initiatives within DFIs. By assessing the DBSA's digital maturity, organisational readiness, and stakeholder perceptions, the research identifies critical enablers and constraints that shape transformation outcomes. These insights could assist the DBSA's leadership and, potentially, other DFIs in formulating targeted digital strategies, allocating resources more effectively, and fostering a culture of innovation and adaptability. Furthermore, the findings may inform regulatory and policy discussions on digital governance in the public financial sector, particularly in relation to compliance, transparency, and developmental impact.

The study also aligns with the North-West University's strategic emphasis on applied research and societal relevance, contributing to knowledge creation that supports institutional innovation and capacity-building. By situating digital transformation within a developmental finance context, this research not only enriches academic debate, but also offers actionable recommendations for enhancing operational efficiency, service delivery, and stakeholder trust across DFIs in South Africa and beyond.

1.5 STRUCTURE OF DISSERTATION

This mini-dissertation is structured as follows. Chapter 1 introduces the study and outlines the research context, problem, aim, research question, and objectives. Chapter 2 reviews relevant literature and presents the theoretical framework underpinning the study. Chapter 3 describes the research methodology. Chapter 4 presents and discusses the findings, and Chapter 5 concludes the study with recommendations, limitations, and suggestions for future research.

1.6 CHAPTER CONCLUSION

This chapter has established the contextual and conceptual foundation for the study by situating digital transformation within the development finance environment of the DBSA. It identified a clear research problem relating to limited understanding of organisational and technological factors influencing digital maturity. The chapter also outlined the research aim, question, and objectives that guide the study. Chapter 2 follows with a review of relevant literature and theoretical perspectives informing the research.

CHAPTER 2: LITERATURE REVIEW

2.1 INTRODUCTION

The Fourth Industrial Revolution continues to reshape the global banking landscape through rapid advances in digital technologies and data-driven innovation (Yoganandham, 2024). Within this evolving environment, digital transformation has emerged as a strategic necessity for financial institutions seeking to enhance efficiency, responsiveness, and stakeholder engagement (Kurnia et al., 2024). While commercial banks have generally led the adoption of artificial intelligence (AI), blockchain, and cloud-based platforms, DFIs face distinctive challenges that stem from their dual mandate of achieving financial sustainability while delivering developmental impact. This chapter provides a review of literature on digital transformation in development banking, with reference to the DBSA. In response to examiner feedback regarding excessive conceptual breadth, this chapter adopts a focused theoretical position anchored in two core theories: the Technology Acceptance Model (TAM) and the Resource-Based View (RBV). Change management models and a digital maturity model are treated as supporting analytical tools that assist in interpreting organisational change dynamics and maturity progression within the DBSA. The review first offers definitions of key concepts in digital transformation, followed by discussions of the drivers, technologies, organisational dynamics, and outcomes of digitalisation in development banking. The subsequent sections explore digital maturity models and change-management models as applied to DFIs, and identify barriers, enablers, and regulatory considerations relevant to digital adoption.

2.2 DEFINING KEY CONCEPTS

To ensure clarity of the terminology used in the present study, this section defines the main concepts of interest in the present study. The three terms of interest *digitisation*, *digitalisation*, and *digital transformation* are often used interchangeably but denote distinct stages of technological progression in organisations (Katu & Singh, 2020).

Digitisation refers to the technical conversion of analogue information into digital form, thereby enabling electronic storage, retrieval, and transmission (Paulin, 2018).

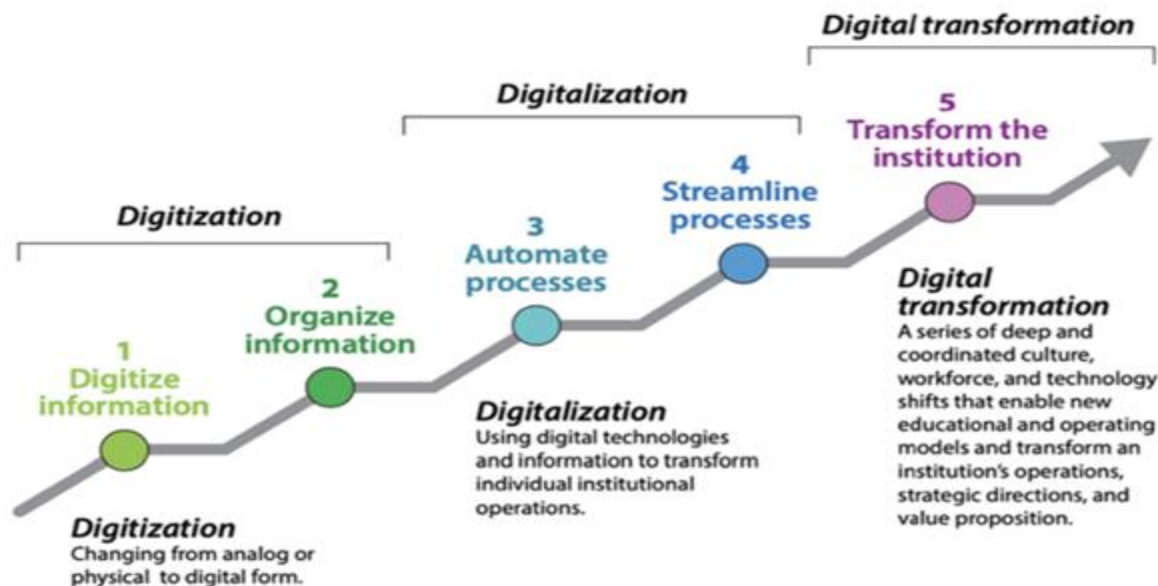
Digitalisation, which builds on digitisation, is the process of embedding digitised data and technologies into operational processes to enhance efficiency, co-ordination, and value creation (L.Lyons, 2019).

Digital transformation is the strategic and holistic shift in organisational structures, culture, and business models to leverage emerging technologies such as AI, the Internet of Things (IoT), and cloud computing for sustained competitiveness and innovation (Kovacevic, 2023).

These distinctions underscore that digital transformation transcends technological adoption: it is an organisational-level phenomenon encompassing leadership, skills, governance, and culture (Imran, 2023). In the context of the DBSA, transformation involves re-conceptualising service delivery and operational mechanisms to achieve developmental outcomes through technology-enabled processes.

Figure 2.1 illustrates the distinction between digitisation, digitalisation, and digital transformation. Figure 2.1

Digitisation, Digitalisation, and Digital Transformation



Source: Adapted from Katuu and Singh (2020:4-6)

The next section discusses digital transformation in the context of development banking.

2.3 THEORETICAL POSITION AND CONCEPTUAL FRAMEWORK

Digital transformation is a complex, multi-dimensional process that extends beyond the adoption of technology to include organisational culture, human capability, leadership, and strategic alignment. In response to examiner feedback regarding excessive theoretical breadth, this study adopts a focused theoretical position anchored in two core theories: the Technology Acceptance

Model (TAM) and the Resource-Based View (RBV). These theories are supported by change management models and a digital maturity model, which provide complementary tools for interpreting organisational change dynamics and assessing maturity progression within the DBSA.

2.3.1 Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM), developed by Davis (1989), proposes that perceived usefulness and perceived ease of use shape an individual's intention to adopt and use technology. This theory is relevant to the DBSA context because digital transformation initiatives require sustained employee and stakeholder adoption to succeed. In this study, TAM informs the analysis of how employees and stakeholders perceive the DBSA's digital platforms, including the extent to which these systems are considered beneficial and easy to use. TAM also supports interpretation of factors such as training, usability, and trust, which influence engagement with digital tools (Davis, 1989).

2.3.2 Resource-Based View (RBV)

The Resource-Based View (RBV) argues that organisational performance and advantage are influenced by resources and capabilities that are valuable, rare, inimitable, and non-substitutable (VRIN) (Barney, 1991). Within the context of digital transformation, RBV is useful for examining how internal resources such as IT infrastructure, data capability, digital skills, and leadership capacity support or constrain digital maturity. In this study, RBV provides a lens for assessing whether the DBSA's digital investments and capabilities contribute to institutional resilience and improved organisational performance within a development finance environment (Barney, 1991).

2.3.3 Change Management Models Supporting Digital Transformation

Digital transformation requires behavioural and organisational change, including shifts in routines, culture, and work practices. In this study, change management is approached through models rather than treated as a core theory. Models such as Lewin's (1947) Unfreeze–Change–Refreeze framework, Kotter's (1995) Eight-Step Change Model, and the ADKAR Model (Hiatt, 2006) provide structured approaches for interpreting how leadership communication, staff involvement, and reinforcement mechanisms influence the adoption and sustainability of digital initiatives. These models support analysis of resistance to change, readiness, and leadership practices within the DBSA's regulatory and hierarchical context (Kumar, 2023; Musaigwa, 2022).

2.3.4 Digital Maturity Model (Westerman et al., 2014)

Digital maturity models are diagnostic tools used to assess an organisation's progress in digital transformation across dimensions such as leadership, culture, technology, and strategy (Westerman, Bonnet, & McAfee, 2014). While several digital maturity models exist, this study adopts the model by Westerman et al. (2014) as the primary maturity framework to maintain analytical depth and consistency. The model supports assessment of the DBSA's digital readiness and provides a structured basis for identifying gaps between current digital practices and desired maturity outcomes.

2.3.5 Conceptual Integration of the Framework

The conceptual framework for this study integrates TAM and RBV as the core theoretical lenses, supported by change management models and the digital maturity model. TAM explains user-level adoption of digital systems, while RBV focuses on organisational resources and capabilities that enable or constrain transformation. Change management models support interpretation of leadership and behavioural dynamics during implementation, and the digital maturity model provides a structured way to describe the organisation's maturity progression. Together, these perspectives enable a coherent analysis of the technological, organisational, and human factors influencing digital maturity at the DBSA.

The next section discusses digital transformation in the context of development banking.

2.4 DIGITAL TRANSFORMATION IN DEVELOPMENT BANKING

The transformation of the global financial sector has been profoundly influenced by rapid technological innovation, shifting customer expectations, and the increasing demand for efficiency and transparency. While commercial banks have long embraced digital technologies to gain competitive advantage and enhance profitability, DFIs occupy a distinctive space within the financial ecosystem. Unlike commercial banks, DFIs pursue a dual mandate to achieve financial sustainability while promoting inclusive socio-economic development (World Bank Group, 2025). Their performance is therefore not measured solely by profitability, but also by their contribution to developmental impact, such as infrastructure financing, social investment, and regional integration (Ikwuanusi et al., 2024).

Aras and Büyüközkan (2023) explain that digitalisation in public and hybrid financial institutions functions as a strategic enabler of institutional agility and a catalyst for improved service delivery. It allows DFIs to process data-driven decisions faster, improve project monitoring, and ensure

transparency in fund allocation and impact reporting. In this context, digital transformation in DFIs entails more than technological modernisation. It represents a structural and cultural realignment, in which institutions leverage digital capabilities to enhance governance, accountability, and developmental effectiveness (Kamil, Rahman & Shamsudin, 2025).

However, the transformation trajectory of DFIs is significantly more complex than that of their commercial counterparts. DFIs must operate within highly regulated and bureaucratic environments, often characterised by legacy information systems, resource limitations, and policy constraints (Mikheeva, 2024). These factors restrict their capacity to implement agile digital initiatives and to fully exploit advanced technologies such as AI, machine learning (ML), and blockchain. Additionally, DFIs are subject to multiple layers of accountability government oversight, development-partner reporting requirements, and stakeholder transparency which frequently necessitate cautious, incremental approaches to innovation (Khadiagala, 2021).

Despite these challenges, DFIs across the Global South, including the DBSA, have increasingly recognised digital transformation as essential to achieving institutional sustainability and relevance in the Fourth Industrial Revolution. The DBSA has initiated several digital interventions, ranging from process automation and cloud-based systems to integrated data analytics, to strengthen its operational efficiency and governance capacity (Garane, 2024). Yet, while these initiatives signal progress, there remains limited empirical understanding of their strategic coherence, organisational maturity, and impact on developmental outcomes.

Extant research focused predominantly on digital innovation in commercial banking, leaving a substantial gap in literature addressing how DFIs conceptualise, implement, and measure digital transformation (Verhoef et al., 2021). Most studies examined isolated technological applications rather than adopting holistic, institution-wide perspectives that consider the interplay between digital tools, organisational readiness, and human behaviour. This fragmentation underscores the need for a focused, theory-driven analysis of DFI transformation. In this study, the Technology Acceptance Model (TAM) and the Resource-Based View (RBV) provide the core theoretical basis for analysing user adoption and organisational capability factors influencing digital maturity at the DBSA.

Within this broader framework, digital transformation in DFIs can be understood as a systemic capability-building process, one that enhances not only technological infrastructure, but also human competencies, leadership capacity, and data governance. For institutions such as the DBSA, the ultimate measure of transformation success lies in the extent to which digitalisation supports developmental efficiency, transparency, and stakeholder inclusion. Accordingly, this study positions the DBSA's digital transformation as both a technological and organisational

phenomenon, requiring evaluation through multiple theoretical lenses and sources of empirical evidence. The next section reviews the drivers of digital transformation.

2.5 DRIVERS OF DIGITAL TRANSFORMATION

Digital transformation in financial institutions is shaped by multiple interacting forces that extend beyond technological advancement, encompassing institutional, cultural, and regulatory dynamics. In commercial banking, the principal drivers have historically been competitive pressure, market differentiation, and customer expectations of digital service delivery (Adewumi et al., 2024). These institutions adopt digital technologies to enhance profitability, streamline processes, and strengthen customer retention (Sadaram et al., 2023).

In contrast, DFIs, such as the DBSA, are guided by a dual mandate that prioritises developmental impact alongside financial sustainability. As a result, their digital transformation is motivated by a distinctive set of institutional and strategic imperatives that reflect the intersection of public governance, financial performance, and developmental outcomes. The main categories of drivers can, therefore, be examined across technological, organisational, and governance-related dimensions, each of which aligns with one or more of the theoretical lenses applied in this study. The drivers of digital transformation are detailed below. Although these drivers are widely discussed in the literature, DFIs experience them differently due to regulatory oversight, governance complexity, and developmental mandates, which can slow adoption and limit the flexibility of implementation

2.5.1 Technological Drivers

From a technological perspective, the global diffusion of innovations such as AI, blockchain, process automation (RPA), and cloud computing has exerted significant pressure on DFIs to modernise their operational systems (Ranjan, 2024). These technologies enable greater efficiency, risk monitoring, and transparency in project implementation, attributes that are vital for DFIs responsible for managing public or donor-funded investments (Ayodeji, Friday, Lawal, Pub, & Sobowale, 2022).

From a Resource-Based View (RBV) perspective, these technologies may strengthen institutional capability when embedded effectively within organisational processes and supported by complementary skills and governance arrangements (Barney, 1991). Their adoption allows DFIs to transform data into actionable intelligence, improve infrastructure monitoring, and align project outcomes with developmental goals (Hulu, Kesuma, Mailani, & Simamora, 2024). For the DBSA, technological innovation is particularly critical to enhancing internal decision-making, streamlining

procurement- and disbursement processes, and improving the traceability of infrastructure projects (Garane, 2024).

Technological advancement also relates directly to digital maturity models, which conceptualise digital transformation as a continuum of capability development. In this sense, technology acts both as an enabler of maturity and a benchmark for assessing institutional readiness. The technological drivers for DFIs therefore go beyond digital adoption; they signify the need to achieve integrated systems that facilitate efficiency, compliance, and impact measurement.

2.5.2 Organisational Drivers

At the organisational level, transformation is often driven by the need to enhance operational efficiency, internal collaboration, and knowledge management. DFIs operate in complex environments with multiple stakeholder's governments, development agencies, and the private sector requiring co-ordination across functions and geographies (Ikwuanusi et al., 2024).

Applying change management models, particularly Kotter's (1995) Kotter's (1995) Eight-step Change Model and the ADKAR Model (Hiatt, 2006), highlights the importance of leadership commitment, staff engagement, and a clear digital vision in driving transformation. Successful digital adoption depends not only on the availability of advanced technology, but also on an organisational culture that promotes innovation, risk tolerance, and continuous learning (Lu, 2024). For the DBSA, leadership plays a central role in articulating a digital strategy that aligns technology with institutional objectives, fosters a culture of accountability, and mitigates resistance to change.

These organisational drivers also resonate with the TAM (Davis, 1989), which explains adoption behaviour in terms of perceived usefulness and perceived ease of use. When employees perceive that digital tools improve their work efficiency and align with institutional goals, adoption rates increase. Conversely, lack of clarity, insufficient training, or poor communication can hinder engagement. Organisational transformation within DFIs thus requires an intentional focus on human-centred change processes that complement technological modernisation (Schorr, 2023).

2.5.3 Governance and Developmental Drivers

DFIs function within governance structures that emphasise transparency, accountability, and impact evaluation. Consequently, their digital transformation is also driven by governance imperatives and developmental mandates. These include improving data governance, ensuring regulatory compliance, enhancing reporting accuracy, and aligning technological initiatives with

national development agendas (Calice, 2013). From the perspective of digital maturity models, governance represents a key dimension of institutional maturity, encompassing leadership, policy alignment, and stakeholder trust. Strengthening digital governance mechanisms enables DFIs to comply with frameworks such as the PFM Act (RSA, 1999) and the POPI Act (RSA, 2013) while improving the reliability of monitoring and evaluation systems.

For the DBSA, digital transformation serves not only as an operational necessity, but also as a mechanism for advancing its developmental mission. By leveraging digital platforms to enhance transparency, data sharing, and stakeholder participation, the bank contributes to sustainable development and public trust, which are core elements of its institutional legitimacy.

2.5.4 Summary of Drivers

The drivers of digital transformation in DFIs, such as the DBSA, can thus be conceptualised as interdependent forces that operate at multiple levels of the institution, as shown in Table 2.1.

Table 2.1

Summary of Key Drivers of Digital Transformation in DFIs and Related Theories

Category	Primary Motivation	Related Analytical Lens	Expected Impact
Technological	Adoption of AI, RPA, and data analytics to enhance operational efficiency	Resource-based view (Barney, 1991) and DMM	Improved decision-making and service efficiency
Organisational	Leadership commitment, employee engagement, and cultural readiness	Change management and TAM (Davis, 1989)	Enhanced adoption and alignment with strategy
Governance/ Development	Regulatory compliance, transparency, and developmental impact	Digital maturity models and change management	Strengthened accountability and stakeholder trust

Together, these drivers position digital transformation in DFIs as both a technological necessity and a strategic enabler of institutional resilience and sustainable development. The next section looks at digital tools and innovation in the context under study.

2.6 DIGITAL TOOLS AND INNOVATIONS

Digital transformation in financial institutions is underpinned by the adoption of advanced technologies that enable efficiency, transparency, and responsiveness. In the commercial banking sector, tools such as AI, blockchain, cloud computing, and data analytics have revolutionised financial intermediation by automating processes, improving customer experience, and enhancing decision-making (Dahiya et al., 2022; Sadaram et al., 2023). These technologies collectively support real-time data management, predictive modelling, and personalisation, allowing commercial banks to remain competitive and agile in a rapidly evolving marketplace (Anholon, Bueno, Filho, Rampasso, & Sigahi, 2024).

In DFIs, however, digital innovation serves more complex and multi-layered objectives. While technological adoption can enhance efficiency, it must also strengthen developmental outcomes, ensure compliance with governance standards, and facilitate inclusive access to finance. DFIs, such as the DBSA, deploy digital tools to increase operational transparency, improve project management, and optimise resource allocation (Oye, 2025). For example, digital procurement systems enhance traceability and accountability in project funding, thereby reducing corruption risks and ensuring adherence to public-finance regulations (Zhang & Ma, 2024). Similarly, the integration of RPA with enterprise resource planning systems has streamlined reporting processes and reduced human error, improving data consistency and compliance efficiency (Yendluri et al., 2023).

The resource-based view (Barney, 1991) provides an analytical lens for interpreting how such technologies can become strategic resources that contribute to institutional advantage. In the DBSA, digital tools such as data-analytics platforms for project appraisal or risk-modelling systems may contribute to improved decision-making and operational efficiency when they are integrated into core processes and supported by appropriate skills and governance (DBSA, 2024). Their successful deployment enhances the bank's capacity to deliver development projects efficiently and to measure impact in ways that were previously constrained by manual or fragmented systems (Aro, 2024; Barney, 1991). However, to sustain competitive value, DFIs must invest not only in technology acquisition, but also in developing the organisational and human capabilities necessary to use these tools effectively, aligning them with institutional strategies and governance structures (Cantemir, Dorin, & Gabriel, 2023).

The application of cloud-based infrastructure has also become increasingly significant for DFIs, as these enable scalability, data integration, and collaboration across departments and regions (Brenton Lalu, 2025). Cloud computing supports multi-stakeholder co-ordination, allowing DFIs to share real-time project data with donors, implementing partners, and oversight bodies (Nabeel, 2024). This technological flexibility is particularly valuable in large-scale infrastructure projects, where effective monitoring and reporting are critical. Furthermore, by facilitating remote work and digital service delivery, cloud infrastructure enhances organisational resilience a crucial capability in the post-pandemic environment, and one that contributes to higher levels of digital maturity as conceptualised in digital maturity models (Westerman, Bonnet, & McAfee, 2014).

Emerging technologies such as blockchain and AI hold additional promise for DFIs. Blockchain's immutable ledger function can strengthen transparency in development-finance disbursements, thereby reducing fraud and enhancing donor confidence (Popool et al., 2024). Similarly, AI and ML algorithms enable DFIs to forecast developmental outcomes, assess portfolio risk, and optimise funding allocations. These technologies directly address the need for data-driven decision-making, which is central to both the resource-based view (Barney, 1991) (as an enhancer of organisational capability) and digital maturity models (as a marker of institutional maturity) (Linda Jessica De Montreuil Carmona, 2022).

The TAM (Davis, 1989) holds that the success of these digital tools depends on users' perceptions of their usefulness and ease of use (Davis, 1989). In DFIs, digital initiatives often fail, not due to technological inadequacy, but because of limited user buy-in, inadequate training, or uncertainty about organisational priorities (Mafitoe, 2024). In the DBSA, ensuring that employees perceive digital tools as enablers rather than disruptions is essential for sustainable transformation. Training programmes, inclusive design processes, and consistent communication of strategic value are therefore critical in reinforcing user confidence and commitment to digital adoption (DBSA, 2025). Taken together, these technologies form an interconnected ecosystem that supports the DBSA's transformation agenda. The alignment of technological tools with institutional strategy, human capabilities, and governance mechanisms determines the organisation's digital maturity and its ability to translate technology into developmental impact. From a theoretical standpoint, this interplay demonstrates how the resource-based view (Barney, 1991), the TAM (Davis, 1989), and the digital maturity model by Westerman et al. (2014) supports interpretation of how these tools contribute to maturity progression within the organisation to explain both the technical and behavioural dimensions of digital transformation in DFIs. The next section discusses organisational and structural challenges that hamper digital transformation.

2.7 ORGANISATIONAL AND STRUCTURAL CHALLENGES

While technological advancements present significant opportunities for enhancing institutional performance, the process of implementing digital transformation in DFIs is often constrained by a range of organisational and structural barriers. These challenges are typically more complex than those faced by commercial banks, owing to DFIs' hybrid public–developmental mandates, regulatory obligations, and institutional legacies (Mikheeva, 2024). In such environments, transformation is not only a technical exercise but also a deep organisational change process that demands alignment of structures, culture, and leadership (Mafitoe, 2024).

A primary barrier to digital transformation in DFIs is the persistence of legacy systems that are fragmented, incompatible with modern platforms, and reliant on outdated infrastructure, which limits interoperability and integrated data management (Kumar, 2022). These systems limit the integration of new technologies such as AI, RPA, and advanced analytics, creating inefficiencies in data management and interdepartmental communication (Duvvur, 2023). Within the resource-based view (Barney, 1991), such technological fragmentation represents a deficiency in organisational capability the ability to reconfigure internal resources to achieve sustained advantage (Barney, 1991). The DBSA's legacy infrastructure constrains its capacity to derive strategic value from data assets and to adopt scalable, interoperable digital solutions that align with developmental financing objectives (DBSA, 2020).

Another critical challenge involves organisational culture and employee readiness. Resistance to change often emerges from uncertainty, fear of redundancy, or lack of confidence in new systems (Damawan & Azizah, 2020; Furxhi, 2021). This behavioural dimension is particularly salient in institutions with long-established bureaucratic traditions, where innovation may be perceived as a threat to established hierarchies or operational routines (Chong, Ismail, & Ramachandran, 2010). The TAM (Davis, 1989) provides a useful framework for understanding such resistance, as employees' adoption of digital systems depends largely on their perceptions of usefulness and ease of use (Davis, 1989). Without consistent communication, adequate training, and participatory design processes, digital initiatives may face low user engagement, which undermines potential efficiency gains (Abhari, 2025).

Linked to this is the broader issue of change management and leadership. Transformational leadership and structured change processes are critical to overcoming inertia and sustaining digital initiatives (Hamdo, 2021). According to change management theories, specifically Lewin's (1947) Unfreeze, Change, Refreeze Model and Kotter's (1995) Eight-step Change Model, successful transformation requires unfreezing existing mindsets, implementing change through inclusive participation, and refreezing new behaviours into organisational culture (Stander, 2023).

However, within DFIs, change processes are frequently hindered by hierarchical decision-making structures, limited leadership continuity, and constrained authority to reallocate resources or restructure teams. For the DBSA, effective digital leadership requires cultivating a shared digital vision, empowering mid-level managers as change agents, and integrating digital competencies into leadership development frameworks (Dlamini, 2021).

Human-capital constraints further compound these challenges. DFIs often struggle to attract and retain skilled digital professionals due to uncompetitive public-sector remuneration and rigid human-resource structures (Paddy Carter, Director of Research & Policy, CDC Group, 2021). This shortage of digital expertise limits the institution's ability to maintain, customise, and innovate technological solutions internally. It also weakens institutional learning, as dependence on external consultants or short-term contractors prevents knowledge retention and capacity-building. From the perspective of the resource-based view (Barney, 1991), human capital constitutes a critical strategic resource; thus, failure to cultivate digital skills undermines the long-term sustainability of transformation efforts (Willie, 2024).

Structural complexity also affects DFIs' ability to implement agile methodologies. Unlike commercial banks, which can rapidly deploy digital pilots and iterate solutions, DFIs operate under multiple layers of oversight and accountability boards, government ministries, and international partners (Gardner-Stephen & Nabben, 2020). These governance constraints slow decision-making and discourage risk-taking, thereby impeding innovation. Furthermore, competing priorities between compliance and experimentation often result in conservative implementation strategies that prioritise procedural correctness over strategic innovation (Hlongwa, 2018).

The combined effect of these organisational and structural challenges is a fragmented transformation landscape characterised by isolated digital projects rather than co-ordinated institutional change (Jerab & mabrouk, 2023). For the DBSA, this fragmentation manifests as pockets of innovation, such as automated procurement and data analytics tools, that are not yet fully integrated into a coherent digital ecosystem. Addressing these challenges requires leadership commitment, capacity development, and the embedding of change management principles that balance accountability with flexibility (DBSA, 2025). The next section looks at the strategic and developmental outcomes of digital transformation.

2.8 STRATEGIC AND DEVELOPMENTAL OUTCOMES

The outcomes of digital transformation extend beyond technological implementation, encompassing institutional performance, stakeholder value creation, and developmental impact (Dhanashree Chaudhari, Patil, & Sharma, 2024). In commercial banking, the success of digital

transformation is typically measured through indicators such as profitability, cost reduction, market share growth, and customer satisfaction (Sadaram et al., 2023). In contrast, DFIs assess transformation outcomes not only in financial or operational terms, but also in relation to their developmental mandates, that is, their contribution to inclusive growth, infrastructure development, and socio-economic empowerment (Ikwuanusi et al., 2024).

In DFIs, such as the DBSA, digital transformation serves as a lever for achieving institutional efficiency while simultaneously strengthening the bank's capacity to deliver on national and regional development priorities (Hadzic, 2024). The adoption of digital tools enables more accurate project appraisal, improved risk assessment, and faster decision-making processes. This contributes to operational transparency, better governance, and increased public accountability, which are key attributes of high-performing development institutions (Dlamini, 2021). Digital transformation has the potential to support the DBSA's dual objective of financial sustainability and developmental impact, positioning technology as both an operational enabler and a strategic asset (DBSA, 2025).

From the perspective of the resource-based view (Barney, 1991), successful digital transformation outcomes reflect an institution's ability to convert technological assets into strategic capabilities (Akbar, Akbar, & Wiratmadja, 2025). The DBSA is increasingly adopting of integrated information systems, for example, enhances its capacity to manage complex project portfolios, track disbursements, and report development results in real-time (DBSA, 2025). These systems may strengthen institutional capability and credibility by improving portfolio management, reporting accuracy, and transparency when effectively embedded within organisational routines (DBSA, 2025). However, as the resource-based view (Barney, 1991) implies, such outcomes are sustainable only if supported by human and organisational capabilities particularly digital literacy, leadership competence, and adaptive culture that allow continuous renewal of technological assets (Barney, 1991; Garane, 2024).

Digital maturity models such as Digital Model by Digital Maturity Model by Westerman et al. (2014) provide a complementary lens through which to evaluate these outcomes. According to these models, digital transformation is an evolutionary process that progresses across the dimensions of strategy, leadership, technology, and culture (Westerman, Bonnet, & McAfee, 2014). Achieving higher levels of maturity requires not only technological advancement, but also alignment between digital initiatives and institutional goals (Alarcón, et al., 2025). In the DBSA, improvements in process automation, data analytics, and internal communication could thus be interpreted as indicators of rising digital maturity (Vásquez, Castillo, Rodriguez-Jaraba, Soto, & Puertas, 2024). More importantly, these advances demonstrate a growing institutional capacity to

deliver value through technology-enabled governance, monitoring, and reporting systems that enhance developmental accountability.

Behavioural and organisational outcomes also play a crucial role. Drawing from the TAM (Davis, 1989), employees' and stakeholders' perceptions of usefulness and ease of use directly influence the effectiveness of digital initiatives. Where systems are intuitive and aligned with operational needs, employees are more likely to integrate them into daily workflows, resulting in increased efficiency and improved decision quality (Davis, 1989). Conversely, limited adoption or resistance reduces the transformational potential of technological investments (Faiz, Le, & Masli, 2024). The DBSA's ability to foster a culture of digital acceptance through training, communication, and participatory design will determine whether digital tools translate into measurable institutional outcomes (Smith, 2025).

From the perspective of change management theories such as Kotter's 8-Step Change Model and Lewin's Change Theory, emphasise transformation outcomes depends on the extent to which change is embedded in organisational routines and leadership practices (Kotter, 1995; Stander, 2023). Sustainable transformation occurs when digital strategies are supported by clear communication, staff empowerment, and mechanisms for continuous feedback (Kotter, 1995; Stander, 2023). In DFIs, this involves establishing cross-functional leadership structures, integrating digital goals into performance management, and maintaining alignment between technology and mission (United Nations Human Rights, 2025). For the DBSA, the institutionalisation of change reflects not only the adoption of technological success, but also the ongoing maturation of leadership and organisational learning necessary to sustain innovation.

Beyond operational benefits, digital transformation generates developmental outcomes central to DFIs' mandates (Marbuah, Velde, Attridge, Lemma, & Keane, 2022). Enhanced data analytics and real-time monitoring enable the DBSA to evaluate the social and environmental impact of funded projects more effectively, improving transparency and accountability to government, donors, and citizens (DBSA, 2024). Digital platforms also facilitate broader stakeholder participation by enabling communities, contractors, and partners to engage directly with development initiatives (Toukola & Ahola, 2022). In this regard, technology acts as a democratising tool by supporting inclusion and responsiveness in development financing (Carè, Boitan, Fatima, & Stoian, 2025).

The strategic and developmental outcomes of digital transformation within DFIs, such as the DBSA, can be conceptualised across three interrelated dimensions: (1) operational outcomes, which enhance efficiency, governance, and risk management; (2) organisational outcomes, which

strengthen capabilities, leadership, and culture; and (3) developmental outcomes, which advance transparency, inclusivity, and societal impact (DBSA , 2020).

Each dimension reflects the intersection of the theoretical lenses applied in the present study: resource-based view (Barney, 1991) (strategic resources and capabilities), digital maturity models such as Digital Maturity Model by Westerman et al. (2014) (institutional maturity), the TAM (Davis, 1989) (behavioural adoption), and change management theories such as Kotter's 8-Step Change Model and Lewin's Change Theory (leadership and adaptation). Together, these dimensions demonstrate that digital transformation in DFIs is not a discrete technological intervention, but a continuous process of institutional learning and capability enhancement. The next section discusses digital maturity models and their application in DFIs.

2.9 DIGITAL MATURITY MODELS AND THEIR APPLICATION IN DFIs

Digital maturity models are structured frameworks used to assess an organisation's progress in digital transformation by evaluating capabilities across dimensions such as strategy, leadership, culture, technology, data, and governance (Yılmaz, 2023; Minh & Thanh, 2022). In addition to describing current capability levels, maturity models can guide organisations in identifying gaps, prioritising interventions, and aligning digital initiatives with strategic objectives (Korachi & Bounabat, 2019). While multiple digital maturity models exist in the literature, this study adopts the digital maturity model proposed by Westerman et al. (2014) as the primary maturity framework. This choice is justified by the model's strong alignment with organisational-level transformation (strategy, culture, leadership, and technology) and its suitability for assessing maturity as a staged progression. Using one maturity model also improves conceptual clarity and avoids superficial coverage of multiple frameworks, which was identified as a limitation in the examiner feedback

Within the financial sector, digital maturity models are increasingly used to benchmark digital progression (Yılmaz, 2023). In commercial banking, these models help quantify digital maturity through metrics related to customer experience, automation, cybersecurity, and innovation performance (Westerman, Bonnet, & McAfee, 2014). However, the digital maturity of DFIs must be assessed through a broader, mission-oriented lens that encompasses both operational efficiency and developmental outcomes. This dual focus distinguishes DFI transformation from that of profit-driven institutions, as the ultimate measure of maturity lies not only in financial return, but in the institution's capacity to deliver inclusive and sustainable development impact (Aras & Büyüközkan, 2023).

The application of digital maturity models in DFIs is particularly valuable because it enables systematic evaluation of institutional digital readiness (United Nations Human Rights, 2025). By

analysing the DBSA's technological infrastructure, leadership commitment, governance mechanisms, and organisational culture, a digital maturity model could reveal the extent to which digital transformation initiatives are coherent, scalable, and strategically aligned (Teichert, 2019). For instance, maturity assessments can identify whether the bank's digital processes are still fragmented across departments, or whether they have evolved into integrated systems capable of generating data-driven insights for project financing and monitoring (Papusha, 2025). This analytical capability is crucial in DFIs, where transparency, accountability, and stakeholder trust are essential to sustaining legitimacy and funding partnerships (Panulo & Staden, 2022).

Despite their potential, the transferability of existing digital maturity models to the DFI context remains limited (Yilmaz, 2023). Most established models were designed for commercial or public-sector entities in high-income economies, and focus primarily on profitability, customer experience, or service efficiency (Marincean, 2024). These frameworks often neglect dimensions central to DFIs, such as developmental impact, financial governance, and institutional sustainability (Panulo & Staden, 2022). Consequently, DFIs may find it difficult to adapt generic maturity models to their strategic pillars, which combine developmental performance with financial discipline and policy compliance (Bhoopal, 2022). This gap underscores the need for context-sensitive digital maturity models that integrate both economic and societal metrics.

Scholars increasingly emphasise that digital maturity in DFIs depends on a combination of enabling factors. Key among these are strong leadership commitment, a supportive organisational culture, and strategic collaboration across institutional boundaries (Kane et al., 2019; Westerman et al., 2021). Leadership is critical in articulating a clear digital vision and ensuring alignment between technological initiatives and institutional objectives (Kalitanyi & Musaigwa, 2024). Culture, meanwhile, determines the extent to which employees embrace innovation and change, while collaboration with technology partners, donors, and policymakers facilitates knowledge exchange and access to digital infrastructure (Cristache, Croitoru, & Florea, 2025)). These enablers collectively determine an institution's progression from digital awareness to digital integration, and, ultimately, to digital innovation the highest level of maturity, characterised by continuous learning and adaptive capability (Bell & Deja, 2021).

. In the DBSA context, applying a digital maturity model supports systematic assessment of whether digital initiatives represent isolated projects or an integrated transformation programme aligned with institutional goals. This approach strengthens the evaluation of readiness, capability gaps, and progression toward higher maturity within a development finance environment. The next section discusses change management theories as they relate to digital transformation.

2.10 CHANGE MANAGEMENT THEORIES RELEVANT TO DIGITAL TRANSFORMATION

Digital transformation represents a fundamental and continuous process of organisational change rather than a once-off technological upgrade (Franke, Plekhanov, & Netland, 2023). As organisations adopt new technologies, they must simultaneously reconfigure processes, restructure hierarchies, and reorient workforce behaviours (Sybol & Verma, 2025). This is particularly relevant in DFIs, where transformation efforts occur within rigid governance systems and complex stakeholder environments (Brenton Lalu, 2025). In such settings, effective change management becomes essential to aligning the technological, human, and institutional dimensions of transformation (Lu, 2024).

In the digital era, organisational change is increasingly understood as an iterative process that must be strategically managed to improve performance across operational and learning dimensions (Hamdo, 2021; Mavunda, 2025). Change management therefore plays a key role in ensuring that employees understand the purpose of new technologies, are prepared to adopt them, and remain committed to sustaining new practices over time (Abhari, 2025). Lu (2024) argues that digital transformation requires adaptive approaches that emphasise agility, communication, and leadership rather than compliance-driven change.

To interpret the DBSA's transformation experience, this study draws on three established change management models: Lewin's (1947) Unfreeze–Change–Refreeze model, Kotter's (1995) Eight-Step Change Model, and the ADKAR model (Hiatt, 2006). Lewin's model provides a broad staged view of how organisations create readiness for change, implement new practices, and institutionalise these practices into routine operations. Kotter's model offers a more detailed roadmap by emphasising urgency, leadership coalitions, vision communication, short-term wins, and anchoring change in organisational culture (Kotter, 1995). The ADKAR model complements these organisational-level models by focusing on individual readiness through awareness, desire, knowledge, ability, and reinforcement (Hiatt, 2006).

Although these models provide useful guidance, their application in DFIs requires contextual sensitivity. DFIs operate under regulatory oversight, multi-stakeholder accountability, and public-sector governance arrangements that can reduce organisational agility and slow the pace of change (Ostojić & Zlatanović, 2022). For example, Kotter's emphasis on rapid momentum and "quick wins" may be difficult to implement where decision-making is constrained by formal governance and procurement processes (Stander, 2023). Similarly, Lewin's staged approach may oversimplify digital transformation, which often unfolds through continuous improvements rather than a linear sequence of phases. In this context, ADKAR is particularly useful because it

highlights individual-level adoption and capability building, which is essential in environments where digital skills and confidence vary across employees (Abhari, 2025).

Overall, these models assist in analysing how leadership communication, training interventions, employee engagement, and reinforcement mechanisms shape the sustainability of digital transformation within DFIs (Charnoz & Forster, 2023). The literature further suggests that combining change management thinking with digital maturity assessment supports more sustainable transformation by strengthening human, organisational, and technological capability development simultaneously (Mursyada, Prabowo, & Saifulloh, 2025). The next section explores barriers and challenges related to digital transformation in DFIs.

2.11 BARRIERS TO AND CHALLENGES IN DIGITAL TRANSFORMATION IN DFIs

Digital transformation in DFIs is shaped by a complex interplay of technological, organisational, and contextual constraints. Unlike commercial banks that operate within competitive market dynamics and possess greater operational flexibility, DFIs must balance innovation with public accountability, regulatory compliance, and developmental imperatives (Ostojić & Zlatanović, 2022). Collectively, these factors create a unique institutional environment that both enables and constrains digital progress. The barriers can broadly be categorised into internal and external challenges, each influencing the institution's digital maturity, strategic agility, and change readiness.

2.11.1 Internal Barriers

This section details the internal barriers DFIs face in digital transformation.

2.11.1.1 *Legacy systems and technological inflexibility*

One of the most persistent obstacles to digital transformation in DFIs is the continued reliance on outdated or legacy information systems (Kumar, 2022). These systems are often fragmented, incompatible with new technologies, and costly to replace or integrate. Legacy infrastructure undermines interoperability, prevents real-time data analytics, and restricts the adoption of advanced technologies such as AI, RPA, and blockchain (Duvvur, 2023). From the perspective of the resource-based view (Barney, 1991), this challenge reflects a deficiency in dynamic capabilities the organisation's ability to reconfigure its technological assets in response to environmental change (Barney, 1991). For the DBSA, addressing legacy-system rigidity is essential to achieving higher levels of digital maturity, as defined by the digital maturity model by Westerman et al. (2014) (Yılmaz, 2023).

2.11.1.2 Cultural resistance and employee readiness

Cultural inertia and resistance to change represent significant human-capital barriers. Employees in DFIs may perceive digitalisation as a threat to their job security or professional relevance, particularly in institutions with long-established bureaucratic traditions (Damawan & Azizah, 2020; Furxhi, 2021). Resistance is amplified when staff members lack adequate understanding of digital tools, or when communication about transformation objectives is inconsistent (Freddy & Mbohwa, 2013). The TAM (Davis, 1989) provides insight into this challenge by suggesting that employees' willingness to adopt technology depends on perceived usefulness and ease of use (Davis, 1989). Without sufficient training and supportive leadership, even well-designed digital systems may experience low utilisation rates (Gethe & Hulage, 2020). At the DBSA, enhancing user competence through structured capacity-building initiatives and transparent communication is therefore critical to cultivating digital confidence and acceptance

2.11.1.3 Skills shortages and institutional capability gaps

Digital transformation requires specialised expertise in areas such as data analytics, cybersecurity, and digital architecture (Ogunbukola, 2024). Many DFIs, however, face persistent skills shortages due to uncompetitive remuneration structures, rigid recruitment processes, and limited opportunities for professional development (Paddy Carter, Director of Research & Policy, CDC Group, 2021). This constraint weakens internal capacity to maintain and innovate digital systems, often resulting in overreliance on external consultants (Tajuddin, 2025). From the perspective of the resource-based view (Barney, 1991), this undermines the institution's ability to develop unique and inimitable capabilities, thereby reducing the strategic value derived from technological investments (Adewumi, Sam-Bulya, & Ewim, 2024). For the DBSA, long-term success depends on embedding digital expertise within the organisation through targeted recruitment, partnerships with technology firms, and continuous learning programmes

2.11.1.4 Ineffective leadership

Successful digital transformation requires visionary leadership capable of driving institutional change, managing uncertainty, and aligning technological goals with strategic intent (Goetzinger, 2025). However, DFIs often experience leadership discontinuity, hierarchical decision-making, and limited empowerment of middle management, which slow down innovation and reduce accountability for transformation outcomes (Hamdo, 2021). Kotter's (1995) Eight-step Change Model and Lewin's (1947) Unfreeze, Change, Refreeze Model hold that the absence of clear digital vision, insufficient communication, and failure to anchor new practices in organisational

culture can stall transformation progress (Karakuş & Yalçın, 2024). In the DBSA context, leadership that models digital behaviours, champions collaboration, and links digital goals to developmental outcomes is essential for sustaining change momentum

2.11.2 External Barriers

This section details external barriers to digital transformation.

2.11.2.1 *Financial and Resource Constraints*

DFIs typically operate under strict fiscal controls, with limited flexibility to allocate funds towards technology modernisation (Paddy Carter, Director of Research & Policy, CDC Group, 2021). Unlike commercial banks, which can generate capital through competitive markets, DFIs rely on government funding, donor support, and bond issuance—sources often constrained by economic conditions and policy priorities (Wang, Kedi, & Ru, 2020). This limitation affects the pace of digital transformation, particularly for capital-intensive projects such as system overhauls, cybersecurity upgrades, or enterprise cloud migration (Hosseinkhani, 2025). In digital maturity model terms, restricted resource availability impedes progression from the early stages of digital awareness to advanced levels of integration and innovation (Azevedo, C.Barros, Senna, & Roca, 2023).

2.11.2.2 *Regulatory complexity and compliance*

Regulatory compliance constitutes another major barrier to digital transformation in DFIs (Abikoye, Adelajal, Ayodele, Umeorah, & Ogunsuji, 2024). Institutions such as the DBSA must adhere to multiple regulatory frameworks, including the PFM Act (RSA, 1999), the POPI Act (RSA, 2013), and international anti-money-laundering standards (DBSA, 2025). While these frameworks ensure accountability and data protection, they can also introduce procedural rigidity that discourages experimentation and slows digital adoption (Calice, 2013). Digital initiatives often require cross-border data sharing and partnerships with financial technology (fintech) firms, which add layers of legal and security complexity (Abayomi, Adekunle, Ogeawuchi, Onifade, & Sharma, 2021)

. Thus, regulatory compliance, while essential, can inadvertently inhibit institutional agility and innovation (Calice, 2013).

2.11.2.3 *Cybersecurity risks and trust deficits*

As DFIs expand their digital footprint, they face escalating cybersecurity threats that jeopardise data integrity, financial stability, and public trust (Wadesango & Maveneka, 2025). Cyberattacks targeting financial institutions are becoming increasingly sophisticated, exploiting vulnerabilities in legacy infrastructure and third-party networks (Haider & David, 2024; Oloba, 2025). For DFIs, such as the DBSA, which manage sensitive development-finance data, breaches can have severe reputational and developmental consequences (John, Moon, & Noah, 2024). Consequently, building robust cybersecurity frameworks and cultivating digital trust among stakeholders are critical. However, these are resource-intensive requirements. The challenge lies in balancing open-data initiatives, intended to promote transparency, with stringent security protocols (John, Moon, & Noah, 2024).

2.11.2.4 *Contextual and research gaps*

Finally, a significant challenge lies in the lack of context-specific empirical research on digital transformation within African DFIs (Oye, 2025). Most scholarly frameworks originated from commercial or developed-country settings, and fail to capture the political, infrastructural, and socio-economic realities shaping digital adoption in the Global South (Bhoopal, 2022). This knowledge gap limits the availability of validated benchmarks for assessing digital readiness and hinders the development of evidence-based strategies (Nasution, Qodariah, & Rusnandi, 2018). The current study contributes to addressing this limitation by applying a multi-theoretical framework to the DBSA, thereby contextualising global digital-transformation theories within the realities of development finance. The next section reviews enablers of digital transformation specific to the barriers faced by DFIs.

2.12 ENABLERS FOR OVERCOMING BARRIERS

While DFIs face numerous barriers in digital transformation, several enablers could mitigate these constraints. These include top-leadership commitment, agile change management, and cross-sector collaboration. Strong executive sponsorship ensures resource allocation and strategic alignment (Hamdo, 2021), while agile change models, such as those proposed by Kotter (1995) and Lewin (1947), facilitate adaptive responses to institutional challenges (Mizrak, 2023). Additionally, collaboration with fintech firms, academic partners, and development agencies fosters innovation, co-design of digital tools, and shared learning (Bhoopal, 2022). For the DBSA, these enablers are particularly important to ensure that digital initiatives are aligned with developmental priorities while maintaining governance compliance and institutional legitimacy.

2.13 REGULATORY AND CYBERSECURITY CONSIDERATIONS IN DIGITAL ADOPTION

Digital transformation in DFIs is strongly shaped by regulatory and cybersecurity requirements that promote accountability, transparency, and protection of sensitive information. These regulations are essential for maintaining institutional legitimacy, yet they also introduce procedural complexities that can slow digital adoption and innovation (Sesele, 2022).

In South Africa, the DBSA operates under several key statutes that govern its digital operations. The PFM Act (RSA, 1999) prescribes financial accountability and oversight mechanisms that influence how digital systems are procured, managed, and audited. In addition, the POPI Act (RSA, 2013) requires that DFIs ensure strict compliance with data protection, storage, and processing protocols (Calice, 2013). This legislation upholds ethical governance and data integrity but can create administrative rigidity that limits organisational agility. The challenge for DFIs is to balance compliance with innovation by embedding regulatory principles into technology design and decision-making processes (Ilufeye, Akinrinoye, & Okolo, 2020).

Cybersecurity represents another significant concern in the context of digital transformation (Henen, 2025). As DFIs digitise their operations and adopt cloud-based systems, they become increasingly vulnerable to cyber threats that can compromise financial stability and erode public trust. Cyberattacks on financial institutions have become more sophisticated, often targeting weaknesses in legacy infrastructure, data storage, and third-party platforms (Haider & David, 2024). For an institution such as the DBSA, a successful cyberattack could not only disrupt operations, but also damage relationships with government, donors, and the public. The reputational risks associated with data breaches or unauthorised access to sensitive project information are particularly severe for DFIs, given their reliance on stakeholder confidence (SARB, 2022).

From the perspective of the digital maturity model by Westerman et al. (2014) regulatory compliance and cybersecurity form integral components of institutional maturity (Teichert, 2019). A digitally mature organisation must not only implement advanced technologies but also ensure that these technologies operate within secure and compliant systems (Vărzaru & Bocean, 2024). The resource-based view (Barney, 1991) holds that cybersecurity capability constitutes a valuable and inimitable resource that contributes to institutional resilience (Kosutic, 2021). For the DBSA, developing strong cybersecurity governance could therefore be understood as both a compliance obligation and a source of strategic advantage. The capacity to secure information assets, safeguard developmental data, and demonstrate robust data governance enhances credibility and institutional performance.

Effective management of digital regulation and cybersecurity requires co-ordinated leadership and cross-functional collaboration. Research indicates that security measures are most effective when integrated into enterprise strategy rather than treated as isolated technical issues (Oloba, 2025). In the case of the DBSA, aligning information security with the organisation's broader digital strategy could improve risk management, facilitate regulatory compliance, and strengthen public confidence. The adoption of international standards such as ISO 27001 could also provide a structured approach to information-security management and align the DBSA's practices with global benchmarks.

Despite these opportunities, several constraints persist. Many DFIs lack the resources and specialist expertise needed to maintain up-to-date cybersecurity infrastructure. This limitation increases dependency on external vendors and heightens exposure to third-party risks (Abdul, Abrahams, Dawodu, Ewuga, & Hassan, 2023). Furthermore, the rapid evolution of regulatory requirements means that DFIs must continuously adapt their policies and training to ensure ongoing compliance. Without consistent investment in both technical systems and human capacity, even well-intentioned digital transformation initiatives may fail to achieve full security- or compliance maturity (United Nations Human Rights, 2025).

In summary, regulatory and cybersecurity considerations play a defining role in shaping the digital transformation of DFIs. While compliance frameworks and data-protection laws safeguard institutional integrity, they also require strategic integration to avoid constraining innovation. The literature indicates that enhancing digital maturity necessitates a balance between innovation and stringent security and regulatory oversight. Academics stress that responsible and sustainable digital growth happens when strategies for change follow established national and international standards. This makes sure that technology advancement is backed up by the right rules and organisational protections.

2.14 CHAPTER CONCLUSION

This chapter reviewed literature on digital transformation with specific reference to DFIs and the DBSA context. The discussion clarified key concepts and highlighted that digital transformation in DFIs differs from commercial banking due to developmental mandates, governance requirements, and stakeholder accountability. The review identified key drivers of transformation, relevant technologies, and common organisational and structural barriers that shape transformation outcomes.

The chapter also established the study's focused theoretical position, anchored in TAM and RBV, supported by change management models and a digital maturity model. This framework provides a coherent basis for examining digital adoption behaviour, organisational capability readiness, and maturity progression at the DBSA. The next chapter outlines the research methodology used to investigate these issues empirically.

CHAPTER 3: RESEARCH METHODOLOGY

3.1 INTRODUCTION

This chapter presents the research methodology adopted for the present study. It outlines the philosophical paradigm, research approach, and design, followed by methods employed to select a sample from the study population, collect data, and analyse the data. The subsequent sections detail the study's research philosophy (ontology, epistemology and axiology), as well as the strategies employed to ensure trustworthiness and the ethical considerations relevant to the study.

3.2 RESEARCH PHILOSOPHY

Research philosophy refers to the set of assumptions that guide how knowledge is understood, generated, and interpreted in a study (Saunders et al., 2019). It provides coherence between the research problem, the research questions, the methodological choices, and the interpretation of findings. In qualitative research, research philosophy is commonly explained through the researcher's ontological, epistemological, and axiological stances, together with the chosen research paradigm.

3.2.1 Ontological stance

Ontology concerns the nature of reality and what is assumed to be "real" in the context of the study (Creswell & Creswell, 2018). This study adopts a relativist ontological stance, which assumes that reality is socially constructed and may differ across individuals depending on their experiences and contexts. In the DBSA setting, digital transformation is experienced differently by employees and stakeholders depending on their roles, exposure to systems, and perceptions of organisational readiness.

3.2.2 Epistemological stance

Epistemology concerns what counts as valid knowledge and how knowledge can be obtained (Saunders et al., 2019). This study adopts a subjectivist epistemology, which recognises that knowledge is co-constructed through interaction between the researcher and participants. Understanding digital transformation at the DBSA therefore requires exploring participant meanings, interpretations, and experiences rather than relying only on objective measurement.

3.2.3 Axiological stance

Axiology relates to the role of values in research and acknowledges that researchers bring assumptions, perspectives, and professional experiences into the research process (Bryman et al., 2023). In this study, the researcher acknowledges that interpretations may be influenced by prior exposure to digital transformation concepts and by expectations about the benefits and challenges of digitalisation in DFIs. Reflexive practices, such as memo writing and reflective journaling, were used to minimise bias and ensure that interpretations remained grounded in participant evidence.

3.2.4 Research paradigm

Based on the above philosophical assumptions, the study is located within an interpretivist research paradigm. Interpretivism supports the exploration of subjective meanings and context-dependent realities, making it appropriate for examining how digital transformation is perceived and experienced within a development finance institution.

3.2 RESEARCH PARADIGM

A research paradigm refers to the overarching worldview that directs how a study is conceptualised, designed, and interpreted (Creswell & Creswell, 2018). Paradigms shape how phenomena are understood and determine what counts as valid evidence and legitimate knowledge (Saunders et al., 2019). Selecting an appropriate paradigm therefore provides philosophical coherence between the research questions, data-collection strategies, and interpretation of the findings (Bryman et al., 2023).

The present study adopted the interpretivist paradigm, which assumes that social reality is constructed through human interaction and best understood through participants' meanings, beliefs, and experiences (Cohen et al., 2018). Interpretivism emerged as a reaction to positivism's search for objective, law-like generalisations and instead privileges context, subjectivity, and depth (Guba & Lincoln, 1994). Whereas positivists seek to measure variables in isolation, interpretivists contend that organisational and social processes can only be understood by engaging directly with the people who enact them (Thanh & Thanh, 2015). This philosophical orientation was considered closely aligned with the purpose of the present study, which was to explore how employees and stakeholders at the DBSA perceive and experience digital transformation. Digital transformation within a DFI is not a purely technical process, but an organisational, cultural, and behavioural one that is mediated by human interpretation. Understanding such transformation requires access to the subjective viewpoints of participants

who experience it, rather than detached observation of external indicators (Noori, 2021). The interpretivist paradigm thus facilitated the generation of rich, context-specific insights rather than universal generalisations. In keeping with interpretivism, the researcher acknowledges a reflexive role in knowledge production, recognising that findings are co-constructed through interaction with participants (Finlay, 2021).

3.4 RESEARCH APPROACH

A research approach can be either quantitative or qualitative, or a combination, referred to as 'mixed methods', depending on whether the aim of a study is numerical measurement, interpretive understanding, or both (Creswell & Creswell, 2018). In alignment with the interpretivist paradigm, the study followed a qualitative research approach (Bryman et al., 2023) in order to explore the lived experiences and perceptions of employees and stakeholders regarding digital transformation at the DBSA. Qualitative research is particularly suited to understanding social and organisational phenomena that are complex, context-dependent, and value-laden (Bryman et al., 2023). It allows for an in-depth examination of meaning, process, and interaction, rather than the quantification of variables (Creswell & Poth, 2018).

A qualitative approach was chosen because the research seeks to understand how and why digital transformation unfolds within the DBSA, rather than to measure its extent or outcomes numerically. This approach allows a researcher to uncover underlying motivations and perceptions that may not be brought to light in following a quantitative approach (Denzin & Lincoln, 2018). As Tracy (2020) observes, qualitative researchers build understanding from participants' voices, recognising that social reality is dynamic and shaped by ongoing interaction. Qualitative research in organisational studies seeks to understand meanings and experiences within their natural settings (Cohen et al., 2018). The approach allows the researcher to interpret phenomena holistically, by prioritising depth and nuance over breadth and control (Tracy, 2020).

3.5 RESEARCH DESIGN

A research design provides the logical structure that connects a study's philosophical assumptions, research questions, and methods for data collection and analysis (Creswell & Poth, 2018). Thus, it functions as a blueprint that ensures coherence between the research problem and the procedures employed to address it (Saunders et al., 2019). The design adopted for the present study was a single-case study, which is particularly appropriate for examining complex organisational phenomena within real-world institutional contexts (Yin, 2018).

Case study research is widely recognised as an effective strategy for investigating contemporary phenomena within their natural settings, especially when the boundaries between the phenomenon and its context are not clearly defined (Yin, 2018). As Stake (2020) notes, case studies enable the researcher to develop a rich, holistic understanding of a case in its real-life context by incorporating multiple sources of evidence. The case study design was considered suitable for the present study because digital transformation at the DBSA involves the interaction of multiple factors technological, organisational, cultural, and regulatory that cannot be meaningfully separated. The case study design allowed the researcher to capture these interdependencies and understand how transformation processes are perceived, enacted, and sustained within the institution under study. As Simons (2014) argues, case studies are particularly valuable in organisational research for exploring processes rather than outcomes, and for generating theory grounded in practice.

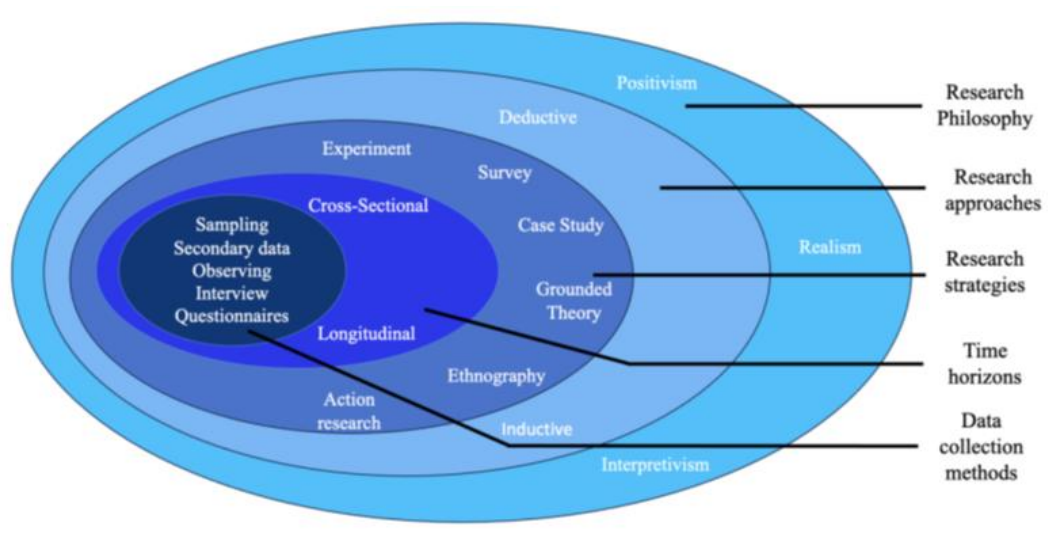
Yin (2018) identifies single-case designs as appropriate when the case is critical, unique, or revelatory. The DBSA satisfies all three conditions. It is a critical case because it represents a leading DFI in South Africa and plays a pivotal role in national infrastructure financing. It is unique due to its hybrid nature as a publicly mandated yet commercially oriented institution navigating digitalisation within developmental constraints. It is also revelatory because empirical evidence on digital transformation in African DFIs remains scarce (Adam, Sule, Sulemana, & Yussif).

The unit of analysis in this study was the DBSA as an organisation, while the units of observation were its employees and key stakeholders directly involved in digital transformation initiatives. Establishing such boundaries ensures that the study remains focused and analytically coherent (Mills et al., 2019).

The study was guided by the Research Onion developed by Saunders et al. (2008). This framework assists researchers in developing a coherent methodology by progressing from philosophical assumptions to data collection and analysis.

Figure 3.2

The Research Onion



Source: Saunders et al. (2008)

The research onion helped align the interpretivist philosophy with a qualitative approach, a case study strategy, purposive non-probability sampling, and data collection techniques suited to capturing in-depth organisational experiences.

The case study strategy offers several advantages. It provides contextual richness, theoretical flexibility, and the ability to explore processes and meanings as they occur (Stake, 2020). It is also particularly valuable for generating insights into under-researched settings, such as African DFIs.

3.6 TIME HORIZON

Research could follow either a cross-sectional or a longitudinal time horizon. In cross-sectional research, data are gathered and analysed at a particular point in time, providing a view of the phenomenon under study at that time. In longitudinal research, data are gathered and analysed intermittently over an extended period, enabling the identification of developments over time (Dwivedi et al., 2021). The present study followed a cross-sectional time horizon.

3.7 METHODS

This section details the methods employed to conduct the study. Although Creswell and Creswell (2018) suggest that qualitative case studies may include approximately 12–20 participants, sample adequacy is primarily determined by the richness of the data and the achievement of

saturation rather than by numerical targets. In this study, the 11 interviews provided sufficient depth and variation across roles (executive, operational, compliance and technical perspectives) to allow meaningful theme development. Saturation was confirmed when later interviews repeated similar insights and no new codes emerged during analysis (Guest et al., 2020).

3.7.1 Population and Sampling

This section describes the study population and the method employed to select participants.

3.7.1.1 Population

In qualitative research, the population refers to the total group of individuals or entities that possess characteristics relevant to the research question (Creswell & Creswell, 2018). The population of the present study comprised all employees and stakeholders of the DBSA who were directly involved in, or affected by, the institution's digital transformation initiatives. This included individuals across different hierarchical levels and functional areas who had experience of digitalisation programmes, governance and compliance processes, or strategic and operational decision-making at the DBSA. This focus ensured that the data reflected both the strategic intent and operational realities of digital transformation within a DFI, namely:

- senior executives and decision-makers, who had provided strategic insights into institutional objectives and leadership approaches;
- information technology (IT) managers and digital transformation leads, who had offered technical and operational perspectives on implementation challenges;
- frontline employees who had engaged with new digital systems and processes in their daily work and could speak to organisational culture and readiness;
- compliance and governance officers, who interpret digital transformation through the lens of risk, regulation, and accountability; and
- external stakeholders or partners, such as consultants or project collaborators, who had contributed to or had been influenced by the DBSA's digitalisation efforts.

This composition ensured representation of the diverse roles that collectively shaped digital transformation outcomes at the DBSA.

3.7.1.2 Sampling

Purposive sampling, a form of non-probability sampling, was employed to select participants; thus, not every member of the population had an equal chance of being selected for participation. Purposive sampling involves deliberately selecting participants based on their relevance to the research objectives and their ability to provide rich and relevant information (Palinkas et al., 2015). This approach aligns with interpretivist paradigm and qualitative approach, which prioritise information-rich cases over representativeness (Cohen et al., 2018; Yin, 2018). According to Palinkas et al. (2015), purposive sampling enhances the credibility and transferability of findings by ensuring that participants have direct and relevant experience of the central phenomenon.

Purposive sampling allowed the researcher to identify participants who could provide diverse and contextually grounded perspectives on the DBSA's digital transformation (Etikan et al., 2016). The selection process was conducted in consultation with the DBSA's Digital Transformation Office, to ensure appropriate access. Participants were contacted via institutional email and invited to participate voluntarily.

The final sample consisted of 11 participants, consistent with Creswell and Creswell's (2018) recommendation of 12 to 20 for qualitative case studies. The precise number was determined by data saturation, the point at which no new insights or themes emerge from subsequent interviews (Guest et al., 2020). Saturation was monitored iteratively during data collection and analysis through reflective memos and coding comparisons. Data saturation ensured that the findings captured the full range of perspectives necessary for robust interpretation (Saunders et al., 2018).

The following inclusion criteria were established to ensure that participants could provide informed, experience-based insights:

- at least 12 months' direct involvement in the DBSA's digital transformation projects or related initiatives; and
- currently employed or contracted within the bank's digital, compliance, or operational divisions; or
- had participated in strategic planning, governance, or implementation committees related to digitalisation.

Thus, individuals with less than one year's involvement in the DBSA's digitalisation efforts and whose roles were administrative or peripheral to digital processes were excluded. Individuals no longer employed by or affiliated with the DBSA at the time of data collection were also excluded.

3.7.2 Data Collection

Data collection refers to the systematic process of gathering information that addresses the study's research questions. In qualitative research, it involves the use of methods that capture participants' lived experiences and contextual realities (Creswell & Poth, 2018). In the present study, semi-structured interviews were used to collect primary data. The primary data were complemented by secondary data gathered through document analysis of relevant institutional and policy materials.. The use of interviews and document analysis enabled methodological triangulation. Documentary evidence (e.g., strategy documents, annual reports and governance policies) was used to corroborate, contextualise, or contrast participant accounts. This strengthened credibility by ensuring that interpretations were supported by more than one form of evidence (Flick, 2018; Yin, 2018). Triangulation approach provides both depth and credibility, ensuring that interpretations are grounded in multiple forms of evidence rather than in a single data type (Yin, 2018). The two methods of data collection are detailed below.

3.7.2.1 *Semi-structured interviews*

Semi-structured interviews are widely recognised as an effective method for exploring complex organisational and behavioural phenomena (Kvale & Brinkmann, 2015). They combine structure with flexibility, allowing the researcher to maintain alignment with the research objectives while permitting participants to elaborate on their experiences. This method is particularly suited to interpretivist and case study research because it facilitates open, reflexive dialogue through which meaning can be co-constructed (Cohen et al., 2018).

An interview guide (Annexure D) was developed from ideas that were found in the literature review. The guide was structured around the following focus areas: organisational readiness and leadership in digital transformation; employee perceptions of digital adoption and resistance to change; regulatory and compliance influences on digital processes; and enablers and barriers affecting the DBSA's digital maturity. The interview guide contained open-ended questions designed to elicit detailed responses, and the researcher posed probing questions to encourage reflection, elicit additional information, and obtain clarity regarding participants' responses (Qian, Wang, & Xu, 2025) .

The interview guide was piloted with two participants from the DBSA who met the inclusion criteria. Their data were not included in the final dataset. The pilot phase tested question clarity, sequencing, and relevance to the study's objectives, as recommended by Turner (2010). Feedback from the pilot informed minor revisions to questions' wording and ensured that the language used was accessible to participants from both technical and non-technical backgrounds.

The interviews were conducted between 8 September to 30 September 2025 via Microsoft Teams, a secure online platform, and had a duration of between 45 and 60 minutes. All interviews were conducted in English and audio-recorded, with participants' informed consent. Notes were also taken to capture contextual observations and non-verbal cues that could assist interpretation during data analysis (see DiCicco-Bloom & Crabtree, 2006).

To build rapport and trust, the researcher adopted an empathetic and participatory interview style, consistent with interpretivist practice (Finlay, 2021). This ensured that participants felt comfortable sharing authentic reflections on sensitive organisational matters such as digital readiness, cultural resistance, and leadership accountability. Participants were encouraged to share examples, stories, and reflections that illustrated their lived experience of digital transformation. The researcher maintained a neutral, non-judgemental stance, using active listening. This approach ensured that the discussions remained participant-centred, consistent with interpretivist inquiry (Bryman et al., 2023).

3.7.2.2 Document analysis

As noted, document analysis was employed to gather secondary data to complement the primary data and enable triangulation. Documents are valuable sources of contextual and historical information collected by individuals other than the researcher, for purposes not related to the study (Bowen, 2009). A document analysis is the systematic review of documents relevant to the research questions, with the researcher seeking patterns and meaning (Bowen, 2009).

The following documents were reviewed:

- DBSA annual reports and strategic plans outlining digital transformation objectives and progress indicators;
- internal policies and frameworks related to governance, compliance, and information security;
- legislation, specifically the PFM Act (RSA, 1999) and the POPI Act, (RSA2013); and
- industry and multilateral development reports addressing digitalisation trends within DFIs.

Document selection followed a purposive approach, prioritising materials that directly addressed digital transformation initiatives or institutional reforms at the DBSA. Each document was assessed for authenticity, credibility, and relevance, as proposed by Scott (1990). Information extracted from documents was triangulated with interview data by identifying consistencies and discrepancies between formal policy narratives and individuals' perceptions. This process

enhanced the trustworthiness of the findings by grounding participants' reflections within the institutional and regulatory context (see Flick, 2018).

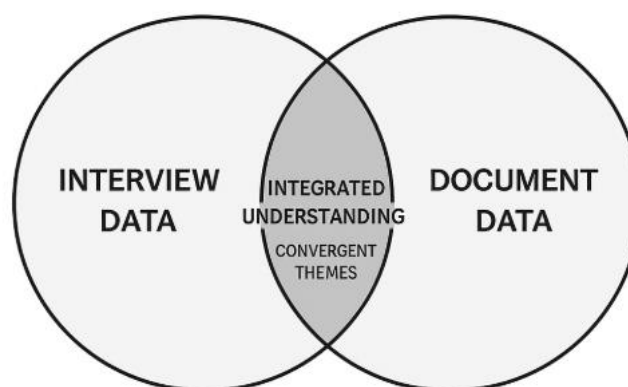
Document analysis was conducted using the same thematic logic applied to interviews. Key sections of each document were reviewed and extracted into a document summary matrix (document name, date, purpose, relevant extracts, and relevance to objectives). Extracts were coded in ATLAS.ti using a separate document-code group, allowing comparison between "official" institutional narratives and participant perceptions. This enabled the identification of alignment (e.g., shared emphasis on efficiency and compliance) and divergence (e.g., gaps between strategic intent and user experience).

3.7.2.3 Data triangulation

The combination of semi-structured interviews and documentary analysis enabled triangulation, a strategy that improves data credibility by corroborating evidence from multiple sources (Denzin, 2017). Triangulation also mitigates the limitations of single-method bias, allowing for a more comprehensive understanding of the DBSA's digital transformation process (Denzin, 2017). Figure 3.3 illustrates how the two data sources interacted to produce a holistic view of the phenomenon under study.

Figure 3.3

Data Triangulation



Source: Adapted from Denzin (2017)

The next section explains the process of data analysis.

3.8 DATA ANALYSIS

All data were transcribed verbatim and anonymised to protect participants' identities. The transcripts and documents were organised using ATLAS.ti software, which facilitated systematic coding, categorisation, and theme development. Metadata such as interview dates, participant roles, and contextual notes were recorded to support the audit trail and ensure dependability. The use of ATLAS.ti also enhanced transparency in linking coded excerpts to emerging thematic patterns, which is critical to ensuring methodological rigour (Friese, 2019).

Data analysis in qualitative research involves a systematic process of organising, interpreting, and synthesising textual data to identify patterns, meanings, and insights relevant to the research questions (Creswell & Poth, 2018). It is an iterative and reflective process that requires the researcher to move continually between data and theory in interpreting the information contained in the data. For this study, data from the interviews and documentary sources were analysed using thematic analysis, a method well suited to the interpretivist paradigm and the case study design adopted (Braun & Clarke, 2006).

Thematic analysis was chosen because it provides both flexibility and depth, allowing the researcher to identify, analyse, and interpret patterns of meaning across a dataset without being confined to a specific theoretical framework (Nowell et al., 2017). It is particularly appropriate for exploring how participants make sense of organisational phenomena such as digital transformation, which involve multiple interrelated processes, perceptions, and contexts (Vaismoradi et al., 2013).

3.8.1 Thematic Analysis

The study followed the six-step approach to thematic analysis proposed by Braun and Clarke (2006), which provides a clear, structured framework for qualitative interpretation. The six steps are summarised below, with details of how each was implemented in the current study.

Table 3.2

Thematic Analysis Process

Phase	Guidelines of the Process	Purpose and Outcome	Application in the Present Study
1. Familiarisation with the data	Repeated reading of transcripts, listening to audio recordings, and noting initial ideas	To immerse the researcher in the data and develop a preliminary understanding	The eleven interview recordings were transcribed verbatim and reviewed multiple times. The researcher recorded reflective notes highlighting early impressions about digital change, leadership, and organisational culture.
2. Generating initial codes	Systematic coding of interesting features across the dataset and collating relevant data segments	To capture meaningful units of information related to the research questions	Coding was conducted using ATLAS.ti software, which generated 19 descriptive codes representing technological, leadership, and employee-experience dimensions.
3. Searching for themes	Grouping related codes into broader candidate themes or categories	To identify patterns of meaning and relationships among codes	Codes were clustered into preliminary themes, such as <i>Modernisation of operations</i> , <i>Employee experiences</i> , <i>Leadership and change management</i> , and <i>Institutional challenges</i> .
4. Reviewing themes	Refining themes for internal coherence and external distinctiveness	To ensure the themes accurately represents the data	Themes were reviewed through iterative reading of coded data and reflective discussion with an academic peer, leading to the refinement of five key themes.
5. Naming themes	Articulating the essence of each theme and clarifying its contribution to the overall narrative	To develop a coherent reporting framework	Each theme was given a concise, descriptive label.
6. Producing the report	Selecting vivid, representative quotations and linking them to research questions and literature	To synthesise findings into a meaningful narrative	The findings chapter was structured around the five themes and supported by direct quotations and documentary evidence.

Source: Braun and Clarke (2006)

To strengthen transparency and dependability, the researcher developed a codebook that documented code definitions, inclusion and exclusion criteria, and example quotations. Initial coding produced 19 codes, which were refined through merging and clustering to reduce overlap. For example, codes such as “legacy systems”, “system integration challenges”, and “manual workarounds” were grouped under a broader theme relating to infrastructure constraints. This iterative refinement ensured that themes were grounded in the data and clearly linked to the research objectives. The data analysis followed an inductive reasoning process, whereby theories and conceptual understanding evolve from the data itself, rather than being imposed a priori (Saunders et al., 2019). In inductive reasoning, the researcher moves from specific observations to broader, higher-level conceptual insights (Saunders et al., 2019).

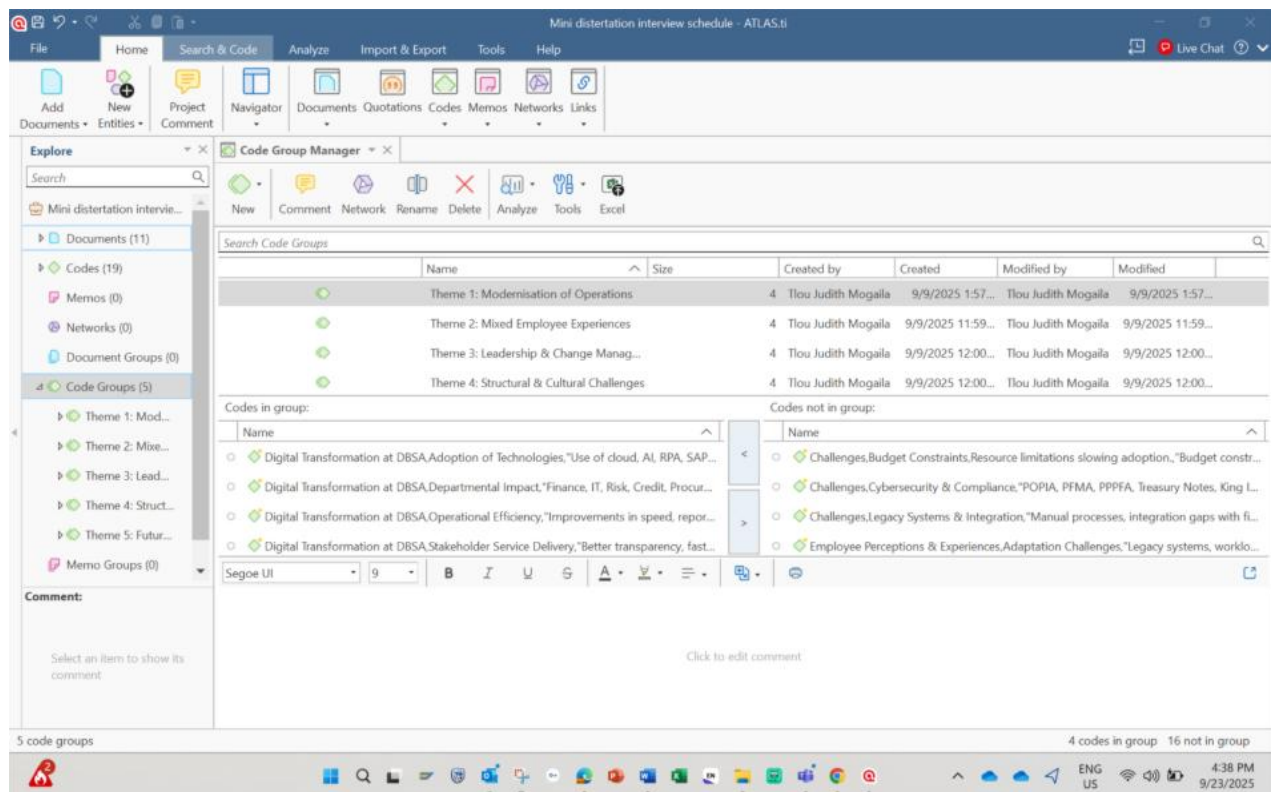
ATLAS.ti software facilitated the process of managing large volumes of text, allowing the researcher to maintain consistency in coding and linking excerpts to analytical memos. The software’s query functions allow the researcher to visualise relationships between codes and to retrieve data supporting each emerging theme efficiently (Frieze, 2019). To maintain rigour, a codebook was developed to document definitions, inclusion criteria i.e expressions that should fit under each category, and exemplar quotations for each code. This served as a reference throughout the analysis, ensuring consistency and dependability (Bazeley & Jackson, 2019). Coding decisions were revisited multiple times to refine boundaries between themes and prevent overlap.

3.8.2 Linking Data to Research Objectives

Each stage of the analysis was guided by the study’s research objectives, ensuring alignment between data interpretation and the theoretical framework. By mapping themes to objectives, the analysis maintained analytical coherence and ensured that findings were not purely descriptive, but also theoretically and practically relevant. The process of analysis is illustrated in Figure 3.4.

Figure 3.4

Thematic Analysis Workflow in ATLAS.ti



Source: Adapted from Braun and Clarke (2006) and Frieze (2019)

This figure illustrates the iterative process of data collection and coding to ensure data saturation, followed by theme development and interpretation, to produce a coherent narrative that represented the data and answered the research questions.

The next section discusses the strategies employed to ensure academic rigour.

3.9 TRUSTWORTHINESS

In qualitative research, trustworthiness refers to the degree of confidence that readers can place in the study's findings, interpretations, and procedures. Ensuring trustworthiness is particularly important in qualitative research, as the researcher plays an active role in analysing the data and constructing meaning. Lincoln and Guba (1985) explain that trustworthiness is achieved by meeting four criteria: credibility, dependability, confirmability, and transferability.

3.9.1 Credibility

Credibility refers to confidence in the truth and plausibility of the findings based on their representativeness of participants' perspectives (Shenton, 2004). It is analogous to internal

validity in quantitative research and focuses on the congruence between participants' accounts and the researcher's interpretations (Leung, 2015). To ensure credibility in this study, several strategies were implemented.

Prolonged engagement and persistent observation: The researcher spent adequate time engaging with participants during interviews, allowing for the building of rapport and deeper exploration of emerging ideas (see Creswell & Poth, 2018). This sustained engagement enhanced participants' openness and the authenticity of their responses.

Member-checking: Summaries of key interview points were shared with participants at the end of each session to confirm accuracy and clarify potential misinterpretations. Participants were later contacted to verify the preliminary findings and ensure that the interpretations reflected their intended meanings.

Triangulation: Credibility was strengthened through data triangulation, which involved comparing and cross-validating interview data with documentary evidence from DBSA reports and policy documents. This approach helped confirm the consistency of themes and reduced the likelihood of researcher bias (Flick, 2018).

Peer debriefing: An academic colleague with expertise in qualitative research reviewed portions of the coded data and emerging themes, and providing critical feedback on interpretation and thematic coherence. This collaborative reflection enhanced analytic accuracy and reduced interpretive subjectivity (see Nowell et al., 2017). These strategies collectively ensured that the findings faithfully represented the lived experiences of DBSA employees and stakeholders.

3.9.2 Dependability

Dependability relates to the stability and consistency of the research process over time (Nowell et al., 2017). It parallels the concept of reliability in quantitative research, and requires that the research process be clearly documented and logically traceable. Dependability in the present study was achieved through the following measures.

Audit trail: The researcher maintained detailed records of all stages of the research process, including interview protocols, raw transcripts, coding decisions, theme development, and data-analysis memos. These documents formed an audit trail that made the analytical process transparent and verifiable (Cypress, 2017).

Code–recode procedure: During the analysis phase, a subset of transcripts was coded twice at different times. This procedure ensured that coding remained consistent and that interpretations were not unduly influenced by temporal bias (Miles et al., 2020).

Comprehensive methodological description: The research paradigm and methodology are described in detail in this chapter to enable the reader to judge the quality of the process.

3.9.3 Confirmability

Confirmability requires that the findings are shown to have been derived from the participants' data rather than having been influenced by researcher's biases, motivations, or assumptions (Lincoln & Guba, 1985). It corresponds to the concept of objectivity, while acknowledging that total neutrality is unattainable in qualitative research (Lincoln & Guba, 1985). To strengthen confirmability, the following practices were adopted.

Reflexivity: The researcher practised reflexivity throughout the study by keeping analytical memos and reflective notes, aimed at ensuring that interpretations remained grounded in participants' perspectives and avoiding potential bias influencing the analysis and interpretation of the data (see Finlay, 2021). The researcher maintained a reflexive diary throughout data collection and analysis, to record personal assumptions, emotional reactions, and evolving interpretations (see Finlay, 2021). The researcher also document impressions, contextual observations, and emerging analytical insights in the journal during the interviews.

Data triangulation: The convergence of evidence from interviews, institutional documents, and field notes confirmed the researcher's interpretations (see Flick, 2018).

Verbatim quotations: Quotations from the interview transcript were incorporated into the reporting to support the findings. This ensured that participants' voices were represented in the narrative (Nowell et al., 2017).

Independent review: The audit trail and coding framework were reviewed by an external academic peer to confirm that conclusions were consistent with the data.

3.9.4 Transferability

While qualitative findings are not generalisable, they may be applicable to another context (Creswell & Poth, 2018). This requires that the reader is able to judge whether the findings may be applicable to other contexts or settings (Lincoln & Guba, 1985). Transferability was enhanced as follows.

The present researcher provided detailed descriptions of the study context, the study participants, and the aim of the study, together with an in-depth discussion of the methodology followed. By offering this level of contextual detail, the findings may inform similar institutions undergoing digital transformation, particularly those operating under comparable governance and developmental mandates.

Trustworthiness in this study was achieved through deliberate methodological planning and reflexive practice at every stage. The systematic application of credibility, dependability, confirmability, and transferability criteria ensured that the findings provide an authentic, transparent, and contextually grounded account of digital transformation at the DBSA. These measures collectively uphold the study's academic integrity and enhance its potential contribution to both scholarship and practice in digital transformation and technology management.

The next section discusses the ethical principals that were upheld throughout the study.

3.10 ETHICAL CONSIDERATIONS

Ethical integrity is central to all stages of research, particularly when a study involves human participants in sensitive organisational contexts. Ethics in research extends beyond compliance with institutional regulations, encompassing the moral responsibility of the researcher to protect participants' rights, dignity, and welfare (Orb et al., 2001). This section outlines the ethical principles that were considered pertinent to the present study.

Ethical approval for this study was obtained from the North-West University Economic and Management Sciences Research Ethics Committee under ethics number NWU-00704-25-A4 (see Annexure A). Formal authorisation was also obtained from DBSA's management to engage employees and access relevant organisational documents (see Annexure C). The DBSA's institutional identity was acknowledged as part of the research context, but without disclosing internal proprietary information or commercially sensitive material. In addition, the research adhered to the North-West University Research Ethics Policy (2020) and complied with the provisions of the POPI Act (RSA, 2013).

The researcher also adhered to the ethical principles specified in the Belmont Report (National Commission for the Protection of Human Subjects, 1979) and the Declaration of Helsinki (World Medical Association, 2013). These principles include respect for persons (autonomy), beneficence (doing good), non-maleficence (avoiding harm), and justice (fairness and equality) (Saunders et al., 2019).

Ethical access to participants was facilitated through formal approval from the DBSA's research liaison and the North-West University Economic and Management Sciences Research Ethics Committee. Participants were regarded as autonomous individuals capable of making informed decisions about their participation. To ensure beneficence and non-maleficence, the study was designed to minimise any potential harm to participants. Interviews were conducted in a professional and non-intrusive manner to ensure psychological and professional safety. Participants were informed that there were no foreseeable physical, social, or economic risks associated with participation. To ensure justice, participants were selected based on their relevance to the study, rather than convenience or accessibility, ensuring representation across different organisational roles.

The researcher provided participants with an information sheet (see Annexure B) detailing the study's purpose, the nature of participation, and participants' rights, as recommended by Diener and Crandall (1978). Written informed consent was obtained prior to commencement of the interviews, together with recorded verbal permission to record the interviews. Participants were assured of anonymity, and the researcher ensured that no personal identifiers were included in the reporting (see Wiles et al., 2008). The principle of data minimisation, as required by the POPI Act (RSA, 2013), was strictly observed, ensuring that only information directly relevant to the research objectives was collected and processed. Participants were informed that participation was voluntary and that they could withdraw from the study at any point, without any negative consequences. A debriefing process ensured that participants had the opportunity to reflect on the discussion, raise concerns, or seek clarification. Contact details for the researcher and supervisor were shared for any follow-up queries or feedback. Where participants expressed interest in the study's outcomes, they were offered the option to receive an executive summary of the findings after completion. This practice upholds the principle of reciprocity, ensuring that participation contributes meaningfully to both knowledge creation and organisational learning (Orb et al., 2001).

Interview data were stored in encrypted digital folders protected by strong passwords and accessible only to the researcher and the academic supervisor. Hard copies of consent forms were kept in a locked cabinet. All identifying data was permanently deleted, and anonymised data will be retained for audit purposes for five years, as required by university policy. These procedures ensured compliance with ethical and legal obligations concerning participant privacy and data security as recommended by Bryman et al. (2023).

The researcher declared all potential conflicts of interest before commencing the study. The roles of interviewer and academic supervisor were kept distinct, to maintain impartiality and ethical

separation of duties. Any professional interactions with DBSA personnel outside the research context were managed in accordance with the academic institution's ethical requirements to ensure objectivity and transparency (see Saunders et al., 2019).

3.11 CHAPTER CONCLUSION

. This chapter described and justified the methodology adopted for the study. It explained the research philosophy and interpretivist paradigm underpinning the qualitative approach and single-case study strategy. The chapter outlined the sampling process, data collection through semi-structured interviews and document analysis, and the thematic analysis procedure supported by ATLAS.ti. Measures to enhance trustworthiness and ethical integrity were also presented. The next chapter presents the study's findings.

CHAPTER 4: DATA ANALYSIS AND FINDINGS

4.1 INTRODUCTION

This chapter presents and interprets the study's findings on digital transformation at the DBSA. Findings are drawn from semi-structured interviews with 11 participants, supplemented by the review of relevant institutional and policy documents. The chapter highlights operational changes associated with digital initiatives, while also examining the cultural, leadership, and structural dynamics that influence transformation outcomes. Interpretation of the findings is guided by the theoretical lenses introduced in Chapter 2, specifically the Technology Acceptance Model (TAM), the resource-based view (RBV), change management models, and the digital maturity model adopted for this study.

The study was guided by the following main research question: *To what extent has the Development Bank of Southern Africa implemented digital transformation, and how do employees and key stakeholders perceive its effects on operational efficiency, service delivery, and organisational performance?*

In answering this question, the analysis focuses on five interrelated themes that emerged from the data: *Modernisation of operations, Mixed employee experiences, Leadership and change management, Structural and cultural challenges, and Future opportunities and lessons*. These themes represent the major dimensions through which participants perceive and engage with digital transformation in the organisation. A word cloud that was created from the data in ATLAS.ti is presented in Figure 4.5.

Figure 4.5

Word Cloud of Terms Emerging from Interview Data

While the word cloud provides a visual summary of frequently occurring terms, the thematic findings below are based on coded meanings and patterns across the full dataset rather than word frequency alone.

Each participant was assigned a pseudonym (P1 to P11) to ensure anonymity in the reporting. Table 4.3 provides an overview of participants' hierarchical levels, roles, and experience in digital transformation in the DBSA. This profile indicates a balanced representation of senior management, middle management, and operational staff, ensuring that perspectives from both strategic and implementation levels were captured.

Table 4.3

Biographical Information of Participants

Pseudonym	Hierarchical Level	Position	Experience in Digital Transformation
P1	Operational staff	Financial Accountant	Moderate
P2	Senior management	Head: ICT	Moderate
P3	Senior management	Financial Manager	Moderate
P4	Operational staff	Payments Officer	Moderate
P5	Middle management	ICT Asset Manager	Moderate
P6	Middle management	Supervisor: Financial Accountants	Moderate
P7	Senior management	Lead: Payroll	Moderate
P8	Senior management	Senior Internal Auditor	Moderate
P9	Middle management	Credit Analyst	Moderate
P10	Senior management	Head: Digital Transformation	Moderate
P11	Middle management	Procurement Specialist	Extensive

Senior managers provided valuable insight into the strategic intent, governance structures, and leadership approaches driving the digital transformation agenda. The inclusion of middle managers and operational staff introduced essential perspectives on implementation challenges, technological adaptation, and employee experiences, ensuring that the analysis captured the complexity of transformation across organisational levels.

Participants represented different organisational levels and functions, which strengthened the depth of analysis by capturing both strategic and operational perspectives on digital transformation. Participants with extensive experience offered insights into the evolution and institutionalisation of digital initiatives, while those with limited exposure reflected the practical realities and anxieties associated with newer stages of digital adoption. This diversity enhanced the data richness and triangulation of findings by revealing both the strategic and human dimensions of digital transformation within the DBSA.

4.3 PRESENTATION AND DISCUSSION OF FINDINGS

This section presents the findings according to the themes that emerged from the data.

4.3.1 Modernisation of Operations

The first theme that emerged from the data was modernisation of operations within the DBSA. This theme captures participants' reflections on how digital transformation has altered the organisation's operational structures, efficiency, and service delivery. The participants highlighted that new technologies, such as cloud-based systems and RPA, have redefined work processes, shortened reporting cycles, and improved the accuracy and transparency of operations. Participants described specific initiatives that had modernised the DBSA's financial and operational systems.

P1 noted:

"We've adopted cloud computing solutions; SAP Concur is cloud-based, which has improved financial and procurement operations. We've also implemented robotic process automation [RPA] to streamline repetitive tasks."

P2 elaborated on the value of digital tools for decision-making:

"Automated dashboards now provide managers with real-time insights, which improves transparency and responsiveness in supporting infrastructure financing."

P1 reflected on the practical impact of automation:

"Month-end reporting cycles are shorter, and processes such as invoicing and budget monitoring have been automated, reducing duplication and improving accuracy."

These accounts illustrate how the DBSA's digital transformation has progressed from isolated technological adoption to systemic process enhancement. The implementation of cloud-based systems, automation, and real-time analytics represents a strategic shift towards an integrated digital operating model. The observed improvements in accuracy, efficiency, and transparency suggest that digitalisation is not merely a technical exercise, but a driver of organisational agility and governance integrity.

The findings also suggest a change in the organisational logic of service delivery. Routine administrative processes were streamlined, allowing staff to focus on higher-value functions such as strategic decision-making and stakeholder engagement. These developments indicate progress towards operational maturity, where digital tools support not only efficiency, but also strategic responsiveness to developmental mandates.

The results are consistent with Katuu and Singh's (2020) distinction between digitisation, digitalisation, and digital transformation, where digital transformation entails a holistic reconfiguration of business processes and value-creation models. Similarly, Vial (2019) identifies efficiency gains, process integration, and improved service delivery as early indicators of successful transformation. The adoption of cloud-based financial systems and RPA aligns with Dahiya et al.'s (2022) findings that automation technologies in financial institutions reduce redundancy and enhance data accuracy.

However, the DBSA context extends these insights by demonstrating how digital tools contribute not only to profitability, but also to developmental accountability, a distinctive feature of DFIs. As highlighted by Ikwuanusi et al. (2024), digital transformation within DFIs must balance operational innovation with the institution's social and developmental mandate. The present findings indicate that the DBSA's initiatives are beginning to achieve this balance, where technological upgrades also support transparency, compliance, and governance, which are key pillars of development banking.

The evidence suggests progress toward higher levels of digital maturity, reflected in increased system integration, automation of routine processes, and broader use of data for operational oversight. However, maturity positioning should be interpreted cautiously and is best treated as indicative unless supported by explicit scoring criteria and benchmarks. (Minh & Thanh, 2022).

For the DBSA, this evolution signifies a shift towards higher digital maturity, characterised by greater automation of transactional functions, data-driven operational oversight, and enhanced transparency in financial and project management processes.

In theoretical terms, the findings reinforce the argument that digital transformation in public or semi-public institutions is an enabler of institutional legitimacy as much as efficiency. When implemented strategically, digital technologies enhance accountability mechanisms that underpin trust in DFIs' developmental roles (Bhoopal, 2022).

Overall, the modernisation of the DBSA's operations demonstrates significant progression in its digital transformation journey. The integration of cloud computing, automation, and real-time data analytics redefined work processes, reduced inefficiencies, and improved transparency. These findings affirm that technological advancement, Participants additionally stated that making sure these technology projects fit with the goals of the organisation can help with governance and operational success

4.3.2 Mixed Employee Experiences

The second theme that emerged from the data reflects the diversity of employee experiences during the DBSA's digital transformation process. While participants acknowledged the benefits of technological modernisation, their accounts also revealed mixed emotional and behavioural responses, ranging from enthusiasm and adaptability to anxiety and resistance. Most participants described differing personal and collective reactions, influenced by factors such as age, digital literacy, organisational support, and perceived job security. Participants expressed both positive and negative sentiments about the ongoing changes.

P1 observed generational differences in adaptability:

"Younger employees adapt quickly, while some older employees, used to legacy systems, find the change overwhelming."

P5 highlighted the importance of continuous learning:

"Initial training was provided, but it was short-term and did not cater to all learning styles. Continuous hands-on coaching and refresher training would make the transition smoother."

Concerns about job security were also evident.

P7 noted:

"Some colleagues fear that automation could make their roles redundant, and this has created resistance."

These accounts illustrate the complexity of digital transformation as an organisational experience, where technological change intersects with human perceptions, beliefs, and competencies. The findings reveal that employees' experiences of digital transformation are not uniform, but are mediated by their digital confidence, learning preferences, and perceptions of change legitimacy. Younger employees tend to associate digitalisation with opportunity, efficiency, and professional growth, while older employees often express apprehension due to unfamiliarity with digital tools and fear of redundancy. This variation aligns with existing research suggesting that generational differences influence the acceptance of digital technologies and shape organisational readiness (Baptista et al., 2020).

The data also underscore the limitations of one-off training interventions in sustaining digital adoption. Participants' reflections on short-term or standardised training highlight the need for iterative, context-sensitive learning models. The expressed demand for hands-on coaching and refresher sessions reflects the importance of experiential learning and psychological support in change processes, particularly when employees must unlearn long-standing routines and adopt new technological behaviours.

Fear of job loss emerged as a salient concern linked to perceptions of automation. This indicates that digital transformation, if poorly communicated, could be interpreted as a threat to employment security rather than an enabler of value creation. Such perceptions can reinforce organisational inertia, reduce engagement, and delay adoption. Effective change management, therefore, requires not only technical enablement, but also emotional reassurance and narrative clarity from leadership.

These findings are consistent with the principles of Kurt Lewin's (1947) Unfreeze, Change, Refreeze Model, which conceptualises organisational change as a process of unfreezing, changing, and refreezing. The apprehension expressed by participants reflects the *Unfreezing* stage, where established routines are disrupted and uncertainty increases. For transformation to succeed, leaders must facilitate movement through the change phase by providing continuous communication, training, and support, until new behaviours become institutionalised (*Refreezing*).

Similarly, Kotter's (1995) Eight-step Change Model highlights the need to create a sense of urgency, build coalitions, and empower employees through participation. The findings suggest that, while the DBSA's leadership did communicate the strategic purpose of digitalisation, gaps remained in empowering employees at operational levels, particularly through structured capability development and inclusive communication. The emphasis participants placed on ongoing coaching aligns with Kotter's (2012) steps of enabling action and consolidating gains,

indicating that the DBSA's transformation could be strengthened through more sustained employee engagement initiatives.

From a psychological perspective, research by Hamdo (2021) and Lu (2024) indicates that resistance to digital transformation is often a rational response to perceived threats, rather than a reflection of unwillingness to change. Employees who fear redundancy or loss of competence may develop defensive attitudes, which require empathetic leadership interventions rather than coercive enforcement. Continuous investment in employee development and transparent dialogue could, therefore, transform resistance into constructive participation (Allen et al., 2007; Ma et al., 2024).

The DBSA's progress in technological modernisation can only be sustained if it is accompanied by inclusive capability-building programmes, emotional support structures, and clear communication of the organisational vision.

In theoretical terms, this theme extends the understanding of digital transformation within DFIs by demonstrating that technological adoption is inseparable from socio-cultural adaptation. The mixed experiences amongst DBSA employees reflect what Kane et al. (2019) describe as the 'human dimension of digital maturity', where leadership effectiveness depends on creating psychological safety and learning agility across the workforce.

In summary, employees at DBSA perceive digital transformation as both an opportunity and a challenge. Positive responses stem from improved efficiency and innovation potential, while negative experiences relate to inadequate training, generational divides, and perceived job insecurity.

4.3.3 Leadership and Change Management

The third theme relates to leadership and change management during the DBSA's digital transformation. Participants' accounts indicate that digital initiatives were generally understood as strategically important, but that the effectiveness of implementation depended on communication, training support, and visible leadership reinforcement. Where leadership created clarity about the purpose of change and enabled structured support, participants reported stronger engagement with new systems. Conversely, where communication and training were perceived as insufficient, participants described uncertainty, uneven adoption, and resistance.

This theme aligns with change management models discussed in Chapter 2. Lewin's (1947) model suggests that transformation requires "unfreezing" existing routines, supporting adoption during the change phase, and reinforcing new behaviours to prevent regression. In the DBSA

context, participant reflections on anxiety, uneven readiness, and the need for ongoing coaching suggest that “unfreezing” has occurred, but reinforcement mechanisms (continuous learning support, feedback loops, and role clarity) require strengthening. Kotter’s (1995) model similarly emphasises communication, empowerment, and consolidation of gains; participants’ emphasis on sustained training and structured support indicates that these elements are central to improving adoption consistency.

Evidence of this theme should be substantiated with quotations that speak directly to leadership communication, change support, and reinforcement (e.g., comments from transformation leadership roles such as P10, governance roles such as P8, and operational roles such as P5/P7). Document evidence such as internal transformation strategies, training plans, change communication artefacts, or programme governance structures can be used to triangulate the extent to which change management was formally embedded versus informally experienced by staff.

4.3.4 Structural and Cultural Challenges

The fourth theme identified in this study is structural and cultural challenges that continue to hinder the progress of digital transformation at the DBSA. Despite visible advances in automation and strategic leadership support, participants highlighted persistent institutional constraints, legacy system dependencies, financial limitations, and cultural resistance that, collectively, impede transformation momentum. These challenges were raised by several participants across functions, reflecting their pervasiveness across multiple functional areas within the organisation.

Participants frequently referred to technological and organisational obstacles as major barriers.

P1 explained:

“Integration with legacy systems remains a challenge.”

Budget constraints were also emphasised.

P6 stated:

“Budget limits slow the full rollout of new systems and create frustrations when processes remain partly manual.”

P7 observed:

“Older staff resist new systems because they fear job losses or cannot cope with the pace of change.”

Regulatory obligations were also cited as factors that increase implementation complexity.

P3 noted:

“PFMA and POPIA add complexity but also ensure robust governance and risk management systems are in place.”

These perspectives reveal that the DBSA’s digital transformation process is constrained by interdependent structural, cultural, and regulatory factors that shape both technological adoption and organisational behaviour.

The findings indicate that the DBSA’s digital transformation journey is taking place within a complex institutional environment where structural and cultural legacies exert considerable influence. The persistence of legacy systems limits the bank’s capacity for seamless integration of new digital platforms. This creates inefficiencies, dual systems, and data silos that undermine real-time decision-making and automation benefits. The problem is exacerbated by budgetary constraints, which restrict the pace and scale of implementation, particularly in areas requiring infrastructure upgrades or specialised digital competencies.

. This aligns with research suggesting that cultural inertia often presents a more formidable barrier to digital transformation than technology itself (Westerman et al., 2014). At the DBSA, such resistance manifests not only as reluctance to adopt new systems, but also as passive non-engagement or dependence on legacy workflows, which could perpetuate inefficiency.

The interplay between compliance and innovation emerged as a distinctive challenge in the DBSA context. Participants recognised that adherence to the PFM Act (RSA, 199) and the POPI Act (RSA, 2013) is essential for governance integrity, yet the procedural and reporting demands of legislation can slow innovation and flexibility. This tension between regulatory accountability and digital agility reflects what Irani et al. (2023) describe as the ‘institutional paradox’ of digital transformation in public and quasi-public entities: the simultaneous need for risk management and innovation.

The structural and cultural barriers identified at the DBSA are consistent with findings from international literature on public-sector and DFI transformation. According to Irani et al. (2023), the integration of legacy systems remains one of the most significant obstacles to digital reform in public institutions, due to issues of data incompatibility, outdated infrastructure, and

bureaucratic decision-making processes. Similarly, Vial (2019) argues that transformation often falters when institutions underestimate the extent to which historical systems and organisational culture must be reconfigured alongside technological adoption.

From a cultural standpoint, the findings correspond with Schein's (2017) model of organisational culture, which distinguishes between artefacts, espoused values, and underlying assumptions. At the DBSA, while the artefacts of digital transformation (such as new software and dashboards) are visible, underlying assumptions about technology, authority, and work practices have not yet fully evolved. This creates dissonance between visible modernisation and embedded institutional behaviour.

Furthermore, the regulatory complexity described by participants echoes institutional theory, which posits that organisations in highly formalised environments experience 'institutional isomorphism' a tendency to maintain stability and legitimacy, even at the expense of innovation (Perkmann & Phillips, 2024; Chirchir & Wamwayi, 2024). DFIs like the DBSA operate under strong regulatory and policy oversight, which can constrain their ability to take calculated risks or experiment with emerging digital solutions. The tension between compliance and agility, however, need not be viewed purely as a limitation. Research by Mergel et al. (2019) demonstrates that digital transformation in the public sector succeeds when organisations adopt an 'ambidextrous' approach—maintaining regulatory integrity while fostering innovation within controlled environments. The DBSA's challenge, therefore, lies in building governance frameworks that enable innovation without undermining accountability.

The findings also highlight the need for institutional redesign, where governance processes are recalibrated to support controlled experimentation and agile implementation while maintaining compliance. This is particularly relevant for DFIs, whose dual mandate of financial prudence and developmental impact creates a complex transformation environment.

Theoretically, this theme reinforces the notion that digital transformation within public or development finance contexts cannot be fully understood without considering institutional and cultural embeddedness. Structural barriers such as legacy infrastructure and regulatory constraints interact with human factors such as beliefs, trust, and organisational identity. Recognising and managing these interactions is essential to achieving sustainable transformation and institutional resilience.

Structural and cultural challenges remain key impediments to the DBSA's digital transformation. Legacy systems, budget constraints, and regulatory complexities hinder the integration of new technologies, while cultural resistance, particularly amongst older employees, slows behavioural

adaptation. However, these challenges also highlight areas for strategic intervention, including cultural reorientation, process redesign, and the development of innovation-enabling governance frameworks. Addressing these interdependencies is essential to achieving a digitally mature and resilient organisation.

4.3.5 Future Opportunities and Lessons

The fifth and final theme that emerged from the analysis focuses on future opportunities and lessons identified by participants as essential to consolidating and advancing the DBSA's digital transformation. Although participants acknowledged ongoing challenges, there was broad consensus that digitalisation provides an opportunity to enhance organisational resilience, accountability, and long-term developmental impact. Several participants reflected on the future potential of digital transformation, emphasising the importance of skills development, institutional learning, and integrated governance structures. Participants highlighted several opportunities arising from the digital transformation journey.

P10 remarked on the potential for enhanced institutional resilience:

“Digitalisation improves transparency and resilience by enabling better tracking and faster responses.”

The importance of workforce capability was repeatedly mentioned.

P5 observed:

“Enhancing digital literacy at all levels through continuous training and support is essential for the future.”

Participants also reflected on the broader lessons that the DBSA's experience might offer to other development finance institutions.

P8 explained:

“Transformation must go beyond technology; it is about people and governance. Early user engagement and investing in people are as important as the technology itself.”

These accounts indicate that employees recognise digital transformation as a continuous process of institutional learning and adaptation rather than a finite project. They also reveal an evolving understanding within the DBSA that sustainable transformation depends on human capital development and effective change governance.

The findings demonstrate an emerging shift in how participants conceptualise digital transformation from a focus on technological deployment to an appreciation of organisational learning and strategic alignment. Participants acknowledged that the DBSA's early digital initiatives produced measurable gains in efficiency and transparency but emphasised the need to embed these gains through continuous capability-building and cultural adaptation. This indicates growing awareness of digital transformation as an evolutionary process requiring ongoing investment in both people and systems.

The strong emphasis on resilience reflects an institutional learning orientation, where digitalisation is viewed not only as a driver of efficiency, but also as a means of strengthening organisational adaptability in the face of uncertainty. This aligns with contemporary scholarship that positions digital maturity as a determinant of an organisation's capacity to absorb shocks and sustain performance under dynamic conditions (Tang et al., 2024). In the context of DFIs, resilience also encompasses the ability to maintain developmental continuity despite regulatory, fiscal, or operational disruptions.

Participants' focus on skills development and governance alignment reveals an appreciation of digital transformation as a socio-technical process. The call for sustained training and user engagement reflects an understanding that human competence and institutional coherence are prerequisites for realising the full potential of technological innovation. This insight suggests that the DBSA is progressing towards the higher stages of digital maturity, where transformation is embedded in governance structures and continuous learning cycles, rather than episodic interventions.

The findings correspond with the digital maturity model framework, particularly the progression from *Adoption* and *Integration* to *Transformation* and *Optimisation* (Minh & Thanh, 2022). During transformation, organisations align digital technologies with strategic objectives, while during optimisation, digitalisation becomes a core enabler of organisational resilience and value creation. The reflections from participants, especially regarding continuous learning and governance coherence, indicate that the DBSA is transitioning from a project-based digital agenda to an institutionalised digital culture, a hallmark of the higher stages of digital maturity (Aras & Büyüközkan, 2023).

The findings also reinforce the view advanced by Vial (2019) and Kane et al. (2019) that digital transformation must be approached holistically, integrating technological, cultural, and leadership dimensions. By recognising that people and governance are as critical as technology, participants' perspectives align with the principle of digital humanism, which emphasises that

transformation must enhance human capability and organisational purpose rather than simply automate processes.

From a developmental finance perspective, the insights echo those of Bhoopal (2022), who argues that DFIs must leverage digital technologies to balance efficiency with developmental accountability. The lessons articulated by DBSA participants demonstrate awareness of this balance, with transparency, accountability, and stakeholder inclusion emerging as central tenets of digital governance. Furthermore, the recognition of cross-sector collaboration opportunities, for instance, with fintech partners or other DFIs, supports the findings of Omol et al. (2024) that strategic partnerships are critical to accelerating digital innovation in public finance institutions.

. Third, the DBSA should strengthen digital governance mechanisms that integrate accountability, transparency, and inclusivity into transformation planning. Establishing cross-functional digital steering committees and embedding performance metrics linked to digital outcomes could further align transformation activities with the bank's developmental mission.

Theoretically, this theme extends digital transformation scholarship by illustrating that digital maturity in DFIs requires a dual focus on institutional resilience and human capital investment. In contexts where public accountability and developmental impact are central, transformation success depends less on technological sophistication and more on aligning digital systems with organisational culture, governance, and long-term capability-building strategies.

The DBSA's digital transformation has generated optimism for the future, with participants recognising technology as a catalyst for resilience, transparency, and inclusivity. However, they also emphasised that sustainable transformation depends on continuous skills development, institutional learning, and integrated governance. The lessons derived from the DBSA's experience highlight that digital transformation in DFIs must transcend technology adoption to embrace a broader model of human-centred, strategically governed digital maturity.

4.4 CHAPTER SUMMARY

This chapter presented and discussed the empirical findings arising from the qualitative analysis of the DBSA's digital transformation journey. Five interrelated themes were identified: (1) Modernisation of operations, (2) Mixed employee experiences, (3) Leadership and change management, (4) Structural and cultural challenges, and (5) Future opportunities and lessons. Together, these themes demonstrate that digital transformation at the DBSA involves both technological change and socio-organisational adaptation within a regulated DFI context. The

next chapter synthesises these findings in relation to the research objectives and presents conclusions, contributions, and recommendations.

CHAPTER 5: CONCLUSIONS AND RECOMMENDATIONS

5.1 INTRODUCTION

This chapter concludes the study by synthesising the main findings presented in Chapter 4 and relating them to the research objectives, theoretical frameworks, and broader literature on digital transformation within DFIs. This chapter provides a summary of the key conclusions derived from the empirical data; articulates the study's theoretical, managerial, and policy implications; and presents recommendations for practice and future research. The chapter concludes with a discussion of the study's limitations and recommended avenues for future research.

5.2 SUMMARY OF MAIN FINDINGS

Five themes summarised the DBSA's digital transformation experience.

Theme 1: Modernisation of operations. The DBSA has improved operational efficiency and transparency through digital tools such as cloud-based platforms, robotic process automation, and data-enabled reporting. Participants associated these initiatives with shorter reporting cycles, reduced duplication, improved traceability, and stronger oversight. However, sustained value depends on improving integration across systems and strengthening governance for data interoperability and platform alignment.

Theme 2: Mixed employee experiences. Employees' experiences were uneven. Some participants described improved productivity and adaptability, while others reported anxiety, resistance, and uncertainty linked to limited training and concerns about role changes. This confirms that transformation outcomes depend on human capability development, continuous support, and consistent communication.

Theme 3: Leadership and change management. Participants highlighted the importance of leadership in articulating the digital vision and sustaining momentum. While change mechanisms (e.g., communication and champions) were acknowledged, the findings also suggested gaps in consistent reinforcement at middle-management level, indicating a need for stronger "change ownership" in operational structures.

Theme 4: Structural and cultural challenges. Legacy systems, resource constraints, and cultural inertia continued to limit full integration. In addition, regulatory obligations (PFM Act and POPI Act) were perceived as necessary for accountability, but also contributing to procedural rigidity. This reinforces that DFI digitalisation requires balancing innovation with governance integrity.

Theme 5: Future opportunities and lessons. Participants viewed digital transformation as a continuing institutional journey requiring sustained skills development, stronger digital governance, and learning mechanisms. Opportunities identified included strengthening digital literacy across the organisation, improving cross-functional integration, and deepening data-driven governance and performance monitoring. Overall, the findings suggest progress toward higher levels of digital maturity, reflected in greater operational integration, automation, and improved governance visibility. However, maturity positioning should be interpreted cautiously because this study used qualitative indicators rather than a scored maturity assessment with predefined benchmarks

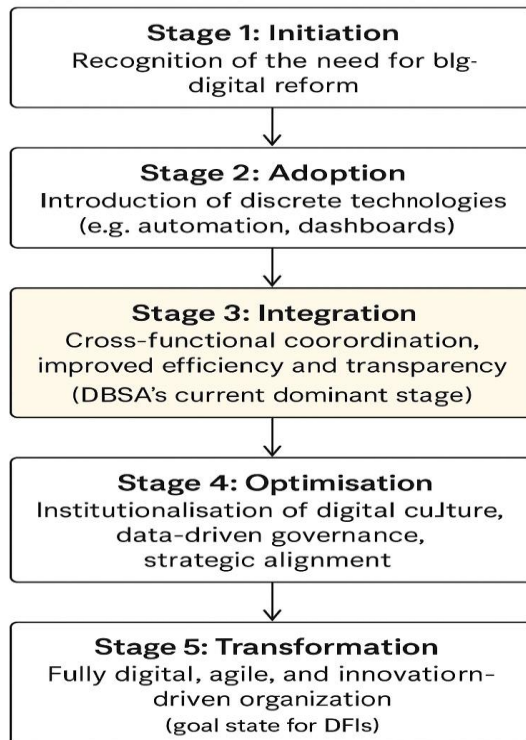
When considered collectively, these findings demonstrate that the DBSA's digital transformation is both a technical and socio-organisational process, shaped by leadership, culture, resources, and institutional mandates. The findings confirm that transformation within DFIs differs fundamentally from that of commercial entities: it is less about market competition and more about accountability, inclusivity, and sustainability. The findings further validate the relevance of the theoretical frameworks underpinning this study, particularly Kotter's (1995) Eight-step Change Model, which explains the stages of transformation adoption, and the digital maturity model by Westerman et al. (2014), which captures the progression of institutional digital capability.

Participants identified digitalisation as a catalyst for resilience and transparency. Continuous training, inclusive engagement, and improved digital governance are recognised as priorities for consolidating gains. The DBSA appears to be transitioning from the *Integration* stage to the *Optimisation* stage of the Digital Maturity Model (Minh & Thanh, 2022) I, characterised by alignment between technology, governance, and culture. Sustained progress will depend on embedding digital competence across the workforce and institutionalising mechanisms for learning and feedback.

Collectively, these findings demonstrate that the DBSA's digital transformation is advancing through incremental, institution-wide learning. The process reflects a shift from technology acquisition to capability building, illustrating that digital maturity within DFIs evolves through alignment of systems, leadership, and culture rather than through technology adoption alone. The conceptual integration of the findings with the stages of digital maturity is illustrated in Figure 5.6.

Figure 5.6

Conceptual Integration of Findings within the Digital Maturity Model Stages



Source: Researcher's synthesis, adapted from Minh and Thanh (2022)

This conceptual integration demonstrates that the DBSA's digitalisation journey has evolved beyond technology adoption, towards integrated operational modernisation. However, full optimisation will require embedding digital capabilities into the organisation's governance frameworks, culture, and talent development systems.

The next section provides a reconciliation of the research objectives.

5.3 RECONCILIATION OF RESEARCH OBJECTIVES

The primary aim of this study was to explore the extent to which the DBSA has implemented digital transformation, and to understand how employees and key stakeholders perceive its effects on operational efficiency, service delivery, and organisational performance.

To achieve this aim, specific objectives were formulated. Each objective is revisited below and linked to the findings.

5.3.1 RO1: To map the current state of digital transformation at the DBSA, identifying the technologies adopted, their level of integration, and alignment with institutional goals.

Findings show that DBSA has implemented cloud-based platforms, automation tools (including RPA), and data-enabled reporting that have improved efficiency, traceability, and oversight. Participants' accounts indicate that adoption is progressing from isolated initiatives toward more integrated operational use, although interoperability and end-to-end integration remain areas for improvement.

5.3.2 RO2: To examine employees' and key stakeholders' perceptions of digital transformation and its influence on organisational operations and service delivery

Perceptions were mixed. Participants reported benefits such as improved speed, transparency, and decision support, but also highlighted resistance linked to uneven digital literacy, limited training continuity, and concerns about role displacement. These perceptions shaped adoption levels and highlight the importance of sustained engagement and support.

5.3.3 RO3: To evaluate the DBSA's internal digital resources and competencies to determine their contribution to operational efficiency and strategic advantage.

The study indicates that DBSA's emerging capabilities automation know-how, data-enabled reporting, and improving digital governance are contributing to efficiency and oversight. However, participants also noted capability constraints linked to skills gaps, reliance on legacy systems, and uneven internal readiness, suggesting that digital advantage depends on strengthening workforce capability, data governance, and internal capacity to sustain and scale digital tools.

5.3.4 RO4: To identify organisational, technological, and regulatory barriers hindering the digital transformation process

Key barriers included legacy system constraints, resource limitations, cultural resistance, and procedural complexity driven by compliance requirements. While PFMA and POPIA strengthen accountability, participants perceived that they can slow procurement, approvals, and implementation cycles unless compliance is embedded by design into digital initiatives.

.5.3.5 RO5: To analyse the managerial and developmental impact of digital transformation on the DBSA's performance, efficiency, and stakeholder value creation

Digital initiatives were perceived to improve operational efficiency, reporting transparency, and governance visibility, supporting managerial decision-making and accountability. In a DFI context, these improvements are meaningful because they strengthen the institution's ability to demonstrate stewardship, improve monitoring, and support delivery on developmental mandates through better oversight and data-informed management

Table 5.4

Summary of Research Objectives, Key Findings, and Corresponding Recommendations

Research Objective	Key Findings	Recommendations
RO1: Map current state of digital transformation	Adoption of cloud platforms, RPA, and data-enabled reporting improved efficiency and transparency; integration still uneven across systems.	Prioritise interoperability and end-to-end integration (data architecture, interfaces, shared standards); maintain governance oversight of platform alignment.
RO2: Examine perceptions and operational/service impact	Mixed perceptions shaped adoption; uneven digital literacy and limited training continuity contributed to anxiety/resistance.	Implement continuous training (role-based and skills-tiered); strengthen communication on "why" and "what changes for roles"; provide change support channels.
RO3: Evaluate internal digital resources/competencies (RBV)	Emerging digital capabilities support efficiency, but skills constraints and legacy dependence limit scalability and sustained advantage.	Build internal capability via a digital skills programme, mentoring, targeted recruitment, and knowledge transfer from vendors; formalise data stewardship roles.
RO4: Identify barriers (org/tech/regulatory)	Legacy systems, budget/resource constraints, cultural resistance, and regulatory/procurement complexity slow progress.	Use phased modernisation plans; embed PFMA/POPIA compliance-by-design into systems and procurement; strengthen change reinforcement through middle management.

Research Objective	Key Findings	Recommendations
RO5: Managerial & developmental impact	Digitalisation strengthens oversight, traceability, and decision support—important for governance and developmental accountability.	Define DBSA-specific value metrics (governance visibility, monitoring quality, audit readiness, project reporting timeliness); track benefits realisation per initiative.

The next section reviews the study's theoretical contributions.

5.4 THEORETICAL CONTRIBUTIONS

This study contributes to the growing body of literature on digital transformation by extending the application of established theoretical models to the context of a DFI. The integration of empirical evidence with theory provides three key areas of theoretical advancement: (1) contextualising the Digital Maturity Model by Westerman et al. (2014) for governance-driven institutions, (2) adapting change management theories to public-sector transformation, and (3) illustrating the interplay between digital capability, organisational culture, and leadership alignment.

5.4.1 Extension of the Digital Maturity Model to DFIs

The study supports and extends Minh and Thanh's (2022) Digital Maturity Model by demonstrating how maturity progresses differently in development finance environments, compared to commercial entities. In the DBSA, maturity is defined not by market competitiveness, but by developmental accountability and institutional resilience. The model's *Integration* and *Optimisation* stages were observed to coexist, reflecting hybrid maturity, where operational modernisation is advanced, yet cultural embedding is incomplete.

The study thereby refines the Digital Maturity Model for DFI contexts by proposing that an additional evaluative dimension governance alignment accompany technological, cultural, and strategic dimensions. This addition recognises that transformation in regulated environments depends on harmonising digital innovation with compliance legislation such as the PFM Act (RSA, 1999) and the POPI Act (RSA, 2013).

Furthermore, the study demonstrates that digital maturity is iterative rather than linear. Feedback loops between learning, system optimisation, and leadership communication continuously

redefine maturity levels. This insight challenges static conceptions of digital maturity and supports a dynamic interpretation aligned with organisational learning theory (Sætren & Laumann, 2017).

5.4.2 Reinterpretation of Change Management Theory

By exploring employee responses and leadership practices, the study contributes to the adaptation of Lewin's (1947) and Kotter's (1995) change models for the digital era. Empirical evidence revealed that the *Unfreezing* and *Movement* stages require extended timeframes within DFIs, due to institutional inertia and compliance obligations. Moreover, Kotter's (2012) steps of *Enabling action* and *Consolidating gains* proved particularly relevant, as the DBSA's leadership has created urgency and vision, but must further strengthen empowerment mechanisms through middle management. The research thus highlights that change management in DFIs must incorporate principles of adaptive leadership (Heifetz et al., 2009), which emphasise learning and experimentation under constraint. Digital transformation success, therefore, depends less on sequential adherence to prescribed steps and more on cultivating organisational agility and reflection within the boundaries of regulatory compliance.

5.4.3 Linking Digital Capability, Culture, and Leadership

The study advances the theoretical understanding of how digital transformation evolves at the intersection of technology, leadership, and organisational culture. The findings confirm that leadership vision initiates change, but progress is sustained only when cultural norms and staff competencies evolve concurrently. This supports Vial's (2019) conceptualisation of digital transformation as a socio-technical process rather than a purely technological one. By demonstrating the interdependence of these factors in a DFI, the study contributes to an integrated framework of digital governance, one in which cultural adaptation, employee empowerment, and strategic leadership jointly drive maturity. This perspective enriches digital transformation theory by situating it within the realities of hybrid institutions that are required to balance innovation with accountability.

The next section offers recommendations for management and policymakers.

5.5 MANAGERIAL AND POLICY IMPLICATIONS

The findings of this study have significant implications for managers, policymakers, and institutional leaders overseeing digital transformation in DFIs. While the DBSA has achieved notable progress in integrating digital technologies and improving operational efficiency, the findings indicate that sustainable transformation requires a broader alignment of people,

processes, and governance. This section outlines actionable implications across five domains: strategic leadership and governance, middle-management empowerment, workforce capability development, structural and technological alignment, and policy and regulatory coherence.

5.5.1 Strategic Leadership and Governance

The study revealed that the DBSA's executive leadership has successfully articulated a clear digital vision and initiated transformation programmes. However, sustainability depends on embedding this vision within the organisation's governance architecture and accountability mechanisms. Leadership should prioritise the following actions.

Institutionalise digital governance frameworks. Establish a formal digital transformation governance structure, such as a digital steering committee, that reports to the executive committee. This body should oversee project prioritisation, monitor digital maturity progression, and ensure that all digital initiatives align with the DBSA's developmental mandate and compliance obligations.

Embed digital transformation in strategic planning. Integrate digital transformation objectives into the DBSA's corporate strategy, performance scorecards, and annual business plans. By linking transformation outcomes to strategic indicators, leadership can institutionalise accountability and promote cross-functional ownership of digital initiatives.

Promote a culture of digital accountability. Incorporate digital leadership metrics into executive performance reviews to ensure that senior leaders remain accountable for transformation outcomes. This measure will reinforce leadership commitment beyond policy rhetoric and foster a culture of sustained innovation.

5.5.2 Middle-Management Empowerment

The study identified a leadership diffusion gap, with middle managers not fully empowered to translate strategic intent into operational practice. Strengthening this leadership tier is critical to bridging the divide between vision and implementation.

Develop targeted leadership programmes. Introduce specialised leadership development programmes focused on digital change management, project leadership, and communication. These programmes should equip middle managers with the confidence and tools to act as catalysts for change within their teams.

Enhance communication channels. Create structured feedback and dialogue platforms where middle managers can share operational insights, challenges, and lessons from transformation projects. Two-way communication between executives and middle management will improve coherence and responsiveness.

Recognise and reward change facilitation. Implement recognition mechanisms for middle managers who effectively support transformation objectives. Incentivising change leadership will reinforce desired behaviours and motivate alignment across the managerial hierarchy.

5.5.3 Workforce Capability Development

Employee experiences emerged as a decisive factor in determining the success of digital transformation. While technological deployment has progressed, the human dimension requires continued attention to ensure inclusivity and engagement.

Institutionalise continuous learning. Transition from one-off training interventions to a structured, continuous learning model. Establish an internal digital academy offering modular training, refresher courses, and peer-to-peer mentoring to ensure that employees remain digitally competent and confident.

Segment training according to learning needs. Adopt differentiated training approaches tailored to generational and functional groups. For example, simulation-based learning and scenario workshops may be more effective for employees less familiar with digital systems, while advanced analytics training could target technical staff.

Integrate digital competence into performance appraisal. Include digital literacy and adaptability as key performance indicators across all job categories. Embedding these competencies within performance management frameworks will help normalise digital behaviours and expectations across the institution.

Prioritise psychological safety: Provide transparent communication regarding automation and workforce changes to mitigate fear of redundancy. Incorporating career transition support and reassurance mechanisms will strengthen employee trust and commitment (Nyathi & Oosthuizen, 2023).

5.5.4 Structural and Technological Alignment

Persistent legacy systems and fragmented digital infrastructures pose ongoing challenges for the DBSA. Addressing these constraints requires an integrated and phased approach to technology- and process redesign.

Implement phased legacy system migration. Develop a multi-year migration plan for legacy systems, prioritising functions with high redundancy or compliance risk. This approach balances innovation with operational continuity and financial prudence.

Adopt enterprise-wide digital platforms. Consolidate departmental digital initiatives under unified platforms that enable interoperability and data integration. Centralising digital systems will enhance efficiency, reduce duplication, and improve data reliability.

Strengthen data governance and analytics. Formalise policies for data stewardship, integrity, and security. Implement advanced analytics tools that enable predictive insights to support infrastructure investment and project evaluation, a critical capability for DFIs.

Establish metrics for digital maturity progression. Regularly assess the DBSA's progress using the Digital Maturity Model (Minh & Thanh, 2022). Such evaluations will help identify areas of stagnation and inform evidence-based decision-making for continuous improvement.

5.5.5 Policy and Regulatory Coherence

The findings highlight the dual pressures of maintaining compliance with national regulatory frameworks while promoting innovation. Policymakers and institutional leaders must therefore cultivate an enabling environment for digital transformation that preserves governance integrity.

Integrate regulatory compliance into innovation design. Treat compliance with the PFM Act (RSA, 1999) and the POPI Act (RSA, 2013) as a design criterion to prevent the legislation from becoming a post-implementation constraint. Embedding regulatory standards into system design ensures both agility and accountability.

Collaborate with regulators and sector partners. Foster partnerships with the National Treasury, other DFIs, and fintech firms to co-develop digital tools and frameworks that support secure innovation. Collaborative governance models could accelerate digitalisation while maintaining oversight.

Promote knowledge exchange and benchmarking. Participate in inter-institutional digital maturity benchmarking initiatives to share best practices and lessons learned across the development finance sector. Such collaboration enhances collective institutional learning and regional digital capacity.

In managerial terms, the implications of this study's findings underscore the importance of a systemic approach to digital transformation, one that balances technological adoption with human capability, leadership alignment, and institutional accountability. From a policy perspective, DFIs must strengthen cross-sectoral collaboration and regulatory innovation to sustain digital growth without compromising governance standards.

The integration of these recommendations positions the DBSA to advance towards from the *Optimisation* stage towards *Transformation* stage of the Digital Maturity Model (Bonnet, McAfee & Westerman 2014)., thereby achieving a future-ready institutional posture characterised by agility, resilience, and transparency.

The next section reviews the limitations of the study, together with recommendations for future research.

5.6 LIMITATIONS AND RECOMMENDATIONS FOR FUTURE RESEARCH

While this study provides valuable insights into digital transformation at the DBSA, certain limitations must be acknowledged to contextualise its findings and guide their appropriate interpretation.

The study focused exclusively on the DBSA, which limits the transferability of the findings. Although the insights offer transferable lessons for comparable DFIs, contextual variations, such as governance frameworks, institutional maturity, and resource capacity, may influence how digital transformation unfolds elsewhere. Future research could undertake comparative analyses between the DBSA and other DFIs in South Africa or similar institutions across Africa. Such studies would deepen understanding of how governance structures, policy environments, and organisational cultures influence digital maturity trajectories. Comparative research could also reveal whether the drivers, enablers, and barriers identified at the DBSA are common across development-oriented financial institutions or unique to its institutional setting.

The qualitative approach involved a purposive sample of 11 participants. While the sample was diverse across hierarchical levels and departments, it may not fully represent all perspectives within the DBSA. Future studies with larger or cross-institutional samples could enhance

representativeness and transferability. Building on the qualitative findings, future research could include quantitative methods to measure digital maturity through validated indices and performance indicators. This approach could provide empirical validation of qualitative insights and support the development of a DFI-specific digital maturity assessment tool that incorporates governance and developmental accountability.

The present study followed a cross-sectional time horizon. Future studies could follow a longitudinal horizon to enable identification of patterns and developments over time and allow researchers to make comparisons. As digital transformation is an iterative process rather than a fixed outcome, longitudinal research would be valuable to trace how DFIs evolve through successive stages of the Digital Maturity Model (Minh & Thanh, 2022). Tracking changes over time would enable scholars to examine how institutional learning, leadership transitions, and policy reforms affect transformation sustainability.

Further research could explore the psychological and behavioural aspects of digital adaptation in DFIs. Investigating digital anxiety, motivation, and trust among employees could offer more granular insights into the socio-cultural dimensions of transformation. This would extend the theoretical understanding of human factors in digital transformation and inform evidence-based organisational interventions.

Given the dual pressures of compliance and innovation identified in this study, future research could examine how policy innovation, such as regulatory sandboxes or digital governance frameworks, could support safe experimentation within DFIs. Such work would bridge managerial sciences and public policy, contributing to the design of governance models that enable digital agility while preserving accountability.

Finally, future studies could adopt a cross-disciplinary approach, integrating perspectives from technology management, behavioural economics, and organisational psychology to construct a holistic view of digital transformation in complex institutional environments. This would align with the interdisciplinary nature of digitalisation and its implications for strategy, culture, and public value creation.

5.7 CONCLUDING REMARKS

This study set out to explore the extent to which the DBSA has implemented digital transformation, and to understand how employees and key stakeholders perceive its effects on operational efficiency, service delivery, and organisational performance. Through an interpretivist paradigm, a qualitative approach, and a case study design, the research provided a detailed account of how

digital transformation unfolds within a DFI that must balance technological innovation with developmental accountability and regulatory compliance.

The findings demonstrate that DBSA's digital transformation is characterised by measured progress, contextual complexity, and adaptive learning. The institution has modernised key operations through the introduction of cloud-based platforms, RPA, and integrated digital dashboards that enhance accuracy and transparency. However, the transformation is far from purely technological; it is deeply socio-organisational, shaped by leadership, institutional culture, and human capacity. Employees' varied experiences highlighted that transformation success depends on inclusive engagement, empathy-driven change management, and sustained capability development across all organisational tiers.

The research found that the DBSA is transitioning between the *Integration* and *Optimisation* stages of the Digital Maturity Model (Minh & Thanh, 2022). This positioning reflects a solid foundation of technological adoption and operational efficiency, while also revealing an incomplete alignment between digital systems, governance frameworks, and organisational culture. Advancing towards full optimisation will require that the DBSA embed digital governance mechanisms, empower middle management, and foster a culture of continuous learning and accountability.

Theoretically, the study extends existing models of digital maturity and change management by situating them within the unique context of development finance a sector where transformation must reconcile innovation with public-sector accountability. It contributes a nuanced understanding of how governance alignment functions as a critical dimension of digital maturity in DFIs, complementing the traditional technological and cultural dimensions. Furthermore, the adaptation of Kotter's (1995) and Lewin's (1947) change management models to this context underscores that transformation is less linear than adaptive, requiring ongoing negotiation between structure, people, and purpose.

From a managerial perspective, the study provides actionable insights for institutional leaders and policymakers. It emphasises that leadership vision must be reinforced by operational ownership, that technological innovation must be accompanied by human capability, and that governance compliance must evolve in step with digital agility. For the DBSA, and DFIs more broadly, the path to sustainable digital transformation lies not in replicating commercial banking models, but in cultivating context-sensitive digital ecosystems that advance developmental outcomes through technology-enabled governance.

While bounded by its case-specific focus, the study contributes meaningfully to scholarship and practice by illuminating how digital transformation can be ethically and strategically embedded within complex public-sector institutions. It highlights that success depends not only on the speed of technological adoption, but on the depth of institutional alignment, where people, processes, and policies evolve in harmony toward shared digital maturity.

Ultimately, this research affirms that digital transformation within DFIs such as the DBSA is both a journey and a strategic commitment, one that requires visionary leadership, adaptive learning, and persistent engagement to realise its full potential for developmental impact and institutional sustainability.

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ANNEXURE A: ETHICAL CLEARANCE



Private Bag X1290, Potchefstroom
South Africa 2520
Tel: 018 299-1111/2222
Fax: 018 299-4910
Web: <http://www.nwu.ac.za>
Senate Committee for Research Ethics
Tel: 018 299-484
Feziwe.Mseleni@nwu.ac.za

4 September 2025

ETHICS APPROVAL LETTER OF STUDY

Based on approval by the North-West University Economic and Management Sciences Research Ethics Committee (EMS-REC) on 4 September 2025, the Economic and Management Sciences Research Ethics Committee hereby approves your study as indicated below. This implies that the North-West University Senate Committee for Research Ethics (NWU-REC) grants its permission that, provided the special conditions specified below are met and pending any other authorisation that may be necessary, the study may be initiated, using the ethics number below.

Study title:	Exploration of Digital Transformation in the Business Operations of South African Development Banking systems																															
Study leader/Supervisor (Principal investigator/Researcher):	Prof L. Gobler	University no.:	12791911																													
Student:	T.J. Mogaila	University no.:	43461743																													
Ethics number:	<table border="1"> <tr> <td>N</td><td>W</td><td>U</td><td>-</td><td>0</td><td>0</td><td>7</td><td>0</td><td>4</td><td>-</td><td>2</td><td>5</td><td>-</td><td>A</td><td>4</td> </tr> <tr> <td colspan="4">Institution</td> <td colspan="4">Study number</td> <td colspan="4">Year</td> <td colspan="2">Status</td> </tr> </table> Status: S = Submission; R = Re-submission; P = Provisional authorisation; A = Authorisation			N	W	U	-	0	0	7	0	4	-	2	5	-	A	4	Institution				Study number				Year				Status	
N	W	U	-	0	0	7	0	4	-	2	5	-	A	4																		
Institution				Study number				Year				Status																				
Application type:	Single study - Postgraduate research	Risk level:	Low/minimal risk																													
Commencement date:	9/4/25																															
Expiry date:	9/4/26																															
<i>Approval of the study is initially provided for a year, after which continuation of the study is dependent on receipt and review of the annual (or as otherwise stipulated) monitoring report and the concomitant issuing of a letter of continuation.</i>																																

Special in process conditions of the research for approval (if applicable):

General conditions:

While this ethics approval is subject to all declarations, undertakings and agreements incorporated and signed in the application form, the following general terms and conditions will apply:

- *The study leader/supervisor (principal investigator)/researcher must report in the prescribed format to the EMS-REC:*
 - *annually (or as otherwise requested) on the monitoring of the study, whereby a letter of continuation will be provided, and upon completion of the study; and*
 - *without any delay in case of any adverse event or incident (or any matter that interrupts sound ethical principles) during the course of the study.*
- *The approval applies strictly to the proposal as stipulated in the application form. Should any amendments to the proposal be deemed necessary during the course of the study, the study leader/researcher must apply for approval of these amendments at the EMS-REC, prior to implementation. Should there be any deviations from the study proposal without the necessary approval of such amendments, the ethics approval is immediately and automatically forfeited.*
- *Annually a number of studies may be randomly selected for an external audit.*
- *The date of approval indicates the first date that the study may be started.*
- *In the interest of ethical responsibility, the NWU-SCRE and EMS-REC reserves the right to:*
 - *request access to any information or data at any time during the course or after completion of the study;*
 - *to ask further questions, seek additional information, require further modification or monitor the conduct of your research or the informed consent process;*
 - *withdraw or postpone approval if:*
 - *any unethical principles or practices of the study are revealed or suspected;*
 - *it becomes apparent that any relevant information was withheld from the EMS-REC or that information has been false or misrepresented;*
 - *submission of the annual (or otherwise stipulated) monitoring report, the required amendments, or reporting of adverse events or incidents was not done in a timely manner and accurately; and / or*
 - *new institutional rules, national legislation or international conventions deem it necessary.*
- *EMS-REC can be contacted for further information or any report templates through the secretariat. Botlenyana Maluleka (Botlenyana.Maluleka@nwu.ac.za/ +27 18 2852436) or the chair Prof Diana Viljoen-Bezuidenhout (Diana.Viljoen@nwu.ac.za / +27 16 9103403).*

The EMS-REC would like to remain at your service as scientist and researcher, and wishes you well with your study. Please do not hesitate to contact the EMS-REC or the NWU-SCRE for any further enquiries or requests for assistance.

Yours sincerely,

Prof Diana Viljoen-Bezuidenhout

Digitally signed by Prof
Diana Viljoen-Bezuidenhout
Date: 2025.09.04
15:29:53 +02'00'

Prof Diana Viljoen-Bezuidenhout

Chairperson: NWU Economic and Management Sciences Research Ethics Committee

ANNEXURE B: LETTER OF INFORMED CONSENT



NWU Business School
North-West University
Private Bag x6001
Potchefstroom, 2520
<http://commerce.nwu.ac.za/business-school>

23 July 2025

Dear Participant,

You are invited to take part in a research study that forms part of a Master of Business Administration (MBA) degree at the North-West University (NWU). This document outlines the purpose of the study, your role as a participant, and your rights. Please read it carefully and ask the researcher any questions you may have.

Your participation is entirely voluntary. You are free to decline or withdraw from the study at any time without any consequences. This research has received ethics approval from the Economic and Management Sciences Research Ethics Committee (EMS-REC) of NWU and adheres to all institutional and international ethical research guidelines.

Project Title: Exploring Digital Transformation in Banking Operations: A Case Study of the Development Bank of Southern Africa

Institution: NWU Business School

Ethics Reference Number: NWU-00704-25-S4

Names and contact details of project staff:

	Supervisor	Researcher
Title, name & surname	Prof Leenta Grobler	Ms Judith Mogaila
Full Names	Magdalena Johanna	Tlou Judith Mogaila
Function in Project	Principle Investigator	Researcher
Telephone	082 878 5894	083 452 8080

What is this research about?

The purpose of this study is to explore the state and impact of digital transformation within the Development Bank of Southern Africa (DBSA), with specific focus on how digital technologies affect operational efficiency, service delivery, and stakeholder engagement.

Why have you been invited to participate?



Potchefstroom Campus: (+27) 18 299 1406

Mahikeng Campus: (+27) 18 389 2095

Vanderbijlpark Campus: (+27) 16 910 3011

You are invited to participate because you meet one or more of the following criteria:

- You are currently employed by DBSA and are directly or indirectly involved in digital transformation initiatives.
- You have at least 12 months of experience in digital banking processes or technologies at DBSA.
- You hold a leadership, IT, finance, customer service, or operational role affected by digitalisation.
- You are a stakeholder interacting with DBSA's digital systems (e.g., project agent, financial manager).

What will be expected of you?

You will be asked to participate in a semi-structured interview lasting approximately 45–60 minutes. This interview may take place in person or virtually, at a time and place that is convenient for you. You are encouraged to provide open and honest responses. You may refuse to answer any question or withdraw from the interview at any time.

Are there any risks involved?

There are no physical or psychological risks involved. However, because the research focuses on a specialised group within DBSA, there is a possibility that individual roles could be indirectly identifiable. To mitigate this:

- Your name and any direct identifiers will not be recorded in any transcripts or publications.
- All data will be anonymised and securely stored.

Will you benefit from participating?

While you will not receive compensation, your participation contributes to meaningful academic research. Findings may also inform DBSA's own digital transformation strategy. A summary of results will be made available upon request.

Confidentiality and Data Protection

- You will be assigned a unique Participant ID.
- Interviews will be recorded (with your permission) and transcribed by the researcher.
- Recordings and transcripts will be stored securely and accessed only by the researcher and supervisor.

- Data will be kept for five years in accordance with the Protection of Personal Information Act (POPIA), after which it will be securely destroyed.

Use of Study Results

Your anonymised responses may be used in:

- Academic publications and presentations
- The researcher's MBA mini-dissertation
- Policy briefs or strategy discussions (without attribution).
- All findings will be presented in a way that protects your identity and that of DBSA.

Researcher Disclosure

The researcher is employed by DBSA. To avoid any real or perceived coercion, recruitment and scheduling are coordinated through DBSA's Knowledge Management & Research Unit. Your decision to participate or not will have no bearing on your role or evaluation within DBSA.

Consent Declaration

By signing below, I (Participant ID: _____) confirm that:

- I have read and understood the information above.
- I had the opportunity to ask questions and received satisfactory answers.
- I understand that participation is voluntary and that I may withdraw at any time.
- I am aware that anonymised findings may be published.
- I understand the measures in place to protect my identity and data.
- I agree / do not agree (circle one) to have my interview audio recorded.

Signed at: _____ Date: _____

Signature of Participant: _____

Signature of Researcher: _____

ANNEXURE C: PERMISSION TO CONDUCT THE STUDY



To: Prof Leenta Grobler (PhD (Eng), MEng, BEng)
Associate Professor in Digital Health Innovation
Faculty of Health Sciences
Potchefstroom Campus
Mobile: (082) 878 5894 | Phone: (018) 285 2416
leenta.grobler@nwu.ac.za

11 February 2025

Re: Request to utilise the DBSA as a Research Site

Dear Sir/Madam

This letter serves to inform you that in principle the DBSA is willing to make its experts in the Digital management unit to be interviewed. Ms Judith Mogaila is however required to provide proof of ethical clearance prior to the research request being approved and interviews being scheduled as per the Bank protocols.

We hope you find this in order.

Sincerely,

.....
Dr Zwelakhe Tshandu
Head: Knowledge Management & Research (KMR) Unit
DBSA



E Rasool (Board Chairman),
M Jense van Rensburg (Deputy Board Chairman)
B Mosako* (Chief Executive), K Brown, B Hore, D Lesutla, MP Mofu,
Z Mbele*, D Moephuli, J Muthiga, C Naidoo, J Ntshintzhe, B Nqwababa,
P Ngqeto, E Pieterse
*Executive
Bathobele Sowaz (Company Secretary)

1258 Lever Rd,
Headway Hill,
Midrand,
1685
011 313 3911
011 313 3500
www.dbsa.org

ANNEXURE D: INTERVIEW GUIDE

Introduction

Thank you for agreeing to participate in this study. The purpose of this interview is to explore your experiences and perceptions of digital transformation at the Development Bank of Southern Africa (DBSA). Your responses will be confidential, and you are free to withdraw at any time. This interview should take approximately 60 minutes.

Section A: General Information

1. Can you briefly describe your role at DBSA?
2. How long have you been employed at DBSA?
3. Have you been directly involved in digital transformation initiatives within DBSA? If so, in what capacity?

Section B: Understanding Digital Transformation at DBSA

4. How would you describe the current state of digital transformation at DBSA?
5. What digital technologies (e.g., AI, blockchain, cloud computing, big data analytics) have been adopted within DBSA's operations?
6. To what extent do you think digital transformation has impacted the efficiency of DBSA's operations?
7. How has digital transformation influenced customer/stakeholder interactions and service delivery?
8. Are there any departments that have been more affected by digital transformation than others? If so, why?

Section C: Perceptions and Experiences of Digital Transformation

9. How do employees perceive the digital transformation process at DBSA?
10. What challenges, if any, have employees encountered in adapting to digital changes?
11. Has there been sufficient training and support to help employees navigate digital transformation? If not, what improvements do you suggest?
12. What role does leadership play in driving digital transformation at DBSA?
13. Have there been any resistance or concerns among employees regarding digital adoption? If so, how has DBSA addressed them?

Section D: Change Management and Organisational Adaptation

14. How has DBSA implemented change management strategies to facilitate digital transformation?
15. What change management frameworks (e.g., ADKAR, Kotter's 8-Step Process, Lewin's Model) have been used to support digital transformation?
16. In your opinion, how effective have these change management strategies been?
17. How has digital transformation influenced organisational culture at DBSA?

Section E: Challenges and Opportunities

18. What are the biggest challenges DBSA faces in fully adopting digital transformation?
19. How do regulatory requirements impact digital transformation at DBSA?
20. What opportunities does digital transformation present for DBSA's long-term sustainability and growth?

Section F: Future Recommendations

21. What improvements or additional strategies do you think DBSA should implement to accelerate digital transformation?
22. What lessons can other development finance institutions learn from DBSA's digital transformation journey?
23. Is there anything else you would like to add regarding digital transformation at DBSA?

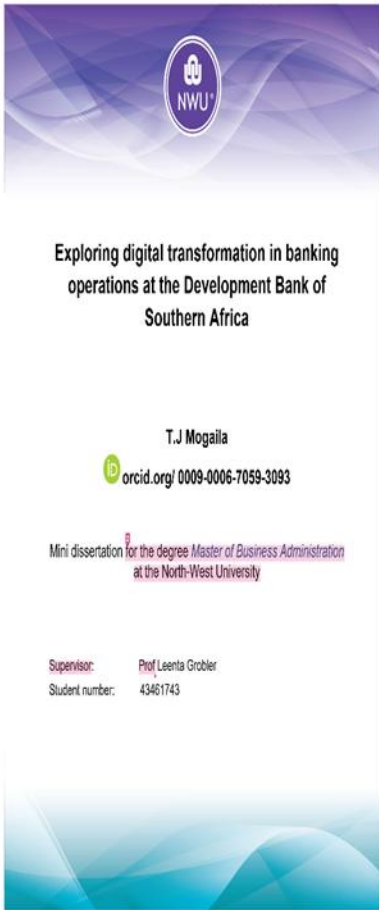
Closing Remarks

Thank you for your time and insights. Your responses will contribute to a better understanding of digital transformation in development finance institutions and help shape future strategies. If you have any further thoughts after this interview, feel free to reach out.

End of Interview

ANNEXURE E: TURNITIN REPORT

JUDITH MOGAILA | 43461743:Judith_Mogaila_mini_Dissertation_v2.docx



Exploring digital transformation in banking operations at the Development Bank of Southern Africa

T.J Mogaila

 [orcid.org/ 0009-0006-7059-3093](https://orcid.org/0009-0006-7059-3093)

Mini dissertation for the degree Master of Business Administration at the North-West University

Supervisor: Prof Leenta Grobler
Student number: 43461743

Page: 1 of 84 Word Count: 28819Text-Only Report | High Resolution   

ANNEXURE F: CERTIFICATE OF LANGUAGE EDITING

TERESA KAPP

Phone:
+27 82 789 7878
E-mail:
tekapp@mwweb.co.za
info@teresakapp.com

This serves to certify that I duly edited:

Exploring digital transformation in banking operations at the Development Bank of Southern Africa

by

T. J. Mogaila (orcid.org/ 0009-0006-7059-3093)

Clients include: Students and faculty of University of Stellenbosch, Stellenbosch Business School, University of Johannesburg, WITS, North-West University, NWU Business School, University of Pretoria, GIBS, University of Cape Town, Vlerick Business School (Belgium), UNISA, and Namibia University of Science and Technology (formerly Polytechnic of Namibia), and companies such as Namibia Independent Electoral Commission, Takealot, UN Women, UN Global Compact, FNB, and ABSA, amongst others.

Publications:

 **Elgaronline**

Living wage

Anita Bosch and Teresa Kapp

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Page Range: 283–287

Equal pay for work of equal value

Anita Bosch and Teresa Kapp

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Gender pay gap

Anita Bosch and Teresa Kapp

Category: Chapter Collection: Business_2025
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Page Range: 201–205

Please note that all editing is done in *Track Changes*, and I therefore have no control over what is accepted or rejected by the author. Furthermore, I have no control over text added at a later stage. Should there be any queries, please contact me on the number provided above.



Teresa Kapp

Independent researcher, editor, copywriter, qualitative data analyst