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Sustainable Digital Transformation Strategies for Financial Inclusion by South African Banks

Ngubane, Thembinkosi

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UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

Sustainable Digital Transformation Strategies for Financial Inclusion by South African Banks

Thembinkosi Ngubane

A research report submitted to the Faculty of Commerce, Law and Management, University of the Witwatersrand, in partial fulfilment of the requirements for the degree of Master of Management in the field of Digital Business

Supervisors

Prof. Nixon Ochara and Mr Mitchell Hughes

Johannesburg, 2025

ABSTRACT

South African banks are using digital transformation to create financial products and services aimed at enhancing financial inclusion for underserved populations. The long-term performance and impact of digital transformation for enhancing financial inclusion requires the integration of sustainability into the strategy.

The purpose of this qualitative study is to explore sustainable digital transformation strategies that can be employed by South African banks for financial inclusion. Deductive thematic analysis was applied to analyse qualitative data collected using semi-structured interviews. The study used the theoretical model Strategic Alignment Model (SAM) to help explore how to integrate digital transformation strategy, sustainability and financial inclusion objectives.

The findings highlighted that the digital solutions implemented for financial inclusion by banks must be aligned to the sustainability factors, namely (1) economic, which states that solutions must be cost-effective and affordable for underserved communities; (2) environmental, where financial solutions must be implemented through digital, which promotes paperless solutions; and (3) social, where targeted underserved communities must be included in the design of the digital solution aimed at meeting their needs.

This study contributes to the ongoing research on sustainability digital transformation specifically for the banking sector. It also contributes to research on strategic alignment and the use of the Strategic Alignment Model (SAM) for aligning business and technology strategies. The implications of this study suggest that banks must ensure strategic alignment between digital transformation initiatives, sustainability factors and business objectives for financial inclusion to ensure long-term effects for the underserved populations.

KEYWORDS

Digital Transformation; Digital Transformation Strategy, Sustainable Strategy, Financial Inclusion; Banks

DECLARATION

I, **Thembinkosi Innocent Ngubane**, declare that this research report is my own work except as indicated in the references and acknowledgements. It is submitted in partial fulfilment of the requirements for the degree of Master of Management in the field of Digital Business at the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination in this or any other university.

Name: Thembinkosi Innocent Ngubane Signature: 

Signed at …Johannesburg……

On the ……14…….. day of ……September…… 2025….

DEDICATION

This research is dedicated to

My lovely wife, Mrs. Nosipho Ngubane

My late grandmother, Mrs. Nontsikelelo Alicia Ngubane

My late grandmother, Mrs. Nomalizo Kubheka

My father, Mr. Stewart Ngubane

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ACRONYMS

ACRONYM	DESCRIPTION
AI	Artificial Intelligence
ATM	Automated Teller Machine
CDO	Chief Digital Officer
CIB	Corporate and Investment Banking
CIO	Chief Information Officer
CSO	Chief Sustainability Officer
CTO	Chief Technology Officer
ESG	Environmental, Social and Governance
FinTech	Financial Technology
IS	Information Systems
IT	Information Technology
RegTech	Regulatory Technology
RPA	Robotics Process Automation
SAM	Strategic Alignment Model
SARB	South African Reserve Bank
SDG	Sustainable Development Goal
UN	United Nations

CHAPTER ONE: INTRODUCTION

1.1 Overview

1.1.1 Purpose Statement

The purpose of this qualitative study was to explore sustainable digital transformation strategies that can be applied by banks for financial inclusion. The study sought to understand the various digital transformation strategies that can be employed by banks to enhance access, usage and quality for affordable financial services to the underserved population by banks. The study also explored the role of sustainability within digital transformation strategies for financial inclusion objectives. The study used the Strategic Alignment Model (SAM) as a theoretical model to help explore how to integrate digital transformation strategies, sustainability initiatives and financial inclusion objectives.

1.1.2 Background of the Study

South Africa faces several challenges, including those around economic and social issues. Unemployment in South Africa exacerbates poverty, inequality, and access to finance. This in turn impacts South Africa's economy as it comes under question by locals and the global community at large (Stiftung, 2024). Poverty and inequality levels are high in South Africa, deeply linked to intergenerational and racialised transfer (Stiftung, 2024). Access to finance, called financial inclusion, has been deemed a key enabler to improving the quality of life for households and individuals and promoting growth (National Treasury, 2023). Financial inclusion thereby can reduce poverty and inequality, especially for underserved and marginalised groups.

Financial inclusion is about all people having access to financial services to improve their lives. Financial institutions like banks ensure that all persons have easy, timely and fair access to affordable financial products and services, and members of society can use them ((Sharma & Changkakati, 2022); (Financial Sector Conduct, 2022)). Examples of products and services include savings, credits, insurance and the ability to do transactions for various reasons (World, 2025). This then allows people to, in turn, have

access to things like healthcare, education and investments in order to better their lives (World, 2025). Financial inclusion has been said to improve the lives of people and businesses, which in turn is said to reduce poverty and improve economic growth. It is an important tool to aid an inclusive economy and is necessary to reduce inequality, eradicate poverty and improve the well-being of those marginalised ((National Treasury, 2023); (Njanike & Mpofu, 2023)). Financial inclusion has three dimensions, namely access, usage and quality (Sharma & Changkakati, 2022). Improvement on these dimensions is said to pave way for higher economic growth, an inclusive country for women, reduction of mortality rate and reduction of income inequality (Sharma & Changkakati, 2022)

The United Nations (UN) has developed 17 Sustainable Development Goals (SDG), which are aimed at finding better ways to meet people's needs without compromising future generations to meet their own goals (Xulu, 2022). Financial inclusion has been said to be linked to SDGs in that it enables and helps in their attainment. Financial inclusion is a key driver to reduce poverty and help increase economic growth (Chitimira & Warikandwa, 2023). Studies have found financial inclusion to be linked to various SDGs. World (2025) has found financial inclusion to be linked to seven of the 17 goals, namely SDG 1, 2, 3, 5, 8, 9 and 10. Various studies have indicated that only a few of the 7 are financially related for various reasons. The more financial inclusion there is in a country, the more it helps with promoting inclusive and sustainable economic development, which can reduce poverty (Pandey et al., 2022). Poverty and access to finance can be seen as barriers to financial inclusion. Financial literacy is one of the essential tools for financial inclusion, which can help people with financial knowledge on how to manage finances (Pandey et al., 2022).

The South African banking industry plays an integral role in driving sustainable development and ensuring South Africa makes enough progress in sustainable development (Xulu, 2022). Banks are seen as important for sustainability development since the investments they make and decisions they take impact the environment and society. Banks around the world, including in South Africa, are practising what I call responsible banking. This is about making responsible investments and integrating good practices around Environmental, Social and Governance (ESG) as part of their business. At the same time, new entrants called Financial Technology (Fintech) are

competing with incumbent banks in the financial sector by innovating and creating new business models that aim to provide solutions for customers within the traditional financial markets (Ulrich-Diener et al., 2023). One of the strategies that banks use to maintain a competitive advantage is by appealing to investors and society as those doing good for the environment and society (Xulu, 2022). Examples include offering customers financial products and services. This includes products and services like access to bank accounts through digital channels (Financial Sector Conduct Authority, 2022), which promote financial inclusion.

Technology has been seen to be the driver for financial inclusion. COVID-19 is an example that accelerated the adoption of digital technology across the world (World, 2025). Financial services were digitised due to lockdown reasons and to facilitate things like payments being done digitally. For people that are underprivileged and financially underserved, digital banking like mobile money has been shown to be crucial (Tay et al., 2022). Digital channels were on a fast rise during the pandemic as FinTech companies provided solutions to government, businesses and the public (Tay et al., 2022). This was an innovative and sustainable way to promote financial inclusion. Financial services offered digitally included mobile money, electronic transfers, internet banking, loans and insurance (Tay et al., 2022). This was achieved using a combination of digital technologies for reaching excluded populations (Tay et al., 2022). Studies have concluded that financial services of a digital form were a step up to the attainment of about 13 of 17 goals (Tay et al., 2022). Countries in Africa have developed FinTech using digital technology to provide fast, cheap and accessible financial services (Pandey et al., 2022). Examples include CELPAY in Zambia, M-PESA in Kenya, and WIZZIT in South Africa (Pandey et al., 2022). Financial services offered digitally are key enablers for financial inclusion and positively influence financial inclusion in sustainable ways which embody UN SDGs (Danladi et al., 2023).

From an internal perspective, banks have adopted digital transformation to meet sustainable development targets (Alojail & Surbhi, 2023). Banks have adopted financial technology for their products and services, which have a significant impact on financial inclusion (Falaiye et al., 2024). Digital transformation is the process where the whole organisation is changed, which will lead to new business models, operations, products and services in order to adopt digital technologies (Ajigini & Chinamasa, 2023). Digital

transformation is being utilised by organisations to achieve competitive advantage. Cortiñas (as cited in Ulrich-Diener, 2023) mentioned that competitors are creating new innovative concepts, products and services to address customer problems. This is seen in the financial sector, where competitors like Fintech are offering customers financial products like making and receiving online payments, which do not require a bank account. Villar and Khan (as cited in Ulrich-Diener, 2023) mentioned that other solutions include the automation of internal processes using technology like Robotics Process Automation (RPA) or Artificial Intelligence (AI) to reduce costs and leverage efficiencies. Banks can help achieve long-term sustainability goals for society by aligning it to their digital transformation strategy(Alojail & Surbhi, 2023). This makes digital transformation no longer an option but rather a way of survival given the impact on the financial sector and society(Ajigini & Chinamasa, 2023).

Banks have made huge progress to eradicate poverty and increase economic growth. Even though banks have made these strides towards financial inclusion, like access to banking products and services through digital channels, there are underbanked and underserved people that do not have access to financial services(Financial Sector Conduct, 2022). Banks must adopt sustainable ways of offering the financial services to ensure they can lower costs, which can be transferred to society by offering cheap financial services. This can be achieved by using cost-effective technology like ATMs, mobile banks, Point of Sale (POS), etc.(Pandey et al., 2022). Hence, the aim of this study is to explore sustainable digital transformation strategies that can be applied by banks for financial inclusion.

1.1.3 Context of the Study

South Africa has a banking industry which is the mostly developed within Africa (Gwatidzo & Simbanegavi, 2024). It has a number of banks operating in the country, with about 17 commercial banks, 4 mutual banks, 6 co-operative banks, 12 local branches of foreign banks and 29 foreign banks with approved location representative offices (Crowling, 2024). The banking industry in South Africa is dominated by six banks, namely Standard Bank, First National Bank (FNB), Absa, Nedbank, Investec and Capitec (BusinessTech, 2024; Gwatidzo & Simbanegavi, 2024). However, the first five

banks of the latter hold about 90% of the industry's total assets (Gwatidzo & Simbanegavi, 2024).

The banking industry in South Africa is highly regulated due to how important it is to the South African economy and being the most dominant in the financial sector. South African banks are regulated primarily by the South African Reserve Bank (SARB), which ensures the country's financial systems and the safety of depositors' money (The Bank Association South Africa, 2022). About 81% of South Africans have access to a banks account (The Bank Association South Africa, 2022). As of 2021, about 76% of adults globally have an account at a bank or regulated institution such as a credit union(United Nations, 2023).

South Africa is still faced with issues of high levels of poverty and inequality. This is due largely to high unemployment that is deeply racialised and intergenerationally transferred (Stiftung, 2024). This causes groups affected by this issue to be excluded from the economy and to not have access to funds. In terms of fees that are linked to banking products like savings accounts, about 67% of the people in South Africa still feel these are too expensive (Financial Sector Conduct Authority, 2022). Without any access to funds, the financially excluded groups cannot participate in the economy.

To close the gap for financial exclusion, there has been an emergence of new competitors for banks. They include digital-only banks like TymeBank and FinTech companies like Yoco for doing payments without needing an account, which aim to provide products and services at cheaper fees to those financial excluded. A new framework has been introduced called Financial Inclusion which is about individuals having access to appropriate, fair, sustainable, regulated and affordable financial products and services(Financial Sector Conduct Authority, 2022; National Treasury, 2023).

Banks have responded to the competition brought by FinTech, digital-only banks, and the financial inclusion framework by transforming their products and services to be offered digitally. The dominating banks in South Africa have created digital platforms that can be accessed on devices like smartphones as mobile apps. Products and services are now being sold through digital platforms instead of at bank branches, marketing is being done on places like social media, banks offer payment services for

things like flights and bills, and customer queries via the multichannel platform (Mothibi & Rahulani, 2021).

The banks are utilising digital transformation to create these new business models, which are used as a competitive advantage to service their customers better. The customer journey is digitised across all touchpoints of the banks (Mothibi & Rahulani, 2021). Products and services are being built by integrating a component of engaging with clients digitally in order to meet their needs (Mothibi & Rahulani, 2021). Internal processes are being organised to allow for innovation and experimentation and the use of digital platforms for collaboration like Jira (Mothibi & Rahulani, 2021). Banks are also practising green practises by ensuring their investments go to initiatives that save our planet by reducing carbon footprints.

Banks in South Africa are using digital transformation to create products and services that are affordable to their customers. The banks are seen as playing a major role in the economy and closing the gap of financial exclusion. Digital transformation and financial exclusion are complex issues. Digital transformation outcomes are uncertain, as the combination of these new technologies and strategies can be done in many ways(Vendraminelli et al., 2022). At the same time, banks cannot resolve the societal issues of financial exclusion alone and using old ways of doing things. Hence, a sustainable digital transformation strategy is needed to enhance financial inclusion.

1.2 Research Problem

Banks are reporting on how their business are aligned to sustainability development on environmental, social and economic issues through various ways like investing in green energy, corporate social responsibilities and introducing products or services for financial inclusion (Bindman, 2022). Banks are including economic, social and environmental factors into their strategy for performance and competitive advantage. Banks have implemented solutions to assist with financial inclusion through various solutions done through digital transformation. However, for long-term performance and impact for society, a sustainable strategy is required.

Research has shown that there is a relationship between digital transformation, financial inclusion and attainment of sustainability development goals. An example is

organisations ensuring they use digital technology like the cloud as a way of enabling energy efficiency and streamlining processes to reduce paper usage and improve energy consumption(Alojail & Surbhi, 2023) to offer affordable financial services to society. Financial inclusion and sustainable development have far-reaching benefits for society, the economy and the environment(Yap et al., 2023).

Aligning digital transformation with sustainability development goals can lead to results beyond the intended goals for the organisation that relate to social impact(Alojail & Surbhi, 2023). Hence, it is important for organisations like banks to ensure that digital transformation is prioritised to assist with the attainment of their efforts towards sustainability development goals(Alojail & Surbhi, 2023). Digital technology adoption has been identified as the enabler for financial inclusion and attainment of UN SDGs (Falaiye et al., 2024). By providing financial services in a cheap and sustainable way to the underprivileged, this improves the country's economy and eradicated poverty(Chitimira & Warikandwa, 2023). Banks need digital transformation for enhancing financial inclusion.

This research therefore explore what sustainable digital transformation strategies can be employed by South African banks for financial inclusion.

1.2.1 Research Questions

Overall Research Question (RQ): What sustainable digital transformation strategies can be employed by banks to enhance financial inclusion?

a) **RQ1:** What digital transformation strategies can banks employ for financial inclusion objectives?
b) **RQ2:** How can banks integrate sustainability into their digital transformation strategies for financial inclusion objectives?
c) **RQ3:** How can banks measure the impact of digital transformation strategies and sustainability initiatives on financial inclusion for the underserved society?

1.2.2 Rationale

Banks play a vital role in the enhancement of financial inclusion and attainment of the UN's SDGs. The big South African banks are reporting on their involvement in financial inclusion and sustainability for society. Sustainability and financial inclusion are an emergency in South Africa, which are complex to achieve. Banks cannot afford to implement sustainable strategies with their current bureaucratic processes. Banks need to align their digital transformation goals with financial inclusion objectives(Yap et al., 2023). This is to increase long-term sustainability that lead to social goals while also reaping the benefits themselves(Alojail & Surbhi, 2023). Garg and Kumar (2024) in their systematic literature review research concluded that most research papers are concentrated on the below. This is depicted in Figure 1 below.:

I. Digitalisation and sustainability
II. Financial inclusion and sustainable development
III. Information technology and customer relationship management
IV. Banks and innovation

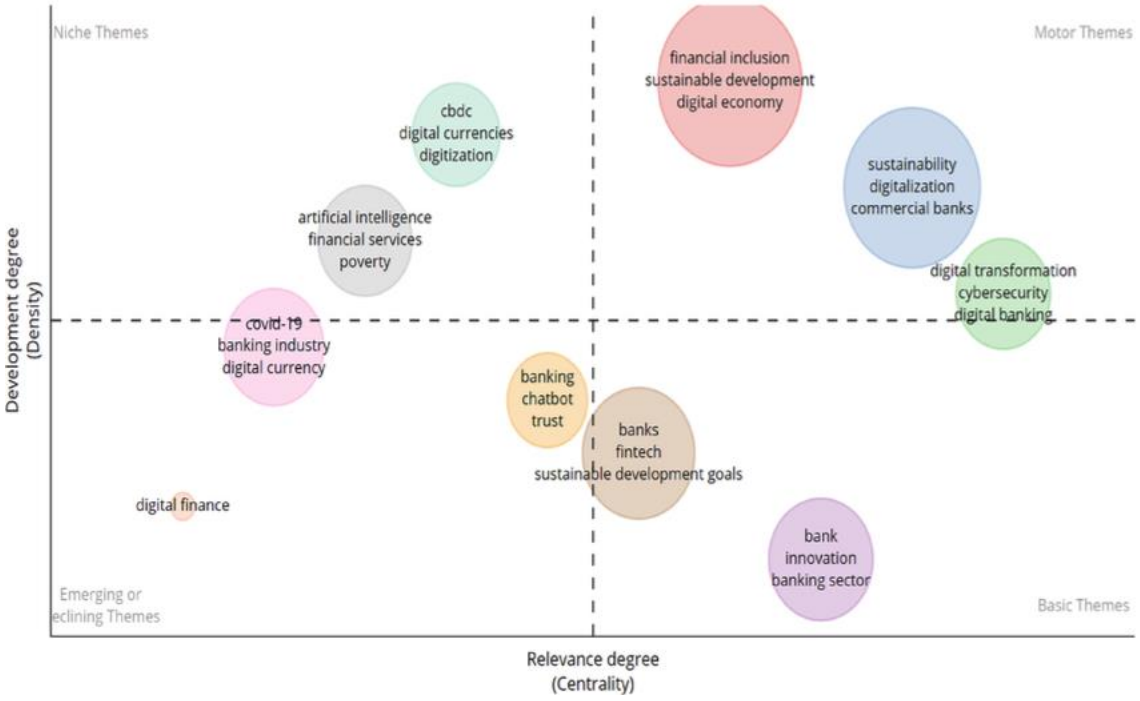


Figure 1: Digital Transformation Research Themes Source:(Garg & Kumar, 2024)

Digital transformation is a strategy that is currently being utilised by most financial services to meet customer needs like those of financial inclusion. This study contributes to research on financial inclusion, sustainable business strategy, digital transformation strategy and strategic alignment within the context of the banking industry. The study will assist banks in identifying what sustainable digital transformation strategies they can employ for financial inclusion.

1.2.3 Delimitations of the Study

The study was based on sustainable digital transformation strategies that can be employed by South African banks for financial inclusion enhancement. The study will be conducted with the five incumbent South African banks. The targeted participants for this study were in Retail and Business Banking. The participants targeted were at strategic, tactical and operational levels who are involved in digital transformation, IT, sustainability, marketing, communications, product development, innovation and customer experience.

This study focused on financial inclusion and the related 7 UN's SDG, as mentioned by World (2025) has found financial inclusion to be linked to seven of the 17 goals namely (Yap et al., 2023):

I. SDG 1 – eradicating poverty
II. SDG 2 – ending hunger and promoting sustainable agriculture
III. SDG 3 - promoting health and well-being
IV. SDG 5 - achieving gender equality and the economic empowerment of women
V. SDG 8 - promoting economic growth and jobs
VI. SDG 9 - supporting industry, innovation, and infrastructure
VII. SDG 10 – reducing inequality

The dimension for financial inclusion that this study will focus on is around (Sharma & Changkakati, 2022):

I. Usage of financial services
II. Accessibility and affordability of financial services
III. Quality of financial services

The following are digital transformation strategy inclusions and exclusions for this study:

I. Inclusions
    a. Use of technology
    b. Changes in value creation
    c. Structural changes
    d. Financial considerations
II. Exclusions
    a. Technology drivers

The following are strategy alignment inclusions and exclusions for this study:

I. Inclusions
    a. IT
    b. Employees
    c. Business Scope
    d. Strategy Competencies
    e. Governance
    f. Organisational Processes
    g. Organisational Infrastructure
    h. Organisational Skills
II. Exclusions
    a. Customers

1.3 Definition of Terms

Financial inclusion is defined as a process of ensuring financial products and services are easily accessible, available and usable for all members of society(Sharma & Changkakati, 2022). Financial Sector Conduct (2022) defines financial inclusion as all persons having timely and fair access to appropriate, fair and affordable financial products and services. The World Bank defines it as individuals and businesses having access to useful and affordable financial products and services which meet their needs(World, 2025).

In conclusion, financial inclusion is about ensuring all members of society have access to easily usable, affordable and accessible financial products and services for their day-to-day needs.

Sustainable strategy is firms incorporating sustainable strategies into their business to create long-term profit gains “by integrating economic, environmental and social activities” (Ghosh & Gupta, 2022, p. 2433). Abhishek et al. (2024) defines it as an organisation implementing a strategy in its operations in a sustainable manner. Ultimately the sustainable business strategy helps an organisation to be perceived as one of the organisations working with the UN’s SDGs (Abhishek et al., 2024).

Sustainable strategy is not just about incorporating the financial factor but also about incorporating social and environmental factors.

Digital transformation is the process where the whole organisation is changed, which will lead to new business models, operations, products and services to adopt digital technologies (Ajigini & Chinamasa, 2023). Xue, Tan and Anwar (2024) simply defined digital transformation as the “transformation brought about by digital technology”. Furr et al., Hanelt et al. and Verhoef et al. (as cited in Kowalskiet et al., 2024) defined digital transformation as the use of digital tools to build and create novel products, services, processes and business models. Gong & Ribiere (as cited in Xue et al., 2024) see digital transformation as change that is triggered by innovative use of digital technology integrated with strategic use of capabilities and resources.

Digital transformation is the effort employed by an organisation to change its business by using the latest digital technology to create innovative business models, processes, structures, products and services to sustain its competitive advantage in the market.

Digital Transformation Strategy Matt et al. (as cited in Zhang, Xu & Ma, 2023) defines a digital transformation strategy as being focused on changes in the organisation, product and processes brought about by the application of new digital technology. The stategy guides the integration and adoption of these new technologies, with the goal being digital transformation(Zhang et al., 2023). Zhang et al. (2023) defines it as a general guide to integrate and adopt digital technologies to achieve digital transformation. Mishra et al. (2023) mentioned that since digital transformation has its

complexities, digital transformation strategy is a comprehensive strategy that will help in the implementation of digital transformation in an organisation.

Digital transformation strategy is a plan that guides the implementation of digital transformation.

Strategic Alignment as coined by Henderson & Venkatraman (as cited in Puspitasari, Rahmadi & Saptadi, 2022) is the “strategic fit and functional integration between business strategy, Information Technology (IT) strategy, business infrastructure, and IT infrastructure”. It is the alignment between business strategy and IT strategy to achieve a firm’s performance (Puspitasari et al., 2022). Gerow et al. (as cited in Nicolás-Agustín, Jiménez-Jiménez & Maeso-Fernandez, 2021), further adds that it is the degree to which a company’s vision, mission and objectives are shared across the organisation and is supported by the IT strategy.

Strategic alignment in an organisation is about ensuring that the business strategy and IT strategy are integrated into one to achieve the firm’s performance.

1.4 Assumptions

The below assumptions were made for this study:

i. South African banks are on the journey of digital transformation.
ii. South African banks for this study are involved in financial inclusion and sustainability.
iii. Participants for this research understand the digital transformation journey in their respective banks.
iv. Participants for this study understand and have insights on the financial inclusion, sustainability and digital transformation strategies employed by banks
v. Participants for this study understand what strategic alignment is and have insights on how banks employ it.
vi. SDGs are sometimes referred to as ESG within banks.

1.5 Research Report Outline

The remainder of this research paper is organised as follows:

Chapter 2 describes the concepts for this research from primary scholarly sources through a literature review. The output is propositions for each theme and further explains the concepts using previously tested theories. The chapter ends with the creation of a conceptual model using the results from the literature review and the theories used.

Chapter 3 outlines the research methodology that was used to collect data, the research design in terms of what instruments were used and what methods were followed for data collection. The section also outlines the target population for the research, data analysis method and tools, quality assurance techniques used, ethical considerations and the schedule with timelines.

Chapter 4 presents the findings of this study from data collected using semi-structured interviews. The chapter further discusses the findings by linking them back to literature. The chapter ends with summarising the findings in relationship to propositions of this study.

Chapter 5 concludes this study by attempting to answer the research questions of this study using findings from the study. The chapter ends with providing recommendations through implications for the stakeholders and suggests future research.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

Chapter 1 provided an introduction of the study through the purpose, background, context, problem and research questions. It then provided the rationale, delimitations, assumptions and definitions to provide boundaries of the study. In Chapter 2 I review the study in more detail through literature and a theory to help help answer the research questions of this study. The chapter first provides a background and definitions of the dimensions based on literature. The dimensions include digital transformation strategy, financial inclusion sustainability and strategic alignment.

The chapter further debates the dimensions and its components or elements in depth using the SAM framework and literature to try to answer the research questions. Propositions are formed in each dimension section based on the literature.

Finally, the chapter proposes a conceptual framework using the SAM framework which best describes the approach that this study must follow to explore and answer the research questions.

2.2 Definition of Topic

Organisations are transforming the way that they create value. This is due to the uncertainty and the dynamic nature of the environment they operate in. Other drivers include trends like digital technologies, which can help organisations to create value in new ways. Digital transformation is a strategy that organisations use to adopt and implement new technologies into their business. Organisations are integrating digital technologies into their businesses to create value for their stakeholders (Behrens et al., 2023). Generally, digital transformation involves transforming the internal and external environment of the organisation. Morakanyane et al., Osmundsen et al., and Verhoef et al. (as cited in Abera, Marvadi & Suthar, 2024) characterised digital transformation as organisations transitioning by transforming internal operations, the products, services and communication with customers by using digital technology in innovative ways to

create value. Research has shown that digital transformation involves evaluating the organisation holistically including evaluating strategy (Xue et al., 2024)

Digital transformation is defined as a change that organisations go through to adopt and utilise new digital technologies to create value. Digital transformation is considered a strategic response to these new technologies, with other drivers being about changing customer expectations and societal needs (Zhang et al., 2023). Figure 2 shows the different drivers for digital transformation. Even though digital transformation creates value, it is a very complex process which requires a comprehensive strategy. A clear digital transformation strategy is needed to guide the journey (Zhang et al., 2023). Digital transformation strategy is there to guide organisations to manage the transformation of integrating technology into the organisation, the application of the digital technology, the change brought by technology and the successful implementation of digital transformation (Zhang et al., 2023). Digital transformation can help organisations to create and maintain a sustainable competitive advantage if managed and implemented correctly in the dynamic and turbulent environment. This means the digital transformation strategy should be flexible enough to change as things like customer needs also change. A sustainable strategy is then required in this instance. Digital transformation strategy has the following components as per research (Abera et al., 2024; Mishra et al., 2023):

1) The use of technology
2) Changes in value creation
3) Structural changes
4) Financial consideration

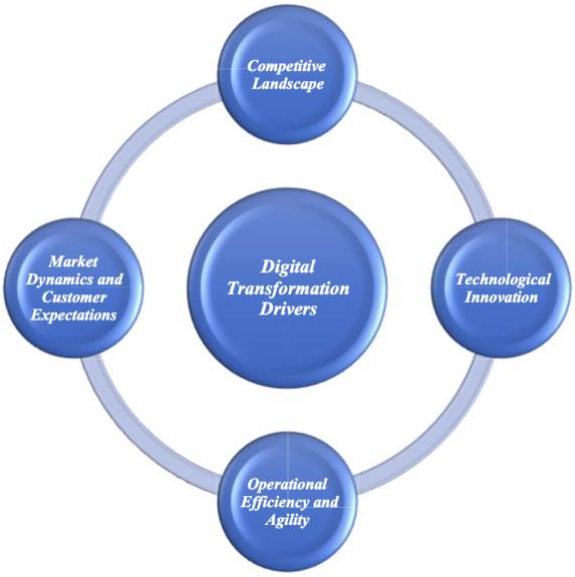


Figure 2: Digital Transformation Drivers Source: (Omol, 2023)

Financial inclusion is about all people having access to financial products and services. Sharma and Changkakati (2022) define financial inclusion as the process of ensuring there is ease of access, availability and usage of formal financial services for all members of society. According to Falaiye et al. (2024) he concluded that financial inclusion is defined as the process of providing financial services in an unbiased manner as part of promoting economic development in emerging markets. Financial Sector Conduct (2022) further mentions that affordability and fair access to financial services are important for financial inclusion. The goal of financial inclusion is for all individuals and businesses to participate in the economy. Financial inclusion is about reducing economic inequality, improve well-being for low-income earners and reduce poverty(National Treasury, 2023). Financial inclusion has three characteristics or dimensions (Ebong & George, 2021):

1) Accessibility and affordability of financial services
2) Usage of financial services
3) Quality of financial services

A sustainable business strategy is one that considers environmental, social and economic factors to create value. Organisations that take these factors into account can create sustainable strategies that bring efficiencies, generate profits and help organisations create sustainable competitive advantage (Tolentino-Zondervan & DiVito, 2024). This can also help organisation create a good reputation with its stakeholders

since their strategy choices are aligned to environmental and societal factors. The United Nations have created 17 Sustainable Development Goals (SDGs) to help with societal growth(Pandey et al., 2022). The World Bank has identified that 7 of the 17 goals are linked to financial inclusion which include the below: ((Yap et al., 2023);(World, 2025))

I. SDG 1 – eradicating poverty
II. SDG 2 – ending hunger and promoting sustainable agriculture
III. SDG 3 - promoting health and well-being
IV. SDG 5 - achieving gender equality and the economic empowerment of women
V. SDG 8 - promoting economic growth and jobs
VI. SDG 9 - supporting industry, innovation, and infrastructure
VII. SDG 10 – reducing inequality

Financial inclusion is a key driver of reducing poverty and improving economic growth(Chitimira & Warikandwa, 2023). Yap et al. (2023) concluded that financial inclusion and sustainable development are exemplified through benefits seen in economic and social aspects such as improvement of income, empowerment of women, reduction of costs for financial services and so on. Financial inclusion is a tool for sustainable development in any country like South Africa.

Digital transformation strategy, sustainability objectives and financial inclusion objectives must be aligned to the company's overall business strategy. Ismail et al. (as cited in Nicolás-Agustín, 2021) mentioned that strategic alignment is about the alignment of an organisation's business strategy and IT strategy at all levels of the organisation. Matt et al. (as cited in Nicolás-Agustín, 2021) mentioned that strategic alignment has been identified as an antecedent for digital transformation, as it is necessary for the successful implementation of the change. Strategic alignment encourages organisations to listen to the external environment to help with the analysis of the surroundings (Shaheed, Al-Hakeem, Z. Mahmood & A. Mahmood, 2023). Strategic alignment is needed for achieving the organisation's performance excellence through alignment of business strategy and IT strategy (Puspitasari et al., 2022).

Literature has identified the below four elements as being important to consider for strategic alignment (Shaheed et al., 2023):

1) IT
2) Organisational processes
3) Employees
4) Customers

The organisation can save on costs, create a good customer value proposition, improve internal processes and create a competitive advantage(Abera et al., 2024; Puspitasari et al., 2022). On the other hand, digital transformation requires large initial costs and can take time before an organisation sees the return on investment (Dhyanasaridewi et al., 2024). If digital transformation as a strategy is aligned to a business strategy linked to financial inclusion and sustainability, an organisation's performance and revenue can be created through strategies like corporate social responsibility aimed at tackling financial exclusion (Abhishek et al., 2024). Hence, the relevance of this study, which focuses on sustainable digital transformation strategies for financial inclusion, which is a social factor for sustainable strategies.

2.3 Business Strategy Alignment

2.3.1 Business Objectives and Financial Inclusion (Scope)

Organisations create new value for stakeholders by transforming their business strategy through changing their products, services and relationships using digital technology (Arifidianto, 2023). They take steps to include financial inclusion objectives by providing for the needy, small entrepreneurs and those who are unbanked with affordable financial products and services (Pandey et al., 2022). Organisations are transforming their businesses to ensure the products and services they offer are aligned to societal needs.

Organisations can align their business objectives to financial objectives in many ways. Organisations are achieving this by offering a variety of financial services that are tailored around the needs of their customers, and by responsibly delivering them at affordable ways for customers (Hashemizadeh et al., 2023). Tay et al. (2022) mentioned that increasing access to finance for families and small businesses with low incomes

contributes to financial inclusion. Financial institutions like banks must make such decisions to impact society through financial inclusion. The use of technology can be key to providing financial products and services that are affordable for society(Falaiye et al., 2024). Examples include mobile banking apps, which can save customers time going to branches and enable them to do banking in a secure manner(Shanti et al., 2023). Other benefits include improvements in customer value proposition, improved customer engagements through online access from anywhere and better customer experience through a better customer journey(Puspitasari et al., 2022).

Challenges arise when organisations need to make decisions around what and where change needs to happen in the current business model(Puspitasari et al., 2022). Choosing new markets, products or services to keep or create or stop overall, and how to satisfy different customer needs, can be a daunting task for organisations when implementing solutions for financial inclusion.

Organisations must ensure that business objectives are aligned to financial inclusion objectives for society if they are to be successful at financial inclusion. This can be done by ensuring that the financial products and services offered are tailored around society's needs, which include access to affordable financial services.

2.3.2 Sustainability in Business Strategy (Competencies)

Organisations can create unique ways of competing in the market they operate in. This allows organisations to offer products that are cost-effective and services that are efficient. Organisations are not only concerned with the financial aspect of business but are now including social and environmental goals in their strategies. A business strategy that is sustainable is one that incorporates environmental, economic and social aspects into it. Abhishek et al. (2024) further includes things like organisational culture, governance practices, innovation in selling green products, customer orientation, user satisfaction, transparency and so on. Ardiansyah and Alnoor (2024) mentioned that being involved in things like Corporate Social Responsibilities enhances alignment of social and environmental goals by engaging stakeholders, which contributes to a more sustainable and inclusive future.

From a social perspective, businesses are including stakeholder engagements to ensure they address socials issues(Ardiansyah & Alnoor, 2024). Financial institutions are reaching communities through programmes that provide awareness on financial products and services. Banks conduct financial literacy training programs to their customers to enhance financial inclusion ((Pandey et al., 2022);(Ebong & George, 2021)). This helps society to be aware of financial services that banks offer to ensure access and adoption of these products and services.

Banks are adopting multichannel strategies by providing alternative channels like using retail stores as agents, expanding ATMs to rural areas and setting lower fees for accounts to make them affordable to the underserved communities(Ebong & George, 2021). Financial institutions are using innovation to create channels to enhance financial inclusion. This includes infusing digital technology like mobile money to enhance banking as part of reaching more people and as part of increasing access and availability of financial services(Ebong & George, 2021). Banks are also reducing the number of physical branches to save of costs(Mothibi & Rahulani, 2021). The challenge is some customers still prefer walking into ATMs for assistance with their banking. Hence, banks are still improving efficiencies inside branches by using digital innovation(Ebong & George, 2021).

Banks are adopting digital technology to innovate their business. Zighan et al. (2023) mentioned that sustainable innovation is about innovation of products, processes, management practices and services, which are linked to being competitive in an environmentally friendly way. Decisions that incorporate environmental factors seem like good practice and governance that enhance growth and development for all. Organisations these days base their performance which do not just evolve around financial performance but also social and environmental performance (Ardiansyah & Alnoor, 2024).

The UN SDGs incorporate the dimensions for sustainability. It incorporates economic efficiency, social responsibility and environmental protection. Studies such as Yap et al. (2023) and World (2025) have identified 7 of the UN's 17 SDGs to relate to financial inclusion, and they include:

I. SDG 1 – eradicating poverty

II. SDG 2 – ending hunger and promoting sustainable agriculture
III. SDG 3 - promoting health and well-being
IV. SDG 5 - achieving gender equality and the economic empowerment of women
V. SDG 8 - promoting economic growth and jobs
VI. SDG 9 - supporting industry, innovation, and infrastructure
VII. SDG 10 – reducing inequality

Organisations must incorporate sustainability goals into their business strategies. This must be done by ensuring that not only financial factors are part of the business objectives but also social and environmental factors. SDGs and financial inclusion are correlated in that 7 of the 17 goals are linked to financial inclusion.

2.3.3 Business Strategy and the External Environment (Governance)

Organisations like banks operate in markets that are highly regulated to ensure there is fair trade and customers are protected. The business models are impacted due to alliances that organisations need to form with suppliers of required capabilities for financial inclusion. New ways of creating value from things like innovation require the creation of networks for creating, sharing and acquiring new knowledge on leveraging the benefits of digital technology(Abera et al., 2024).

This requires the creation of new business models which will allow for partnerships to be formed through things like contracts and joint ventures(Henderson & Venkatraman, 1994). Organisations that plan to adopt digital technology like Fintech for financial inclusion are recommended to collaborate with other FinTech companies. Collaboration with stakeholders such as financial institutions, technology providers and policymakers is required to ensure a sustainable way of implementing financial (Tay et al., 2022).

Financial institutions are recommended to constantly engage with customers by including them in their strategic process. Pandey et al. (2022) advised that financial literacy and financial initiatives are important for financial inclusiveness success and sustainable growth. Stakeholder relationships and engagements can benefit organisations positively towards financial inclusion. They can get insights and feedback on financial products and services by actively engaging stakeholders (Ardiansyah &

Alnoor, 2024). They will get a better understanding of their target markets' needs and expectations (Ardiansyah & Alnoor, 2024).

Organisations are required to form partnerships with regulators and policymakers not only within their sector but also those that promote financial inclusion. Banks must be informed and aligned to financial policies that promote sustainable development that are more inclusive financially and benefit the poor directly to increase access to sustainable financial services(Hashemizadeh et al., 2023). Financial institutions must form partnerships with the government, financial institutions, policymakers and regulators (Tay et al., 2022). This will ensure that products and services created by banks are within the policies that not only protect financial institutions but also protect society. This also ensures banks and FinTech can overcome regulatory obstacles when implementing solutions for financial inclusion. Ebong and George (2021) confirm that commercial banks will face imperfect laws, regulations, competition and shortages of skills when embarking on financial inclusion. The banks must keep up with the regulatory environment they operate in when implementing solutions for financial inclusion.

Financial institutions that are embarking on participating in financial inclusion must form partnerships with various stakeholders. This ensures that they are regularly in touch and aligned with customers, technology providers, regulators and policymakers when implementing solutions for financial inclusion.

2.3.4 Proposition 1: Business Strategy Alignment

P1a: Organisations that align financial inclusion objectives with business objectives can create financial products and services tailored around societal needs.

P1b: Organisations that align business strategies with UN SDGs, i.e., SDGs 1, 2, 3, 5, 8, 9 and 10, can enhance their impact on global sustainability and financial inclusion objectives.

P1c: Financial institutions that create partnerships with other financial institutions, FinTech companies, regulators and policymakers will ensure the creation of innovative financial services that adhere to policies and regulations that address underserved population needs.

2.4 IT and Digital Transformation Strategy Alignment

2.4.1 Digital Technology Adoption for Financial Inclusion (Scope)

The new digital technology is being adopted by financial institutions to deliver financial services. Several countries have adopted digital technology as a way to provide financial services in a cheap, fast and accessible manner (Pandey et al., 2022). Digital technology is being utilised to reach all people, including the underserved. FinTech is used to deliver, improve and automate the delivery of financial services, which in turn enhances access to financial services(Pandey et al., 2022). Examples of technology adopted include ATMs, the internet, and mobile cellular subscriptions(Falaiye et al., 2024). In addition to this is technology that include Point of sale, internet banking, and mobile banking, which are gateways for financial inclusion(Falaiye et al., 2024).

Mobile money has been seen to contribute to financial inclusion by assisting societies with performing various financial activities(Ebong & George, 2021). This includes facilitating payments and remittances and access to credit, savings and loans(Ebong & George, 2021). This makes it easy for those in rural areas to have access to financial services wherever they are and in a cheap way. For the business strategy, the benefits are the new products and services created using digital technology, which can set the organisation apart from its competitors by creating a competitive advantage. This is because digital technology can allow organisations to improve the quality of their products and services (Shanti, Siregar, Zulbainarni & Tony, 2023).

Digital technology adoption has been seen to have a positive impact on financial inclusion. Digital technology allows financial institutions to be able to standardise products and services for their customers(Ebong & George, 2021). Fintech enhances financial inclusion and SDGs in Africa as Fintech increases in adoption. FinTech can simplify and reduce the costs of building financial services, which are then transferred to customers through cheap access(Danladi et al., 2023). Digitalising products and services have the benefits of lowering costs, increasing access to financial services, rapidly developing solutions and the ability to reach underserved communities as part of enhancing financial inclusion.

Organisations that adopt digital technology can set themselves apart from competitors. Digital technology can enhance financial inclusion by allowing organisations to develop products and services in a cheap and fast way. Digital technology allows the underserved communities to access financial services in a cheap and fast way. Choosing the right digital technology to use for financial inclusion should be based on customer needs.

2.4.2 Digital Solutions for Financial Inclusion (Competencies)

Financial institutions have adopted digital technology for creating solutions that are aimed at financial inclusion. The solutions are built to improve customer experience and provide services that are used in their daily lives. One technology that has dominated the world, especially Africa, is mobile banking. Mobile banking has been shown to be the foundation of financial inclusion in developing countries (Tay et al., 2022). This is when banks provide banking services through applications that can be accessed via mobile devices. This helps in ensuring that those in rural areas and the underprivileged can bank digitally. Banks are creating more than one channel for customers to access banking services and products. Using FinTech, banks were able to create digital channels as part of promoting global financial inclusion, especially during the COVID-19 pandemic. Mobile banking has been shown to be the foundation of financial inclusion in developing countries (Tay et al., 2022).

The adoption of the digital solution as part of financial inclusion is critical. Studies have shown that adoption can be increased through education and awareness of these solutions. Mobile banking has been shown to be the foundation of financial inclusion in developing countries (Tay et al., 2022). This has ensured that access to financial services increases as banks do more financial education in communities. FinTech has been shown to be a crucial enabler for financial inclusion(Falaiye et al., 2024). Other solutions include using store outlets and network providers as agents for financial solutions. Banks have partnered with store outlets and network providers to deliver mobile money solutions such as credit and insurance, especially in low- and middle-income countries, thus expanding financial access to communities(Ebong & George, 2021).

The challenges with using digital technology for financial inclusion solutions are around the security of people's data and regulation hurdles. Since banks are dealing with people's information and data, regulations and policies can be a barrier for implementing the solutions. The challenges are then summarized by Falaiye et al. (2024) as the following:

1) Data Security and Privacy concerns
2) Regulatory hurdles and uncertainties
3) Digital literacy and education
4) Infrastructure limitation and connectivity issues

Despite these challenges, there has been progress made in digital technology to overcome these challenges. Governments are creating policies and laws that favour all, including FinTech, financial institutions and the people. There have been improvements within organisations through digital transformation to overcome these challenges(Falaiye et al., 2024).

2.4.3 Sustainability in Digital Strategy for Financial Inclusion (Governance)

Financial institutions are now including sustainability in their strategies. Banks are modifying their businesses to incorporate social, environmental and economic factors to create new business models(Garg & Kumar, 2024). Digital technology is being used to create financial solutions in a sustainable manner. Garg and Kumar (2024) summarised the sustainable considerations below:

1) Economic: operations have been made to be efficient through automation using digital technology
2) Environmental: more operations are being done digitally to reduce paper consumptions and increase energy efficiency
3) Social: customers are being considered where banks are ensuring they increase customer satisfaction, increase financial access and ensure customer engagements through financial literacy programmes.

Digital solutions built towards financial inclusion do impact the UN's SDGs in several ways. The products and services built using digital technology are aimed at products

that society needs, like payments, savings, insurance and credit as examples (Ebong & George, 2021). This in turn enables people like women, the poor, farmers, and youngsters to access financial services (Falaiye et al., 2024). Solutions like mobile money have become increasingly used for enhancing financial inclusion in a sustainable manner. Iqbal & Sami, El-Zoghbi and Ogden (as cited in Ebong and George (2021)) concluded that enhancing financial inclusion impacts economic growth, poverty, welfare and inequality in a positive way.

Digital transformation comes with its own risks to the organisation, and if not managed correctly, it might cost the company. Digital solutions like Regulatory Technology (RegTech) are now being used by organisations to keep up with the latest regulations (Shanti et al., 2023). Challenges can be ensuring the digital solutions are constantly evolving to meet ever-changing customers' needs. Organisations need to ensure digital investments yield the correct gains for the organisation and for the customer. The value of digital transformation may take long to be realised due to its uncertain outcomes, which might cause problems for organisations to realise cost savings, which can have an impact on the company's earnings (Dhyanasaridewi et al., 2024; Vendraminelli et al., 2022). In addition, digital solutions geared towards sustainability require effort and collaboration not only nationally in a country but also from around the globe (Tay et al., 2022).

Despite the challenges encountered with digital technology as part of financial inclusion, most issues can be resolved by using digital technology. For digital technology to promote financial inclusion in a sustainable manner, a number of things need to be in place, which includes promoting a regulatory environment, ensuring people can access digital infrastructure, and literacy on finances and digital through awareness programmes, and ensuring inclusivity in the digital solutions(Danladi et al., 2023). Social, environmental and economic factors must be considered to create long-term sustainable solutions (Zighan et al., 2023).

2.4.4 Proposition 2: IT and Digital Transformation Strategy Alignment

P2a: The adoption of digital technology by financial institutions can enhance financial inclusion that provides accessible, usable and quality financial services for the underserved populations.

P2b: Mobile banking financial technology is a foundational technology for financial inclusion for the underserved populations.

P2c: Financial and digital literacy programmes for the targeted underserved populations can enhance the adoption of digital financial solutions and promote inclusivity.

P2d: Financial institutions that integrate sustainability dimensions (environmental, social and economic) into their digital strategies can create business models that enhance financial inclusion.

2.5 Digital Transformation Strategy and Business Organisation

2.5.1 Digital Transformation and Organisational Infrastructure

Digital transformation brings about change in the infrastructure of the organisation. It introduces a change in the way people work, the reporting structure and new roles in how value is delivered (Arifidianto, 2023). Digital transformation impacts the operating environment and creates new business models for operating (Abera et al., 2024). Banks are changing their infrastructure to fit with the financial inclusion objectives as a part of the new digital strategy. Financial inclusion and digital transformation changes business models of organisations to accommodate new value creation, organisational tasks and how business is done (Verhoef et al., as cited in (Ellström et al., 2021)). Infrastructure changes brought about in the business impacts efficiency where there will be cost savings and operations are made to be efficient. This is sustainable ways where resources are used efficiently and waste is reduced. Kandampully et al. (as cited in (Ardiansyah & Alnoor, 2024))

Companies are organising teams to embrace digital technology and innovation to facilitate successful delivery of digital transformation. New organisational structures from

an internal perspective are involved in digital transformation for creating and capturing new value (Kowalski et al., 2024). Challenges arise due to existing legacy systems and integration complexities, which can hinder transformation (Omol, 2023). Organisations can find themselves battling to integrate new technologies due to the existing legacy infrastructure, which makes digital transformation challenging and consumes resources and time (Omol, 2023). Organisations need to redesign organisational structures to fit the new digital transformation strategy (Dhyanasaridewi et al., 2024). Organisations may lack the required resources to implement digital solutions, which may require large investments and time.

Organisations must modify their existing infrastructure for digital transformation strategies and financial inclusion objectives to be integrated successfully into the business. The organisational infrastructure must be modified to facilitate the implementation of digital transformation for financial inclusion objectives (Dhyanasaridewi et al., 2024).

2.5.2 Digital Transformation and Organisational Processes

Organisations are transforming their internal operations to create additional value for its customers(Abera et al., 2024). Organisations are rethinking their internal processes and systems for creating products and services(Arifidianto, 2023). Banks have modified their internal operations to facilitate business strategies for financial inclusion. New financial products and services created using digital technology necessitate rethinking the internal processes. This is done through using digital technologies to automate processes to increase efficiency and reduce costs for running each process(Mothibi & Rahulani, 2021). Old processes that are being done manually are now being replaced by automated and streamlined processes to assist businesses in improving efficiencies and productivity, leading to external value creation(Behrens et al., 2023).

Digital transformation assists organisations to accelerate and standardise business processes, tasks and activities for financial inclusion. This leads to customers receiving services that are as fast, simple and efficient as possible(Mazikana, 2023). Challenges that can arise are around resistance to change, legacy processes and existing organisational cultures. Digital transformation journeys can be met with resistance from

existing cultures, which can be an issue(Omol, 2023). Changing people's mindsets, attitudes, behaviours and approaches can be a daunting task (Omol, 2023). This can prolong the benefits from digital transformation that include cost savings, improved efficiencies, personalised experiences that meet customer expectations, eliminated manual tasks and long-lasting flexible operations(Behrens et al., 2023).

Digital technology can bring efficiencies for the company, which can set them apart in the environment they operate in. Digitalising operations can allow companies to reduce operation costs through automation(Mothibi & Rahulani, 2021). Thus, transferring cost savings to customers through low fees (Mothibi & Rahulani, 2021). Financial products and services will then be offered at a low cost to customers, which will make them accessible and affordable. Organisations are saving on operating costs on physical buildings due to offering products and services via digital platforms that allow them to differentiate themselves from competitors (Shanti et al., 2023).

Digital transformation can benefit organisations by improving internal processes through automation and leveraging of digital technology excellence. This will ensure processes are streamlined and automated, which will eliminate manual work (Behrens et al., 2023).

2.5.3 Digital Transformation and Organisational Competencies

Organisations require the right skills and resources to successfully implement digital transformation. Digital technologies require specialised skills "to develop novel products, processes, business models and services" (Kowalski et al., 2024). This includes training internal staff to ensure they can use the new technologies or solutions built using the digital technology. The workforce must be transformed and expanded to ensure it is equipped with the necessary digital skills to ensure its effective use(Arifidianto, 2023).

Digital technology presents challenges to organisations by creating skills gaps. This means organisations need to hire new talent to fill in this gap. However, since the digital technologies are new, only a few are skilled out there, which then makes the skilled professionals scarce and on demand(Omol, 2023).

Organisations must modernise their workforce by upskilling their current employees and attracting the right talent to bridge the digital skills gap(Omol, 2023).

2.5.4 Proposition 3: Digital Transformation Strategy and Business Organisation

P3a: Organisations must transform their infrastructure to integrate digital transformation strategies for financial inclusion objectives.

P3b: Transformed organisational infrastructure to support digital strategies enhances operation efficiencies, reduces costs and contributes to sustainability goals for financial inclusion.

P3c: Organisations that leverage digital technology for transforming processes can reduce operational costs and provide cost savings for providing products and services that are more accessible and affordable.

P3d: Organisations must invest in modernising their workforce by continuously training and upskilling on digital competencies for long-term sustainability.

2.6 ANALYTICAL FRAMEWORK

2.6.1 Strategic Alignment Model Framework

The Strategic Alignment Model (SAM) is a framework that can be used by organisations to ensure that there is linkage between the business strategy and the IT/IS strategy. It is a model that can be used by organisations to successfully achieve strategic alignment between business and IT(Gartlan & Shanks, 2007). Henderson and Venkatraman (1994) created the model to state that success in a business is achieved through the integration of four domains, namely business strategy, IT strategy, organisational infrastructure and processes, and IT infrastructure and processes (Gede & Huluka, 2023; Henderson & Venkatraman, 1994) (Avison, Jones, Powel & Wilson, 2004). The model can be used to successfully implement the business and IT strategies to create and sustain a competitive advantage. It has been stated through literature that businesses cannot be successful if their business and IT strategies are not aligned(Avison et al., 2004). The model ensures that the business and IT strategies achieve the same goals for the organisation that are aimed at maximising profits through effective implementation of IT(Avison et al., 2004). Figure 3 below shows the framework as adapted from SAM which underpins this study(Zhao et al., 2023). The framework

respects Henderson and Venkatraman's original model, reflecting it in today's digital time by substituting I/T with IT/IS Digital in the I/T domain.

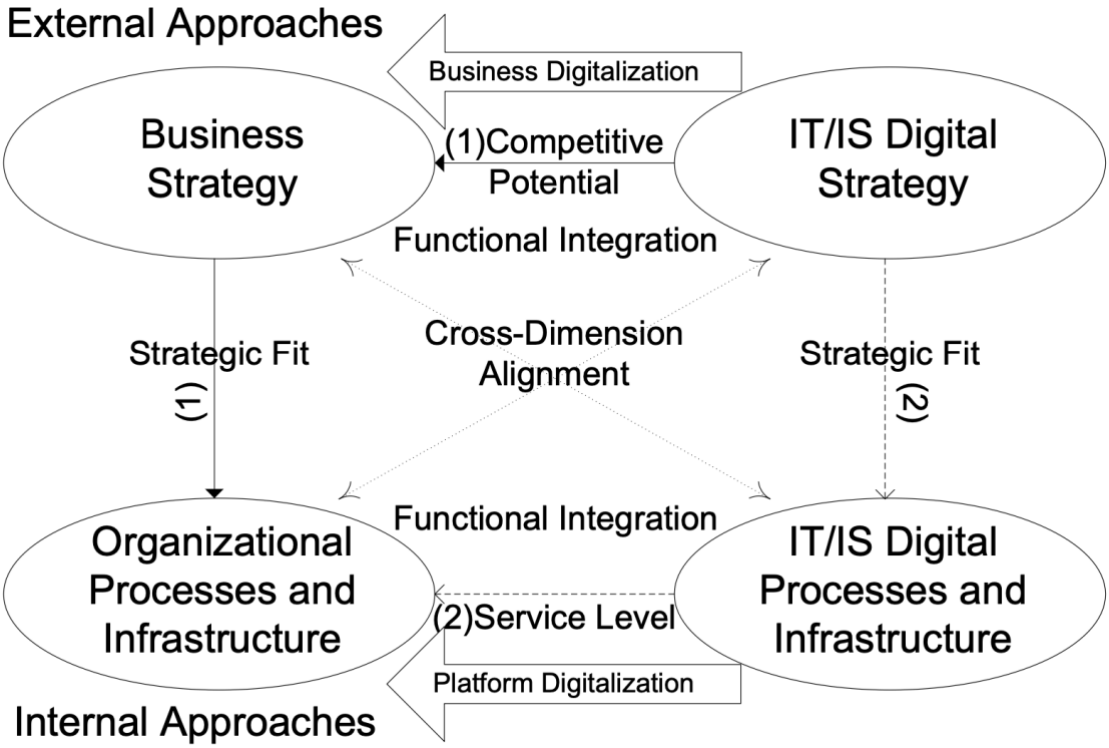


Figure 3: Digital transformation strategic path based on SAM Source: (Zhao et al., 2023)

The model shows two strategic perspectives, which are strategic fit that integrates external and internal domains, and functional integration, which aligns business and IT/IS digital domains(Avison et al., 2004). Strategic fit ensures that the organisation aligns its strategies (whether from a business or digital perspective) with the organisation's operations effectively. Functional integration ensures the organisations align the function of IT/IS digital effectively with the business or organisation. The cross-dimension alignment emphasises that neither business strategy nor IT/IS digital strategy alone is enough for the organisation (Avison et al., 2004; Henderson & Venkatraman, 1994). Overall, the strategy is driven either from a top-to-bottom or from bottom-up perspective(Avison et al., 2004). Each component has the below characteristics(Avison et al., 2004):

1) External Perspective
    a) Scope
    b) Competencies

c) Governance

2) Internal Perspective
   a) Infrastructure
   b) Skills
   c) Processes

The framework as part of this study will ensure that South African banks assess, creates and sustains alignment between the digital transformation strategy and the business strategy for financial inclusion (Avison et al., 2004). Digital transformation is being introduced as a new strategic initiative to implement the strategy successfully and in a sustainable and dynamic manner. Hence, Figure 3 is fitting in this regard as it is driven from the IT/IS digital perspective going into the business or organisation, which is reflecting the patterns that digital transformation strategy can follow (Zhao et al., 2023). This includes business digitalisation, which is about the bank transforming its external strategy (i.e., digital customer experience, digital marketing, customer engagements through digital channels, etc.) using digital transformation for competing, and platform digitalisation, which is about transforming internal processes or operations (i.e., innovation, collaboration, automation, etc.) to improve on delivery (Mothibi & Rahulani, 2021; Zhao et al., 2023). These are depicted in Figure 3 as 'Competitive Potential' and 'Service Level respectively(Zhao et al., 2023).

2.6.2 Conceptual Framework

Figure 4 below shows the conceptual framework that emerged by adopting the SAM framework, which is the theoretical framework of this study. It depicts the different variables from strategic alignment in which digital transformation strategy and business strategy must align for financial inclusion.

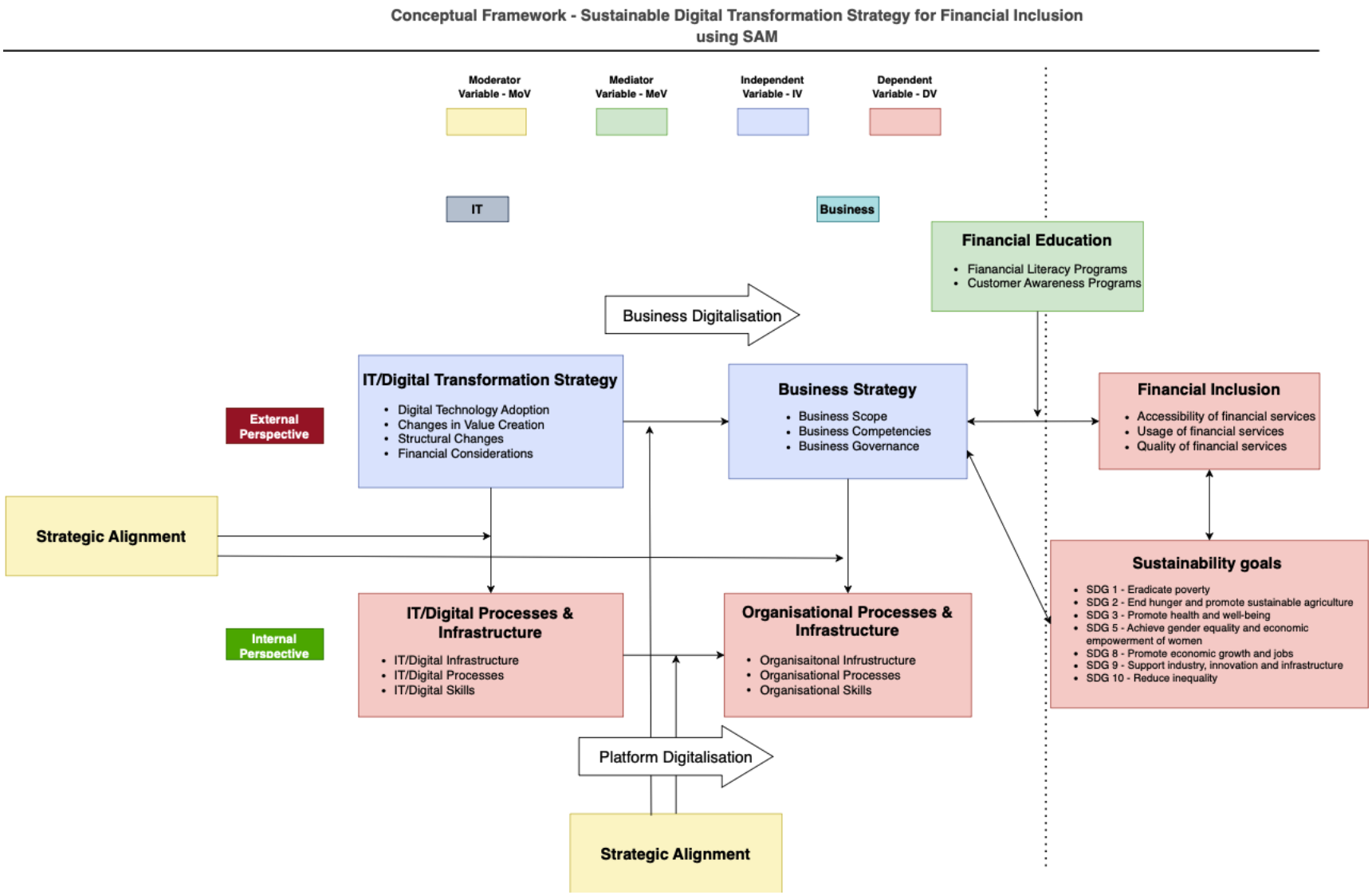


Figure 4: Conceptual framework based on SAM (Source: Created by author)

2.7 Conclusion of Literature Review

In Chapter 2, digital transformation strategy, sustainable business strategy and strategic alignment were discussed in-depth using literature. The sections discussed the integration of financial inclusion objectives and sustainability. The SAM framework was used to underpin this study to assist with the literature review and attempt to answer the research questions. Digital transformation strategy and business strategy were linked using the below strategic alignment components and characteristics(Avison et al., 2004):

1) External Perspective
    a) Scope
    b) Competencies
    c) Governance
2) Internal Perspective
    a) Infrastructure
    b) Skills
    c) Processes

Digital transformation and business strategy must be aligned for organisations to meet the financial inclusion objectives. Digital transformation can be used to improve an organisation's performance by transforming the internal and external perspective of the organisation. This includes transforming products, services, infrastructure, processes and skills. Financial education is a mediating variable between business strategy execution and financial inclusion for society.

Digital transformation strategy alignment to business strategy comes with its own challenges, including constant evolution of digital solutions to ensure they still meet customers' needs, existing legacy systems and integration complexities which can hinder transformation(Omol, 2023), and resistance to change. The SAM framework adopted in this study assisted with highlighting the importance of strategic alignment and factors that organisations need to consider when implementing a sustainable digital transformation strategy for financial inclusion.

A conceptual framework emerged which best describes how the SAM framework can be adopted to create a sustainable digital transformation strategy for meeting financial inclusion objectives. The literature review created propositions which can be used to answer the research questions of this study. The below propositions will be tested and validated using the qualitative approach:

2.7.1 Proposition 1: Business Strategy Alignment

P1a: Organisations that align financial inclusion objectives with business objectives can create financial products and services tailored around societal needs.

P1b: Organisations that align business strategies with UN SDGs, i.e., SDGs 1, 2, 3, 5, 8, 9 and 10, can enhance their impact on global sustainability and financial inclusion objectives.

P1c: Financial institutions that create partnerships with other financial institutions, FinTech companies, regulators and policymakers will ensure the creation of innovative financial services that adhere to policies and regulations that address underserved population needs.

2.7.2 Proposition 2: IT and Digital Transformation Strategy Alignment

P2a: The adoption of digital technology by financial institutions can enhance financial inclusion that provides accessible, usable and quality financial services for the underserved populations.

P2b: Mobile banking financial technology is a foundational technology for financial inclusion for the underserved populations.

P2c: Financial and digital literacy programmes for the targeted underserved populations can enhance the adoption of digital financial solutions and promote inclusivity.

P2d: Financial institutions that integrate sustainability dimensions (environmental, social and economic) into their digital strategies can create business models that enhance financial inclusion

2.7.3 Proposition 3: Digital Transformation Strategy and Business Organisation

P3a: Organisations must transform their infrastructure to integrate digital transformation strategies for financial inclusion objectives.

P3b: Transformed organisational infrastructure to support digital strategies enhances operation efficiencies, reduces costs and contributes to sustainability goals for financial inclusion.

P3c: Organisations that leverage digital technology for transforming processes can reduce operational costs and provide cost savings for providing products and services that are more accessible and affordable.

P3d: Organisations must invest in modernising their workforce by continuously training and upskilling on digital competencies for long-term sustainability.

2.8 Summary of Literature Review

Banks are utilising digital transformation is a strategic response to the dynamic changes to technology. The integration of new digital technology is aimed at creating new value for stakeholders. Financial inclusion ensures that the underprivileged and previously disadvantaged get access to affordable, accessible and quality financial services linked to 7 UN SDGs. Sustainability combines economic, social and environmental factors which ensures long terms competitive advantage.

Banks must align business and IT strategies to successfully integrate digital transformation, sustainability factors and financial inclusion objectives. The SAM framework must be adopted to successfully align digital transformation and business strategy.

The key major findings from literature using the SAM framework were the following:

1. Business Strategy Alignment
    a. Organisation that algin financial inclusion objectives with business objectives that include sustainability linked strategies will create products and services that meet societal needs

   b. Banks that create partnerships with other financial institutions, FinTech companies, regulators and policy makers will create products and services that meet societal needs
2. IT and Digital Transformation Strategy Alignment
   a. The adoption of digital technology such as mobile technology can enhance financial inclusion for the underserved populations
   b. Financial and digital literacy programmes can enhance the adoption of digital financial products and services
3. Digital Transformation Strategy and Business Organisation

   Organisations must transform their infrastructure, processes and workforce to successfully integrate sustainable digital transformation strategies for financial inclusion

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

Chapter 2 presented literature review for this study. It outlined the analytical framework used to create the conceptual framework, and propositions which assisted with answering the research question.

This chapter outlines the research methodology used to obtain participants and collect data for this study. The chapter also presents the participant demographic profiles. The chapter ends with ethical considerations when participants were identified and interviewed.

3.2 Research Approach

This research employed a qualitative research approach to assist with addressing the research questions. Qualitative research best suited this study, as it explored the “how” and “what” of the phenomenon being studied by examining individuals’ understanding and experiences of sustainable digital transformation in their companies. In the context of this study, I aimed to understand how participants perceive and experience digital transformation and its connection to financial inclusion and sustainability. Thus, exploring how the participants make sense of the concept in their working environment and reflect the realities in a narrative form (Laryeafio & Ogbewe, 2023).

The qualitative approach ensured that it captured diverse perspectives from the different banks, creating an understanding of the nature of the concept in the South African banking sector.

3.3 Research design

The research employed semi-structured interviews that contained 12 questions centred around the research concepts of this study. The interviews helped with exploring individuals’ experiences and perceived understandings of sustainable digital transformation strategies by their banks for financial inclusion within their working

environment. Semi-structured interviews ensured that the questions were open-ended and allowed for flexibility to ask further questions (George, 2022).

The advantage of the design ensured I collected primary data from individuals to strengthen the outcomes of this research. The technique is aligned to the qualitative paradigm of this study since it is qualitative in its nature (Bowen, 2009; George, 2022).

3.3.1 Data collection methods

The primary data was collected from participants through semi-structured interviews. The interviews ensured it captured the individuals' experiences and perceptions of the reality of the concept in their working environments. The interviews were recorded with the consent of the participants through Microsoft Teams which produced transcripts used for further analysis.

3.3.2 Population and sample

3.3.2.1 Population

The target population for this study consisted of employees from various South African banks. The study targeted participants that operate at strategic, tactical and operational level. The targeted participants were involved in strategy, payments, digital transformation, IT, marketing, innovation and customer experience. The rationale for selecting the participants was that they work at a South African bank and at levels that are closer to the strategy for the concepts being studied (BusinessTech, 2024; Gwatidzo & Simbanegavi, 2024).

The accessible population were Heads, Executive heads and leads in the retail and business banking cluster. The business areas were in technology, operations, strategy and customer experience. Participants work experience were over 10 plus years in their respective fields. The sample was selected from my personal network, respondent acquittances and friends. The rationale for using the sampling method is the difficulty in getting participants from banks (Makwana et al., 2023)

3.3.2.2 Sample and sampling method

The sampling method used in the study was the snowball sampling method since it is difficult to obtain participants from banks. The participants were contacted through referrals from acquaintances and participants who work at the banks(Abbas, 2024). The number of participants that were interviewed was 16. The reason for this number of participants is because the study is exploring a broad topic which requires a broad range of perspectives, and it is an interview-based qualitative study which requires a moderate sample size (Mocănașu, 2020). Saturation was achieved on the 16 respondents as any further interview of more participants would not result in any new information (Mocănașu, 2020). Finally, Adler & Adler (as cited in (Mocănașu, 2020)) recommend a small size if the accessibility to the population is limited.

The sampling technique employed was exponential discriminative snowballing sampling (Mocănașu, 2020). The participants were chosen based on the below criteria:

1) **Sector and Country – South** African banking sector
2) **Bank Cluster -** The bank clusters that were aimed at were:
    a) Retail
    b) Business Banking
3) **Job Titles and Teams – The** targeted population were participants with job titles or belonging to teams:
    a) Chief Digital Officer (CDO)
    b) Chief Information Officer (CIO)
    c) Chief Sustainability Officer (CSO)
    d) Chief Technology Officer (CTO)
    e) Head of ESG
    f) Executive IT Heads
    g) Executive Sustainability Head
    h) IT Managers
    i) Sustainability Managers
    j) Sustainability Teams
    k) Customer Experience Team
    l) Product Development Managers
    m) Innovation and Research & Development Teams

n) Marketing and Communications Team

Table 1 below shows the demographic profiles of the participants that were accessed successfully:

Table 1: Participant Demographic Profiles

Participant	Role	Role Level	Years of Experience	Area
Participant 1	Head	Tactical	25	Payments
Participant 2	Senior	Tactical	17	Operations
Participant 3	Manager	Tactical	14	Marketing
Participant 4	Manager	Strategic	10	Marketing
Participant 5	Head	Strategic	14	Customer Experience
Participant 6	Lead	Tactical	12	Operations
Participant 7	Chief Executive	Strategic	23	Technology
Participant 8	Head	Strategic	16	Technology
Participant 9	Lead	Tactical	17	Technology
Participant 10	Head	Strategic	15	Operations
Participant 11	Head	Strategic	28	Marketing
Participant 12	Head	Strategic	18	Operations
Participant 13	Executive Head	Strategic	21	Strategy
Participant 14	Executive Head	Strategic	20	Operations
Participant 15	Head	Strategic	20	Operations
Participant 16	Head	Strategic	18	Customer Experience

3.3.3 The research instrument

The research used a semi-structured interview questionnaire for interviewing participants. The interview contained 12 questions constructed around the dimensions of this study, namely digital transformation, sustainability and financial inclusion. The interview questions were also constructed using propositions, research questions,

literature review and the SAM framework for this study. The questions were open-ended to ensure they are qualitative to capture individuals' perceptions and understanding of the realities of the concepts in their organisations.

The questionnaire can be found in Appendix A.

3.3.3.1 Procedure for data collection

Acquaintances who know people that work at the targeted South African banks referred people to participate in the study. The study used LinkedIn, WhatsApp, phone calls and emails to connect with participants. The necessary consent was obtained from participants using the Consent Form as seen in Appendix B. Participants were asked to advise on their preferred mode of conducting the interview, which included face-to-face, conference calls or telephonic interviews. The participants were asked for permission to record the interviews for analysis purposes.

Appendix A contains the instrument to collect the data.

3.3.3.2 Data analysis strategies and interpretation

Thematic analysis was used to capture the common themes from the interview transcripts(Ardiansyah & Alnoor, 2024). ATLAS.ti assisted in identifying, categorising and interpreting the transcripts of the interviews into the themes of this study(Hotjar, 2022). The transcripts from the recorded interviews were analysed using the ATLAS.ti tool(Wilson & Birmingham, 2003). Deductive thematic analysis was used to analyse the interview transcripts to determine the existence of the themes of this study(Ghosh & Kulkarni, 2024).

The data steps followed to analyse the data used the Braun and Clarke (2006) steps which are the follwoing:

1. Read through the transcripts to familiarise yourself the data
2. Create initial codes as adapted from the literature review
3. Search the data to see if the themes exist
4. Reviewed any potential themes additional to the ones for the study
5. Define and name the themes to assist with presenting the findings
6. Write up of the findings in relation to the themes and literature.

3.4 Limitations and challenges of the study

The interpretivism paradigm for this study limits the conclusion to being based on subjectivity, which is the perceptions and experiences of individuals for a concept being researched (Yong, Husin & Kamarudin, 2021). Interpretivism knowledge collected is not universal, or individuals' perceptions deemed universally correct(Rehman & Alharthi, 2016). Semi-structured interviews provide less control over what information is required for the study since participants can answer based on their own experiences, which could be bias(George, 2022).

The population and sampling of the study are limited to employees and do not include experiences of customers. Only employees that meet certain specific work-level criteria were considered for this study. The analysis tools are limited to subjectivity, and they might not consider the context of what the study is about (Hotjar, 2022). Only specific themes and keywords are searched for and analysed.

The SAM model does not provide a process of how the alignment can be implemented by organisations. It is mainly about stressing the importance of aligning business to IT from a theoretical perspective.

3.5 Quality Assurance

3.5.1 Transferability

The study used the snowballing sampling method for getting participants in South African banks. The study employed deductive thematic analysis for reviewing the interview transcripts of the 16 participants. A qualitative research approach using semi-structured interviews to capture individuals’ perception and experience of the concepts was employed. The SAM framework was employed to conceptualise this study. The results of this study can be used by other organisations within or outside of South Africa and the banking sector.

3.5.2 Credibility

The study ensured that questions are relevant to the elements of the conceptual framework, which includes business strategy, digital transformation strategy and strategic alignment.

3.5.3 Dependability

The study is of a qualitative nature that was designed around interpretivism ontology that states that different realities exist about a phenomenon(Ayton & Tsindos, 2023). The study employed semi-structured interviews which captured individuals' unique experiences of the concepts in this study. This ensured the results of this study are subjective, as participants shared their stories and experiences based on their own perceptions of the realities of digital transformation strategies. This ensured participants are from different banks in South Africa. It also ensured their titles spanned across different levels and departments within the bank they worked for to implement solutions for financial inclusion.

3.5.4 Confirmability

The study ensured the responses from participants are unique since semi-structured interview guides were used as a research instrument. Further probing for clarity from participants through questions was employed. Semi-structured interviews allow for flexibility to ask further questions (George, 2022). This ensured the experiences and perceptions of the concepts are not of the researchers (Treharne & Riggs, 2017). The participants were asked for consent to record, in which the ATLAS.ti tool was used to analyse the transcripts.

3.6 Ethical considerations

Consent from participants was received voluntarily prior to interview(Laryeafio & Ogbewe, 2023). Participants were taken through the format of the interview and the concepts which will be covered through a participant information sheet (Laryeafio & Ogbewe, 2023). Permission was requested from participants to record the interview session for analysis purposes, which was kept in the university's password-protected

OneDrive folders. The participants were informed that individual responses will be used for exploratory and research purposes. The study ensured that there is anonymity of the participants, and no personal details will be mentioned in the results to ensure there is no identification of the participants(Laryeafio & Ogbewe, 2023).

The participants were treated with respect and trust regardless of their title, background, title level and beliefs (Mirza et al., 2023).

CHAPTER FOUR: FINDINGS AND DISCUSSION

4.1 Introduction

Chapter 3 provided the research methodology used in this study. The chapter outlined the method used to obtain participants and collect data for this study. The chapter also presented the participant demographic profiles. The chapter ended with ethical considerations ensured when identifying and interviewing participants.

This chapter presents the summarised findings from the participants' interview responses. These are further discussed by linking them back to literature. The study presents findings that aim to address the main research question which is ***"What sustainable digital transformation strategies can be employed by banks to enhance financial inclusion?"***

The participants' interview extracts were analysed and compared to defined themes using deductive thematic analysis(Ghosh & Kulkarni, 2024). This was guided by the conceptual framework of this study, adapted from the Strategic Alignment Model (SAM) framework.

Table 2 presents a summary of the components, elements and propositions used to present the findings in this section.

Table 2: Sustainable Digital Transformation Components (Source: Created by author)

Sustainable Digital Transformation Component	**Sustainable Digital Transformation Element**	**Proposition**
Business Strategy Alignment	Business Objective and Financial Inclusion (Scope)	P1a: Organisations that align financial inclusion objectives with business objectives can create financial products and services tailored around societal needs.
	Sustainability in Business Strategy (Competency)	P1b: Organisations that align business strategies with UN SDGs i.e. SDG 1,2,3,5,8,9 and 10 can enhance their impact to global sustainability and financial inclusion objectives.

Sustainable Digital Transformation Component	Sustainable Digital Transformation Element	Proposition
	Business Strategy and the External Environment (Governance)	P1c: Financial institutions that create partnerships with other financial institutions, FinTech companies, regulators and policymakers will ensure creation of innovative financial services that adhere to policies and regulations that address underserved population needs.
IT and Digital Transformation Strategy Alignment	Digital Technology adoption for Financial Inclusion (Scope)	P2a: The adoption of digital technology by financial institutions can enhance financial inclusion that provides accessible, usable and quality financial services for the underserved populations.
		P2c: Financial and digital literacy programs for the targeted underserved populations can enhance the adoption of digital financial solutions and promote inclusivity.
	Digital Solutions for Financial Inclusion (Competencies)	P2b: Mobile banking financial technology is a foundational technology for financial inclusion for the underserved populations.
	Sustainability in Digital Strategy for Financial Inclusion (Governance)	P2d: Financial institutions that integrate sustainability dimensions environmental, social and economic into their digital strategies can create business models that enhance financial inclusion.
Digital Transformation Strategy and Business Organisation	Digital Transformation and Organisational Infrastructure	P3a: Organisations must transform their infrastructure to integrate digital transformation strategies for financial inclusion objectives.
		P3b: Transformed organisational infrastructure to support digital strategies enhances operation efficiencies, reduces costs and contributes to sustainability goals for financial inclusion.
	Digital Transformation and Organisational Processes	P3c: Organisations that leverage digital technology for transforming processes can reduce operational costs and provide costs savings for providing products and services that are more accessible and affordable.

Sustainable Digital Transformation Component	Sustainable Digital Transformation Element	Proposition
	Digital Transformation and Organisational Competencies	P3d: Organisations must invest in modernising its workforce by continuously training and upskilling on digital competencies for long-term sustainability.

4.2 Business Strategy Alignment

4.2.1 Business Objectives and Financial Inclusion (Scope)

This section presents the findings related to Proposition P1a, which states that organisations that align their financial inclusion objectives with their business objectives are better positioned to develop financial products and services that address societal needs. Table 3 presents the participants' responses regarding the integration of financial inclusion within their business objectives.

Table 3: Business Objective for Financial Inclusion

Participant	Participant Transcript Text	Theme	Sub-Theme
Participant 1	…create a bank that will make it easy for people that were in the past not financially included to open bank accounts, to have a cost-effective way of transacting and to become part of the more mainstream South African economy…	Accessibility to financial services	
Participant 2	…how do we deploy products or enhance existing products to ensure that we reach the unbanked… to try to address or meet the needs of those that are unbanked by creating example digital wallet products…	Quality to financial services	Remittances Mobile Banking Digital Platforms
Participant 5	… I think our main objective is to provide accessible, affordable products… whenever we come up with solutions, we always must make sure the customers can utilize these solutions and get access to banking services, and they	Accessibility to financial services Usage to financial services	

Participant	Participant Transcript Text	Theme	Sub-Theme
	won't have a need to go the closest towns and to go into branches and to perform certain activities…		
Participant 7	…seamless customer experience which therefore means every client needs to be included in terms of the solutions that we provide, and we are driving quite a lot around digital as a first strategy. However, that's also quite important that we consider affordability, particularly in quality, the areas or some of the areas where we operate in that we can not only focus on a certain tier of clients but everyone…	Quality to financial services Accessibility to financial services	Digital Platforms
Participant 9	…I will still say that financial intrusion is not the main goal. We've created digital channels that allow us to cater for specific markets. We've created certain products that cater for those markets. But I don't think that is the main goal. I don't think those are the main target market, at least in our area… …we have the digital platforms that allow clients to access banking services. And I suppose for all banks is to make it as simple as possible for people to receive money and to pay out to their customers or suppliers...	Quality to financial services	Digital Platforms Payments
Participant 12	… from a financial inclusivity we balance the distribution footprint and where we have branches, the cost of running physical branch footprint and ATM footprint with our client base... we run ratios on the branch side; we want x% of the bankable population to be able to reach a branch within x kilometres and an ATM within y kilometres of where they live..	Accessibility to financial services	Proximity of ATMs
Participant 15	… generally, the bank industry is very focused on the township economy and focused on	Accessibility to financial services	Remittances

Participant	Participant Transcript Text	Theme	Sub-Theme
	enabling things like payment and the exchange of money without it necessarily being cash because cash is still very much king within the informal economy with the introduction of services such as PayShap for instance and enabling instant sort of transfers of money even to individuals without bank accounts… products like the Stokvel account, which kind of leverages our culture within South Africa because it is an African context and it's an African concept of really crowdfunding initiatives and crowd saving and for various different purposes…	Usage to financial services	Deposits

1.2.1.1 Accessibility to Financial Services

The element of access came up in the participants' responses. Several participants indicated that the main objective of their respective banks is to ensure that individuals, particularly in underserved communities, can open bank accounts and access affordable financial products. Participant 1 stated that their respective bank's objective was to "create a bank that will make it easy for people that were in the past not financially included to open bank accounts". This view was supported by Participant 7 and Participant 15, which reflects the banks' commitment to increase entry to financial products for the financially excluded people.

In addition to ease of account opening and affordability, physical access was highlighted. Participant 12 noted that banks are strategically placing branches and ATMs within the proximity of their target client base. This suggests that banks are aligning their physical infrastructure positioning to the accessibility component of financial inclusion.

The findings align to previous research on increasing access to finance for those who were previously excluded. The findings are in agreement with Tay et al. (2022) and Sharma and Changkakati (2022) who mentioned having an inclusive financial system facilitates and increases access to finance for the underprivileged and small businesses in a country. In addition, the findings further corroborates with Tay et al. (2022) which

found that digital financial inclusion, as compared to just financial inclusion, places importance on technology to help increase access to financial services.

Furthermore, the data has shown that some banks are targeting township economies with tailored products and services for their needs. Participant 15 noted these products and services are for enabling things like payments and exchange of money, which is essential for the economic realities of these communities, enabling a much wider financial participation for the underserved population. These insights are consistent with literature that has highlighted that organisations are providing financial services through technology, which include mobile money, internet banking, and electronic transfers that reach the underserved population (Tay et al., 2022).

1.2.1.2 Usage of Financial Services

I now turn to the usage element of financial inclusion that was explored from the participant responses. This theme is reflected in the insights shared by participants on how banks are designing and implementing digital solutions that are not just accessible but also for everyday usage. For example, one participant said, “We always must make sure that customers can utilise this solution and get access to banking services, and they won’t have a need to go to the closest towns and go into branches to perform certain activities” (Participant 5). The sentiment illustrates how banks are deliberate about aligning digital solutions to actual needs and behaviours of customers through quality.

In addition, Participant 15 stated that “generally, the banking industry is focused on the township economy and focused on enabling things like payment and exchange of money without necessarily being cash”. The emphasis is on designing solutions that facilitate the exchange of money, which is deliberately tailored for such local communities and drives the usage of financial services. This recognises the unique characteristics of townships and how their economy operates.

These findings are consistent with Vidyashree & Rathod (as cited in (Ebong & George, 2021)), who noted that customers must be aware of how to use the IT-enabled banking services to increase adoption. Mishra & Singh (as cited in (Ebong & George, 2021) posit that awareness, self-efficacy, ease of use, usefulness of the service, and security increase usage of the service, especially ATMs. Agarwal & Mehrotra (as cited in (Ebong

& George, 2021)) further added that accessibility is more important than security when it comes to deciding on a channel of banking to use.

1.2.1.3 Quality of Financial Services

The third element of financial inclusion, quality, is also reflected in the participants' responses. This theme is about financial services and products that meet the needs of the underserved and unbanked population.

One participant indicated that banks deeply look at how they create or enhance existing products to ensure they reach the unbanked (Participant 2). This indicates a deliberate investment by banks in prioritising the quality of financial products, which are relevant to the previously financially excluded. An example product is digital wallets, which the same respondent indicated is an example of a solution tailored to meet the needs of the unbanked (Participant 2).

These findings align with existing literature on inclusive digital products and services. Mishra & Singh and Vidyashree & Rathod (as cited in (Ebong & George, 2021)) mentioned that the usefulness of the services and customer awareness of how to use the service increase the adoption. Furthermore, Falaiye et al. (2024) cited that digital and financial literacy has been deemed effective for the utilisation and navigation of the digital platforms (Shen et al. and Hassan et al. as cited in (Falaiye et al., 2024)). For example, digital wallets have been cited to be very crucial in financial inclusion (Falaiye et al., 2024)

Furthermore, some participants revealed that customer experience is another key measure of service quality. Participant 7 stated that “seamless customer experience means every client needs to be included in terms of the solutions that we provide, and we are driving quite a lot around digital as a first strategy.” Similarly, participant 9 echoed this sentiment about a seamless customer experience on digital platforms for their clients. This illustrates how banks are leveraging digital transformation to enhance customer experience, which also means enhanced quality of services.

The findings on the quality of services through customer experience are consistent with other studies. According to Puspitasari et al. (2022), improvements in customer value and enhanced design through online customer engagements enhance the customer

experience by creating a more effective customer journey. Shabani Shojaei (as cited in (Behrens et al., 2023)) further reinforced this by mentioning that customers have high expectations for digital experiences and that digital transformation can “create seamless, personalised experiences that meet and exceed customer expectations.”.

1.2.1.4 Additional Insights on Affordability and Explicitly Strategic Direction

In addition to access, usage, and quality, some participants revealed affordability as another important element to consider for financial inclusion strategies. Participant 7 stressed that affordability is important in the areas where banks operate. This highlights that the cost of financial products and services remains a barrier for the underserved communities, suggesting affordability must be considered with the other financial inclusion elements.

Furthermore, the data demonstrated the positioning of financial inclusion as a strategy in certain banks. Participant 9 stated that financial inclusion is explicitly their main goal as a bank. However, they still developed digital solutions that catered to the underserved communities. This suggests that banks may not explicitly mention financial inclusion as a strategic initiative, but the implementation of digital solutions still contributes to inclusion objectives.

The additional insights on affordability seem to be consistent with previous research. Organisations are taking steps to provide affordable financial services and products tailored around the needs of the small entrepreneurs and the unbanked, which are delivered in responsible and affordable ways ((Pandey et al., 2022); (Hashemizadeh et al., 2023)). Similarly, the use of financial technology (FinTech) has been seen as key to providing affordable financial products and services for underserved populations (Falaiye et al., 2024). Banks are achieving this through examples like mobile banking, which saves time for customers to travel to branches (Shanti et al., 2023).

The next section moves on to discuss how banks are integrating sustainability into business objectives for financial inclusion.

4.2.2 Sustainability in Business Strategy (Competencies)

The section shows findings related to Proposition P1b, which states that organisations that align business strategies to UN SDGs can enhance their impact on global sustainability and financial inclusion. Banks are increasingly integrating sustainability into their business strategy to stay competitive in the market where they operate. A sustainable business strategy is one that incorporates economic, social, and environmental factors. Table 4 below summarises the approaches employed by banks to align sustainability with financial inclusion objectives.

Table 4: Sustainability in Business Strategy for Financial Inclusion

Participant	Participant Transcript Text	Sustainability Theme	Sustainability Sub-Theme	Financial Inclusion Theme
Participant 1	…create a bank that will make it easy for people that were in the past not financially included to open bank accounts, to have a cost-effective way of transacting and to become part of the more mainstream South African economy…	Economic Factors	Cost-Efficient Production	Accessibility to financial services
		Social Factors	Inclusion	Quality of financial services
Participant 2	… we want to reach the unbanked because cash is quite expensive for us as a business as well. So, it would be quite sustainable for us to move away from cash, the risk around cash in transit heist and all those things. We are primarily looking at what you'd call your Kasi economy, and we have created digital wallets products to address or meeting the needs of those that are unbanked…	Social Factors	Innovative Products	Quality of financial services
		Environmental Factors	Digital resources	
Participant 4	… So, we have a responsibility as a bank to think about the sustainability of the economy of the country we live in. And I think we've created a lot of	Environmental Factors	Environmentally Friendly Products	

Participant	Participant Transcript Text	Sustainability Theme	Sustainability Sub-Theme	Financial Inclusion Theme
	products that do that in our bank that take that into consideration. So, we have a marketplace where we have solar products…			
Participant 5	… we have agents around our underserved communities whereby customers can go to these agents to collect, to withdraw money or to deposit money into a bank account. Something else that I guess we also do and that we drive in underserved communities is just trying to educate customers…	Economic Factors Social Factors Environmental Factors	Innovation Processes Innovative Services Digital resources	Usage of financial services
Participant 6	… marketing it more like the bank of the entrepreneur, promoting entrepreneurship, providing solutions that are better suited that someone can just self-help themselves. Like your credit score, you no longer have to get it from Experian or TransUnion, you can just get it from the app...	Economic Factors	Innovative Products	Quality of financial services
Participant 11	…So, it's to being a bank for all. That's how I look at it, you know, from a sustainability for the bank to sustain itself being a bank for all, which obviously talks back to the previous points I've made as well. But then also as being a South African bank, and also as being a bank who takes financial education and literacy seriously, as how do we provide offerings to our clients that we as the bank will be relevant at the end of the day…	Social Factors	Innovative Services	Quality of financial services
Participant 12	… we are driving quite a lot around digital first strategy. However, that's also	Economic Factors	Cost-Efficient Production	Accessibility to financial services

Participant	Participant Transcript Text	Sustainability Theme	Sustainability Sub-Theme	Financial Inclusion Theme
	quite important that we consider affordability, particularly in quality, the areas or some of the areas where we operate in that we not only focus on a certain tier of clients, but everyone branch within. We have mobile banking, call it vehicles that we have across the country, which basically says you are taking the bank or the branch to our people or to our clients as compared to some of our clients that may be staying in rural areas, moving to town and therefore costing a lot of money for them to get to town...	Social Factors	Inclusion	
		Environmental Factors	Digital resources	
Participant 13	…I think the sustainability issue is one of our key strategic pillars. We've got six key strategic initiatives and one of them is to evolve a green economy proposition which supports our sustainability development goals 6, 7 and 12 and 6 is for clean water and sanitation. SDG 7 is renewable energy and then SDG 12 is recycling and responsible production…	Environmental Factors	Environmentally Friendly Products	
Participant 14	… digital enables clients to deliver a better service. It also means streamlining of operations because you know, in the past we were very product driven world and I think now we're moving more towards converging things for clients around transacting lending, depositing, etc …	Economic Factors	Innovation Processes	Quality of financial services
		Social Factors	Customer Satisfaction	
		Environmental Factors	Digital resources	

4.2.2.1 Economic Sustainability Factors

The responses highlighted how banks are implementing cost-effective solutions to enhance financial inclusion while supporting economic sustainability. Participant 1 highlighted that banks are creating cost-effective platforms that enable underserved communities to access banking services. This highlights the economic factor of sustainability, which ensures affordability and accessibility of financial inclusion.

Banks are deploying agents to underserved communities to address financial access challenges, facilitating the withdrawal and deposit of money into accounts (Participant 5). This strategy shows how banks are expanding their reach to ensure access to finances. Furthermore, participant 6 noted that banks are intentionally targeting entrepreneurs by implementing self-service solutions for their businesses. For example, participant 6 noted that services such as credit score checks are available on the banking app, which eliminates the need for credit score providers like TransUnion or Experian. This highlights the enhancement of financial inclusion by banks through inclusive economic participation.

The findings is supported by Zighan et al. (2023), who mentioned that sustainable innovation in products and processes contributes to competitive advantage while ensuring inclusion. The findings also agree with observations by Shanti et al. (2023) and Falaiye et al. (2024) who mentioned that deployment of financial services via digital platforms—such as mobile banking and internet banking—does not only reduce operational costs but also enhance accessibility for underserved communities. Finally, literature by Nkuna et al. and Xv & Meng (as cited in (Ebong & George, 2021)) further supports this, who note that agent and mobile banking are influential in expanding access to financial services in a cost-effective manner.

Additionally, the findings on banking embedding digital applications like credit score checks corroborate with the literature by Hashemizadeh et al. (2023), who emphasised that financial services tailored to benefit the poor directly are more sustainable and increase access.

4.2.2.2 Environmental Sustainability Factors

The second sustainability factor is banks incorporating environmental considerations within their financial products and services. Several participants highlighted the use of digital as a contribution to environmental sustainability. Firstly, participant 2 mentioned that their bank implemented digital wallet products to meet the needs of the unbanked, particularly underserved communities. Secondly, participant 12 notes that their bank drives a digital-first strategy while still considering affordability where they operate, like in rural areas. Lastly, participant 14 concludes by stating that their bank utilises digital technology to streamline operations, which in turn helps deliver better services. These digital innovations highlight environmental sustainability through paperless services.

In addition, banks are offering clients environmentally sustainable products in their platforms. An example is the marketplace platforms where clients can access and purchase solar products (Participant 4). This reveals the deliberate efforts by banks in supporting environmental sustainability while integrating with financial inclusion objectives.

Furthermore, one participant revealed that strategic initiatives are linked to environmental SDG goals, namely SDG 6 on clean water and sanitation, 7 on affordable and clean energy, and 12 on responsible consumption and production (Participant 6). This sentiment illustrates how banks are aligning their strategic goals to sustainability goals.

These practices by banks towards environmentally friendly solutions are consistent with Abhishek et al. (2024) who link digital transformation with good governance practices, innovation of green products, and transparency. Further research reinforced digital transformation as contributing to streamlining processes, reducing waste, and contributing to sustainability goals (Kahraman & Haktanir as cited (Behrens et al., 2023)). Additionally, studies by Yap et al. (2023) have identified environmental sustainability as a contributor to sustainability goals and how it links to financial inclusion, where it is recognised in studies like Tay et al. (2022), which identified digital financial inclusion as a building block to attain SDGs.

4.2.2.3 Social Sustainability Factors

The last integrated factor is social sustainability, which is evident in the responses of participants and highlights how they design and deliver inclusive financial products and services. Participant 1 highlighted the importance of including the financially excluded when creating banking solutions. Similarly, participant 2 emphasised that the banks' main objectives when implementing banking solutions are to reach the unbanked, while participants 5 and 12 highlighted strategic initiatives that are targeted for the underserved and rural communities. Participant 6 concluded by stating that the banking solutions extend to small business owners and entrepreneurs. These solutions highlight the strategic focus of many banks on creating banking options that are inclusive of both underserved and banked communities, including small business owners.

The strategic focus by banks aligns with Ardiansyah and Alnoor (2024), who argue that organisations that are involved in Corporate Social Responsibilities (CSR) that are aligned to business objectives on social goals promote an inclusive future. Ebong and George (2021) also emphasise financial literacy programmes, multichannel access, and targeted outreach as social sustainability factors within the banking industry. Finally, studies highlight that as part of social sustainability, customers are being considered during the design of financial systems to ensure an increase in customer satisfaction, increase in financial access and customer engagement through financial literacy programs (Garg & Kumar, 2024).

The next section discusses how banks are leveraging partnerships and alliances for innovating financial solutions that align with policies and regulations for the underserved communities.

4.2.3 Business Strategy and the External Environment (Governance)

This section presents findings related to Proposition P1c, which states that financial institutions that establish partnerships with financial institutions, regulators, and policymakers are likely to innovate financial solutions that align with policies and regulations for the underserved population's needs. The formation of new business models is a strategy that helps banks to access specialised capabilities. Banks must ensure compliance with the regulatory requirements to ensure the solutions meet the

needs of the clients. Table 5 below summarises how banks are leveraging the external stakeholders for creation of financial solutions for financial inclusion, which are aligned to regulations that protect the consumers.

Table 5: Business Strategy and the External Environment

Participant	Participant Transcript Text	Theme	Sub-Theme
Participant 1	… before we develop a solution, there's a whole testing phase with people. We build a prototype, take it out into the market and we test it with people. We make sure that what we do makes sense to those people and not just to us…	Customer Engagement	
Participant 2	…From an investor point of view, let's say you going to the board and asking for the board to put more investment as far as maybe your fintech solutions are concerned, that might require capital expenditure. Then you need to motivate that through engaging those stakeholders and externally as well, your engagement with your regulators your BankServ and the Reserve bank because some of the solutions you might need to lobby the regulators as well.…	Regulators	
		Strategic Alliances	FinTech Partnership
Participant 5	… the biggest one of them all is compliance from a regulatory perspective. That is the one thing that we always must ensure we are in line with because from a compliance perspective, like, some of the financial regulations can become very complex and you just must work your way around them. I think also with the consumer education, like, workshops. Us going out and engaging with customers within the different communities, I think it gives us an indication of the types of needs that they have	Regulators	
		Customer Engagement	Consumer Education
Participant 7	…I think with FinTech we are maturing and we're maturing with the view of saying, how do we partner, how do we partner on some of the	Strategic Alliances	FinTech Partnership

Participant	Participant Transcript Text	Theme	Sub-Theme
	capabilities that may not necessarily be core but are important for what we want to drive from a strategy perspective. …		
Participant 8	…partnered with AWS I think for sure we've also got some partnership with Microsoft for cloud services and digital infrastructure. I think it's just migrating things to cloud to enable us to scale would be the big one. ...	Strategic Alliances	
Participant 10	… FinTech partnerships are helping the bank leapfrog, if I can place it that way. If we had attempted to drive this digital transformation purely on our own without any FinTech partnerships, it would have taken a lot longer. I think those partnerships have assisted because partnering with people who, from a technology point of view are slightly further helps you sort of skip steps in terms of developing, you know, your technology. You're able to learn from FinTech that are further ahead and partner with them. Maybe you don't build the whole solution, maybe you, you know, leverage off what they have, etc ...	Strategic Alliances	FinTech Partnership
Participant 15	…Leveraging off things like providers. So, things like your retail stores, like your more mobile kiosk type, things where people can go work with you, sit with you with your phone, show you how to use things, show you how to do things simpler, easier, more seamlessly and take some, some pain out the system. …	Strategic Alliances	Retail Partnership

4.2.3.1 Customer and Community Engagement

The findings indicate that banks are actively engaging customers in the communities they service. Participant 1 noted that solutions are tested with end users through prototypes prior to release to the market, ensuring that the final product meets the needs of the target population. This illustrates that banks value customer feedback of their solution during the development cycle. Furthermore, participant 5 added that

communities are directly engaged, through platforms like workshops and consumer education programs, to ensure that their needs are deeply understood. This shows a strong commitment by banks in hearing the voices of communities before realising products designed to meet their needs.

These commitments by banks illustrate the recommendations by Pandey et al. (2022) and Hassan et al. (as cited in (Falaiye et al., 2024)), who advised that customer education and financial activities, especially in the digital space, are important drivers for financial inclusion. Balon et al. (as cited in (Ardiansyah & Alnoor, 2024)), also add that healthy stakeholder engagements helps organisation foster trust, increase adoption and ensures useful systems designed to meet stakeholder needs. From a CSR perspective, Van Loenen et al. and Huang et al. (as cited in (Ardiansyah & Alnoor, 2024)), claim that incorporating stakeholder engagements as part of the business strategy contributes positively to the social sustainability and company's performance.

4.2.3.2 FinTech Partnerships and Strategic Alliances

This section presents how banks are leveraging partnerships and strategic alliances with FinTech firms and the largest technology providers. Participant 2 noted that strategic initiatives that require investments to use FinTech solutions require approval from the banks' board. This highlights a governance control within banks which can delay the implementation of FinTech solutions. Although governance challenges exist, participant 7 revealed that banks are actively approaching FinTech companies for specialised capabilities which do not exist internally.

Moving over to strategic alliances, major technology companies like Amazon Web Services (AWS) and Microsoft are being approached for cloud computing, which supports scalability within the bank (Participant 8). These strategic alliances reflect that banks are recognising the need to leverage external services as part of their strategy for technology solutions, which cannot be built internally. This is confirmed by participant 8, who highlighted that partnerships, for example with FinTech companies, help banks save time and leapfrog instead of trying to build solutions themselves, which might take longer. These insights are supported by Joia & Cordeiro and Lagna & Ravishankar (as cited in (Falaiye et al., 2024)), who state that FinTech-led financial inclusion initiatives

rely on multistakeholder models that include technology providers, civil society and regulators.

The findings on FinTech partnerships aligned with Verhoef et al. (as cited in (Ellström et al., 2021)), who argue that digital transformation requires business model redesign to enable new value creation processes, tasks and ways of doing business. This is affirmed by Arifidianto (2023), who affirms that process transformation requires rethinking of the entire value proposition and delivery process when incorporating digital transformation. Such shifts are important for regulated sectors like banking, where the creation of networks is important for access to digital capabilities(Abera et al., 2024).

Additionally, Arner et al. (as cited in (Danladi et al., 2023)) highlight that FinTech is an important factor for financial inclusion, which is embodied in the UN SDGs. Tay et al. (2022) also confirms this that digital financial inclusion enhances the progress to accomplish the UN SDGs. Sub-Saharan examples are mentioned by Siano et al. (as cited in (Falaiye et al., 2024)), which include evidence from Nigeria where mobile banking is increasing financial inclusion.

4.2.3.3 Regulatory Engagement as a Constraint

As highly regulated as the banking environment is, the findings highlight the necessity for banks to collaborate proactively with regulators. Participant 2 highlighted the need for banks to engage and collaborate with regulators such as BankServ and the Reserve Bank to lobby for approval of new solutions built for underserved populations. This reflects regulatory hurdles that banks experience when innovating financial services, which is echoed by Nkuna et al. (as cited in (Ebong & George, 2021)) who noted that regulatory requirements such as Know Your Client (KYC) and low literacy levels are barriers to the uptake of banking services. Participant 5 further stressed that compliance with the financial regulations bodies is a must for banks, despite how complex it is. This sentiment indicates that while regulatory collaboration is essential, it can be a barrier to innovating financial solutions, and lobbying can be time-consuming. This supported by Ebong and George (2021) who argue that compliance with regulatory requirements such as fees and charges, as well as KYC, is a must for banks.

Nevertheless, regulatory compliance is an important measure for banks when implementing solutions for financial inclusion. Shen and Raweh et al. (as cited in

(Falaiye et al., 2024)), highlighted the importance of having a conducive regulatory environment which helps in promoting digital financial inclusion. The importance is further emphasised by Ebong and George (2021) who call for an integrated framework that is inclusive of regulators, financial institutions, government and policymakers, which is an important element for digital financial inclusion.

4.2.3.4 Retail Collaboration to Extend Market Reach

An additional insight from the findings related to banks engaging the external environment is the formation of strategic alliances with retail stores. Participant 15 noted that banks are leveraging retail stores by creating mobile kiosks, allowing customers to access banking services in a seamless way. It highlights the banks' commitment to constantly finding better ways to meet customers where they are, particularly in places where the underserved communities are frequenting. This approach is supported by Muchandigona & Kalema and Ruano-Arcos et al. (as cited in (Falaiye et al., 2024)), who highlight that agent and mobile banking touchpoints expand accessibility to financial products for the underserved population.

Furthermore, Tay et al. (2022) supports collaboration of financial institutions, technology providers and policymakers to ensure a sustainable way of implementing financially inclusive solutions.

4.2.4 Conclusion on Business Strategic Alignment

4.2.4.1 Conclusion for Proposition P1a

The first proposition, P1a, posits that organisations that align financial inclusion objectives with business objectives can create financial products and services tailored around societal needs. The findings demonstrate alignment with the propositions. Although not all banks explicitly prioritise financial inclusion as a main goal, the findings indicate that they are committed to reaching underserved communities, such as townships. Digital is being leveraged to enable access, enhance the customer experience, deliver affordable products, and meet the needs of underserved communities. Affordability emerged as an important element when designing financial products, adding another layer for financial inclusion efforts for banks. These insights highlight that banks are actively addressing three key elements of financial inclusion:

access, usage, and quality, with the main priority being to meet the needs of the underserved population in townships.

4.2.4.2 Conclusion for Proposition P1b

The second proposition, P1b, suggested that organisations that align their business strategies with the UN SDGs—specifically, goals 1, 2, 3, 5, 8, 9, and 10— can enhance their impact on global sustainability and financial inclusion. The findings demonstrated that banks are integrating sustainability dimensions, namely economic, environmental and social factors. Economically, banks are continuing to implement financial solutions in a cost-effective manner to promote financial inclusion and improve access to these solutions. Environmentally, banks are leveraging digitally enabled solutions that operate on paperless processes and are including environmentally friendly products like solar products on their marketplace platforms. Socially, customers are being included in the design of banking solutions and systems. Additionally, financial education and literacy are key to banks in empowering communities for long-term inclusion.

Moreover, it was revealed that banks align with SDGs 6, 7, and 12, indicating a broader commitment to UN sustainability goals highlighted by Proposition P1b. Overall, the insights reflect the banks' commitment to integrating sustainability dimensions, namely social, economic and environmental, into their business objectives aimed at financial inclusion, and a strong commitment to contributing to the UN's Sustainable Development Goals.

4.2.4.3 Conclusion for Proposition P1c

The findings related to Proposition P1c illustrate that banks are leveraging external partnerships and strategic alliances to access specialised capabilities to innovate financial solutions, which must align with regulatory frameworks and meet the needs of underserved communities. The partnerships include alliances with large technology firms like Microsoft and AWS for cloud computing to enable scaling of banks' solutions. With a highly regulated banking sector environment, banks ensure they proactively engage regulators to ensure new financial solutions comply with the complex financial regulations. However, while regulatory engagement is necessary, it can be time-consuming and may hinder the implementation of financial solutions.

Furthermore, banks are showing strong commitment to including customers and communities. This is achieved by conducting educational workshops and including them in the testing of financial solutions before they are released to the rest of the population.

Additionally, banks are extending their reach by collaborating with retail stores, placing mobile kiosks for customers to access banking services at their convenient places.

The following section discusses the findings in relation to the nature of digital transformation strategies and their alignment with financial inclusion efforts targeting underserved communities.

4.3 IT and Digital Transformation Strategy Alignment

4.3.1 Digital Technology Adoption for Financial Inclusion (Scope)

This section relates to Proposition P2a, which posits that the adoption of digital technology by financial institutions can enhance financial inclusion by providing accessible, usable and quality financial services to underserved communities. Additionally, the section relates to Proposition P2c, which states that financial and digital literacy programmes aimed at underserved populations can enhance the adoption of digital financial solutions and promote inclusivity. Organisations are increasingly adopting digital technologies to deliver financial products and services. Banks are enhancing customer experiences by developing digital platforms and driving operational efficiencies through process automation. The goal of these efforts is to promote financial inclusion. Table 6 below summarises the participants' responses regarding using digital technology as a strategy for enhancing financial inclusion.

Table 6: Digital Technology adoption for Financial Inclusion

Participant	Participant Transcript Text	Digital Technology Adoption Theme	Financial Inclusion Theme
Participant 1	… We've got the app and we've got Internet banking, but we really are pushing clients to use the app. The other thing is, for clients that	Digital Platform	Accessibility to financial services

Participant	Participant Transcript Text	Digital Technology Adoption Theme	Financial Inclusion Theme
	don't have smartphones, we have USSD and that is still used by a large complement of our clients. We are seeing that it is tapering down a bit. I think more people are getting smartphones, but from our side to encourage people to use digital is 100% encouraging app usage. In our branches we have what we call self-service terminals. So, if clients come to the branch and ask the branch to do something for them, the branch will show the client how to do it on the self-service terminal. And that works in the same way as our app will work…		
Participant 2	… As far as digital transformation is concerned, we are focusing on offering integration solutions that are not limited who you bank with. We are providing interface and infrastructure as far as payments and collections is concerned to various clients who might be banking with different banks. We are creating infrastructure for seamless integration between clients and their consumers. …	Innovation	Quality of financial services
Participant 3	… We are driving platform optimization where we are trying to make sure that people are either banking through the app, banking through cell phone banking, USSD, digital wallets, transacting carelessly and using cardless sort of options versus options that use sort of card present cards…	Digital Customer Experience	Quality of financial services
Participant 4	… For us to do digital transformation is just being inclusive by bringing everyone to this digital transformation and being understanding	Digital Customer Experience	Quality of financial services

Participant	Participant Transcript Text	Digital Technology Adoption Theme	Financial Inclusion Theme
	where they are and trying to move along with us in the journey. On our app you can do quite a lot of different things like pay for your car license disc and you can pour petrol at a petrol garage using your car. … …We have little things that you can read and listen to that teach you about finance, finances, budgeting, savings, buying a car, buying a house, etc, and that's if you have the app that's free. The app is free, so you…		Usage of financial services
Participant 5	… we have adopted RPAs making it very seamless to send out communication to customers to simplify some of the work that a human being would do. We have adopted that, but it is still very slow, and it is not fully fledged operationally...	Automation of internal processes Automation of external processes	Quality of financial services
Participant 12	… we are driving quite a lot around digital first strategy…	Digital strategy	Quality of financial services
Participant 15	… We have self-service kiosk within branches where individuals who can't digitally transact on their own personal devices, whether because they don't have the devices or they don't have airtime or they don't have data, are able to come into the branch and digitally transact using the self-service kiosks with assistance of bankers...	Digital products and services	Quality of financial services

4.3.1.1 Inclusive Digital Platform Design

To improve accessibility to financial services via smartphones and internet banking, banks are developing digital platforms (Participant 1). These platforms additionally integrate USSD if there are clients without smartphones (Participant 1). This reflects

deliberate efforts by banks in considering the needs of clients when developing digital platforms, even for those without smartphones. This is supported by Falaiye et al. (2024), who noted that digital technology – including ATMs, the internet, mobile subscriptions and Point of Sale (POS) – has become the gateway for enhancing access to financial services for emerging markets.

The increasing adoption of mobile money has seen widespread use in Africa. As highlighted by Ruano-Arcos et al. (as cited in (Falaiye et al., 2024)) and Ebong and George (2021), mobile money services enable rural communities to access financial services in an affordable way remotely. Trends include CELPAY in Zambia, M-PESA in Kenya, and WIZZIT in South Africa, which expand access through digital platforms (Pandey et al., 2022).

The servicing of client needs at physical branches has transformed with the implementation of self-service terminals that offer the same functionality as the mobile banking application and internet banking platform (Participant 1). Additionally, branches are installing self-service kiosks to encourage individuals to transact digitally due to not having the appropriate devices or internet connectivity to access digital banking platforms (Participant 15). This insight illustrates efforts by banks in enhancing customer experience inside branches, even for clients without smartphones or access to the internet. This supported by the frameworks of Holtström and Teece (as cited in (Arifidianto, 2023)), which reflect business model transformation and customer value service design.

Furthermore, Danladi et al. (2023) and Arner et al. (as cited in (Danladi et al., 2023)), argued that digital finance – particularly FinTech – is key to enabling affordable and sustainable financial services, which also have the potential to enhance SDGs. Thus, banks that prioritise digital financial inclusion place them as one of the contributors to sustainable development for underserved and marginalised groups.

4.3.1.2 Multichannel Access Customer Experience

Banks are rethinking how they deliver solutions to clients. As part of their digital transformation initiatives, banks are integrating their solutions not only for their own systems but also with other banks to service clients who may not bank with them (Participant 2). This reflects a significant investment in technology to extend services to

a broader population. Clients are offered choices of channels to access banking services, whether that is through a mobile banking application, cell phone banking, USSD or digital wallet, rather than sole reliance on physical cards (Participant 3). Furthermore, digital platforms are being enhanced to provide various services like paying for car licence discs and refuelling at petrol stations (Participant 4). These insights show that banks are proactively expanding and enhancing access to multiple financial services for their clients to utilise.

These approaches are supported by literature from Vidyashree & Rathod and Agarwal & Mehrotra (as cited in (Ebong & George, 2021)), which suggests that customer awareness and accessibility are important for the customer's choice of which banking channels they prefer and are likely to adopt. Likewise, Shabani Shojaei and Vaz (as cited in (Behrens et al., 2023) emphasise that seamless and personalised digital experiences are growing in demand to increase customer expectations.

4.3.1.3 Process Automation and Operational Efficiency

The latest digital technologies are enhancing banking processes. Particularly, banks are automating both internal and external processes using Robotic Process Automation (RPA) to streamline operations like sending communication to customers, functions that would typically be performed by humans (Participant 5). This sentiment highlights the utilisation of digital technology to improve customer services through its adoption. These digital efficiencies agree with Nguyen Hai et al. (as cited in (Behrens et al., 2023)), and Xv & Meng (as cited in (Ebong & George, 2021)), who contend that digital transformation enhances organisation performance by lowering costs, reaching more markets and improving competitive advantage.

Moreover, Kitsios, Giatsidis and Kamarioto (as cited in (Shanti et al., 2023)) noted that digital technology can improve operational efficiency and increase reach by servicing with physical branches.

4.3.1.4 Digital-First Strategies and Financial Literacy tools

Additional insights indicate that some banks are adopting digital-first approaches to their overall strategies (Participant 12). This sentiment reflects a shift in strategic thinking, where digital is being put at the core of bank operations. Furthermore, banking

applications comprise financial educational things such as assistance on budgeting, savings, buying a car, or buying a house (Participant 4). These insights demonstrate how digital is not only being used to enhance banking services but also to develop tools aimed at educating customers around finances. This is emphasised in findings from Martini et al. and Shen et al. (as cited in (Falaiye et al., 2024)), who identified financial literacy – especially in the digital context – as being a crucial factor in enhancing financial inclusion, especially for the underserved population.

Additionally, Kusumawati et al. and Sayekti & Hidajat (as cited in (Falaiye et al., 2024)), illustrated that financial literacy positively influences the adoption of digital financial services among underserved communities. These insights confirm the importance of financial education tools, which are essential to driving the adoption of digital platforms.

The following section discusses the findings relating to digital solutions adopted to enhance financial inclusion for targeted underserved populations.

4.3.2 Digital Solutions for Financial Inclusion (Competencies)

This section presents findings related to Proposition P2b, which posits that mobile banking is the foundational technology for financial inclusion for underserved populations. Organisations are increasingly adopting digital technologies to deliver financial products and services. One technology that has dominated Africa is mobile banking. Mobile banking has emerged as the primary technology for enhancing financial inclusion. Table 7 below shows the participants' responses to using mobile banking as a core technology to enhance financial inclusion.

Table 7: Digital Solutions for Financial Inclusion

Participant	Participant Transcript Text	Changes in Value Creation Theme	Financial Inclusion Theme
Participant 1	… We've got the app and we've got Internet banking, but we really are pushing clients to use the app. The other thing is, for clients that don't have smartphones, we have USSD and	New Value Propositions	Accessibility to financial services

Participant	Participant Transcript Text	Changes in Value Creation Theme	Financial Inclusion Theme
	that is still used by a large complement of our clients. We are seeing that it is tapering down a bit. I think more people are getting smartphones, but from our side to encourage people to use digital is 100% encouraging app usage. In our branches we have what we call self-service terminals. So, if clients come to the branch and ask the branch to do something for them, the branch will show the client how to do it on the self-service terminal. And that works in the same way as our app will work…		
Participant 2	… As far as digital transformation is concerned, we are focusing on offering integration solutions that are not limited who you bank with. We are providing interface and infrastructure as far as payments and collections is concerned to various clients who might be banking with different banks. We are creating infrastructure for seamless integration between clients and their consumers. …	New Business Models	Quality of financial services
Participant 3	… We are driving platform optimization where we are trying to make sure that people are either banking through the app, banking through cell phone banking, USSD, digital wallets, transacting carelessly and using cardless sort of options versus options that use sort of card present cards…	New Value Propositions	Quality of financial services
Participant 4	… For us to do digital transformation is just being inclusive by bringing everyone to this digital transformation and being understanding	New Value Propositions	Quality of financial services

Participant	Participant Transcript Text	Changes in Value Creation Theme	Financial Inclusion Theme
	where they are and trying to move along with us in the journey. On our app you can do quite a lot of different things like pay for your car license disc and you can pour petrol at a petrol garage using your car. … …We have little things that you can read and listen to that teach you about finance, finances, budgeting, savings, buying a car, buying a house, etc, and that's if you have the app that's free. The app is free, so you…		Usage of financial services
Participant 13	…Our digital channel. Within that we've got a means to provide digital services to our client base via digital channels and digital solutions. So, an example of that would be how we have brought in more features and more functionality to our digital channel to equip our clients to perform their transactions digitally as well as services. We're also starting to explore elements of blockchain crypto. So how does the whole world of blockchain and crypto, you know, that leveraging that type of technology and making more sense of the payments area is something that's top of mind for us right now …	Transformation of services	Quality of financial services
Participant 15	… Stokvel account can be partially opened digitally so you can start the journey on USSD for instance and USSD specifically because majority of that market at the time when the product was developed were not adoptive into sort of smartphones etc. So, that process has reduced the account opening process from a good three hours because you need multiple	Transformation of products Transformation of services	Quality of financial services

Participant	Participant Transcript Text	Changes in Value Creation Theme	Financial Inclusion Theme
	stakeholders to be present for the account to be open to an hour or an hour and a half depending on the banker and the availability of the Stokvel signatories... … We have self-service kiosk within branches where individuals who can't digitally transact on their own personal devices, whether because they don't have the devices or they don't have airtime or they don't have data, are able to come into the branch and digitally transact using the self-service kiosks with assistance of bankers...		

4.3.2.1 Mobile Banks as Primary Access Channel

Banks are developing new value propositions to promote financial inclusion by offering banking solutions that are accessible through mobile devices. Participant 1 highlighted that solutions include applications accessed through mobile phone applications and internet banking platforms, with the integration of USSD to accommodate clients without access to smartphones. Similarly, Participant 3 emphasised the various channel options available to access banking, which include the mobile banking application, cell phone banking, USSD and digital wallet. These sentiments indicate that mobile technology has been employed to enhance access to financial inclusion, particularly for the underserved population. These findings align with Tay et al. (2022), who assert that mobile banking is the foundational technology for financial inclusion in emerging markets like Sub-Saharan Africa and who further affirm that digital banking technology is important to expand access to financial services.

The use of mobile banking channels not only increases access but also supports daily economic activities like payments, savings and remittances. Van Der Boor et al. and Frączek & Urbanek (as cited in (Tay et al., 2022)), argued that digital finance provides

a range of services – including mobile money, loans, insurance and transfers – that are delivered using technology for the previously marginalised populations.

4.3.2.2 Self-Service Infrastructure vs Mobile Experience

Conversely, this is different from self-service stations at bank branches. Participant 1 highlighted that at physical branches, customers requiring service are assisted through self-service terminals that offer the same functionality as mobile banking applications and internet banking. Similarly, Participant 15 emphasised that bankers use self-service kiosks to assist customers who cannot transact through digital platforms. The responses indicate that the extension of mobile banking features to physical channels, alongside digital channels, enhances the customer experience at branches. This mixed infrastructure model is supported by Kaur et al. (as cited in (Ebong & George, 2021)), who noted that in-branch efforts remain crucial to digital adoption.

4.3.2.3 Innovation of Digital Banking Capabilities

Banks are actively modernising their banking solutions by developing interfaces and infrastructures to enable integration with systems from other banks (Participant 2). Even though the sentiment does not explicitly mention mobile banking, the digital platforms include features like renewal of car licence discs and refuelling at petrol stations (Participant 4), which can suggest the usage of mobile technology for these platforms.

Furthermore, banks are continuously introducing new features to their platforms, empowering clients to perform their transactions digitally (Participant 13). This includes the exploration of digital technology like blockchain to enhance payments (Participant 13), as well as the expansion of banking applications with financial education features for budgeting, savings, buying a car, buying a house, etc (Participant 4). In addition, banks are introducing products such as stokvel accounts that can be partially opened digitally, with USSD options available for customers with no access to smartphones (Participant 13). These sentiments reflect the constant innovation efforts by banks in improving digital customer experience as they embark on digital transformation journeys.

These continuous innovation efforts corroborate with literature by Shabani Shojaei (as cited in (Behrens et al., 2023)) and Ahmad et al. (as cited in (Ebong & George, 2021)),

who maintain that digital transformation must continue to evolve bank offerings and customer experiences that meet and exceed customer expectations for the underserved communities.

The following section presents findings relating to how banks are integrating sustainability dimensions – namely environmental, economic and social – into their digital strategies. The goal is to develop new business models that will improve financial inclusion for the targeted underserved populations.

4.3.3 Sustainability in Digital Strategy for Financial Inclusion (Governance)

This section presents findings related to Proposition P2d, which posits that financial institutions that incorporate sustainability dimensions – namely, environmental, social and economic – into their digital strategies can create new business models aimed at enhancing financial inclusion. Banks are increasingly incorporating sustainability into their strategies to deliver financial solutions in a sustainable manner. The approach does not only incorporate economic factors but also social and environmental factors. Digital technology is being leveraged to deliver financial solutions for financial inclusion in a cost-effective manner that is also socially inclusive and environmentally friendly. Table 8 below presents the participants' responses regarding how banks are integrating sustainability dimensions into their digital strategies to enhance financial inclusion.

Table 8: Sustainability in Digital Strategy for Financial Inclusion

Participant	Participant Transcript Text	Sustainability Theme	Sustainability Sub-Theme	Financial Inclusion Theme
Participant 1	… We've got the app and we've got Internet banking, but we really are pushing clients to use the app. The other thing is, for clients that don't have smartphones, we have USSD and that is still used by a large complement of our clients. We are seeing that it is tapering down a bit. I think more people are getting	Social Factors	Innovative Services	Accessibility to financial services

Participant	Participant Transcript Text	Sustainability Theme	Sustainability Sub-Theme	Financial Inclusion Theme
	smartphones, but from our side to encourage people to use digital is 100% encouraging app usage. In our branches we have what we call self-service terminals. So, if clients come to the branch and ask the branch to do something for them, the branch will show the client how to do it on the self-service terminal. And that works in the same way as our app will work…			
Participant 2	… As far as digital transformation is concerned, we are focusing on offering integration solutions that are not limited who you bank with. We are providing interface and infrastructure as far as payments and collections is concerned to various clients who might be banking with different banks. We are creating infrastructure for seamless integration between clients and their consumers. …	Economic Factors	Innovation Processes	Quality of financial services
Participant 3	… We are driving platform optimization where we are trying to make sure that people are either banking through the app, banking through cell phone banking, USSD, digital wallets, transacting carelessly and using cardless sort of options versus options that use sort of card present cards…	Social Factors	Innovative Products	Quality of financial services

Participant	Participant Transcript Text	Sustainability Theme	Sustainability Sub-Theme	Financial Inclusion Theme
Participant 4	… For us to do digital transformation is just being inclusive by bringing everyone to this digital transformation and being understanding where they are and trying to move along with us in the journey. On our app you can do quite a lot of different things like pay for your car license disc and you can pour petrol at a petrol garage using your car. …	Social Factors	Inclusion	Quality of financial services
Participant 5	… We are reducing the footprint like traffic into branches also helped us a lot. Thus, going paperless and just making sure that when customers are doing any form transaction in the bank, that everything is electronic…	Environmental factors	Digital resources	Quality of financial services
Participant 7	… We do more with less. We are driving the cost of say transacting low because of the technology that is there. This can be translated into the fees that our clients can pay. The lower our cost to run and manage the technology estate, the lower the transaction fees will be. This means more people are included from an affordability perspective. We are continuously driving to reduce the cost, the cost to run our technology estate …	Economic Factors	Cost-Efficient Production	Accessibility of financial services
Participant 8	… We are helping our non-banked to get onto the technology platforms like a banking mobile. So now as a remote client you don't need to drive	Social Factors	Financial Access	Quality of financial services

Participant	Participant Transcript Text	Sustainability Theme	Sustainability Sub-Theme	Financial Inclusion Theme
	or get multiple taxis or trains to get to a banking branch....			
Participant 12	…Our contact centre is available 247 and it is toll free. Even clients that cannot necessarily access a physical presence or our branch or our digital presence or because they don't have access or funds or a cell phone for that matter, can contact our contact centre…	Social Factors	Customer Satisfaction	Accessibility of financial services

4.3.3.1 Social Sustainability through enhancing accessibility of Inclusive Digital *Channels*

Banks are developing innovative products and services aimed at enhancing access to financial services for society. For example, banking services accessed via smartphones and internet banking ensure inclusivity by also integrating features like USSD for clients without smartphones (Participant 1). Furthermore, banks are offering multichannel access to banking services via various touchpoints, which include mobile banking applications, cell phone banking, USSD, and digital wallets (Participant 3). These inclusive digital strategies link to Van Der Boor et al. (as cited in (Tay et al., 2022)), which emphasised the importance of technology usage in expanding access to financial services for the previously disadvantaged, particularly through digital financial inclusion

Banks are making efforts to include societal aspects in their digital transformation journey. Participant 4 noted that banks make efforts to include all types of customers in the digital transformation journey and ensure they understand their needs along the way. Participant 8 added banks are making efforts to support customers in adopting the digital platforms like mobile banking, thereby eliminating their need to travel to the banking branch. Additionally, toll-free 24/7 contact centres are available for all types of clients across all channels (Participant 12). Together, these sentiments demonstrate that banks are incorporating social sustainability into their digital transformation journey by ensuring accessibility and quality of digital financial services.

The findings by Amoah et al. (as cited in (Ebong & George, 2021)) and Kusumawati et al. (as cited in (Falaiye et al., 2024) support these efforts by arguing that digital and financial literacy are important enablers of financial inclusion, especially for underserved communities like women and rural populations. In-branch transformations further enhance this trajectory by ensuring digital banking does not increase the financial gaps through the digital divide (Kaur et al. (as cited in (Ebong & George, 2021)); Shen et al. and Hassan et al. (as cited in (Falaiye et al., 2024)).

4.3.3.2 Economical Sustainability through Cost Savings using Technology

Economically, banks are developing digital solutions that integrate with systems from other banks, particularly for functions like collection and payment services (Participant 2). This allows clients to save money on service fees, as these transactions are now streamlined.

Moreover, banks are constantly driving costs down by optimising and operating technology in a cost-efficient way, which results in lower fees for clients (Participant 7). These insights highlight that banks are constantly looking at better ways to incorporate economic sustainability through low-cost operation of technology, which translates to lower service fees for customers. These efforts are emphasised by studies that assert that digital transformation has the advantage of saving organisation costs, improving competitive advantage and improving delivery of financial services (Dhyanasaridewi et al., 2024; Vendraminelli et al., 2022).

The use of digital channels as alternative channels not only supports cost savings for organisations; it also enhances client experience and saves clients time and fees, further contributing to economic sustainability (Ebong & George, 2021; Shanti et al., 2023).

4.3.3.3 Environmental Sustainability through Environmentally Friendly Digital Solutions

Environmentally, banks are reducing the footprint by shifting to electronic transactions, which reduces the use of paper and the need for clients to go to the branch (Participant 5). This illustrates the commitment of banks to incorporating environmental sustainability by utilising digital technology to minimise footprints, which is a responsible practice for saving our earth. These practices are aligned to broader environmental sustainability

goals of digitalised operations, reducing environmental resource consumption and enhance energy efficiency (Garg & Kumar, 2024)

4.3.4 Conclusion on IT and Digital Transformation Strategy Alignment

4.3.4.1 Conclusion for Proposition P2a and P2c

The first proposition in this section, P2a, states that the adoption of digital technology by financial institutions enhances financial inclusion by providing accessible financial services to the underserved populations. The findings show strong alignment with this proposition on adoption of digital technology for enhancing financial inclusion. The digital platforms are intentionally designed to incorporate integrating USSD for those without access to smartphones and the internet. Additionally, banks are installing self-service terminals at bank branches to accommodate those who are not digitally enabled to access similar functions as those on mobile and the internet. The multichannel nature of banking services allows clients to choose how they want to connect with the bank, empowering customers with choices on access to financial services. The banking channels include mobile applications, USSD, digital wallets, and service integration with other banking institutions.

From an operations perspective, digital technologies like Robotic Process Automation (RPA) are being adopted to improve service efficiency through automated processes that are typically performed by humans. These improvements reflect how digital transformation is being used to improve service quality and accessibility for underserved populations, aligned with Proposition P2a.

The findings also strongly demonstrate alignment to proposition P2c, which posits that financial and digital literacy programmes aimed at underserved populations can enhance the adoption of digital financial solutions and promote inclusivity. Various banks are adopting a digital-strategic mindset when developing banking solutions. Educational tools are embedded into digital applications, providing financial guidance on things like budgeting, saving, and buying assets such as a home or a car. These demonstrate banks' intentional efforts to incorporate financial literacy into digital platform development, in line with Proposition P2c.

4.3.4.2 Conclusion for Proposition P2b

The second proposition, P2b, states that mobile banking financial technology is foundational technology for financial inclusion for the underserved communities. The participant responses strongly indicated that banks are deliberately developing banking services that are accessible via mobile devices. The banking platforms are being developed using mobile technology, which includes mobile applications, USSD and cell phone banking, delivered for accessing financial services. Technology infrastructures are being expanded to include functionality to support interfaces with systems from other banks. Furthermore, the platforms are being enhanced to include features such as vehicle license renewals, refuelling at petrol stations, and financial education tools. These findings highlight a mobile banking platform that is accessible, affordable and scalable for servicing the underserved populations.

Self-service terminals at branches are being installed, which offer similar functionalities as mobile banking. This indicates that physical touchpoints at branches are complementing the use of mobile technology as part of enhancing access and customer experience.

4.3.4.3 Conclusion for Proposition P2d

The third and final proposition, P2d, posits that financial institutions that integrate sustainability dimensions – environmental, social and economic – into their digital strategies can create business models that enhance financial inclusion. Social sustainability is highlighted where banks are developing banking platforms that are inclusive so populations without smartphones can access financial services. The targeted underserved population are being included in the journey of digital transformation, where their needs are being considered when building digital platform solutions. These efforts illustrate how digital solutions are being tailored for the underserved populations, which is key for social sustainability.

Economic sustainability is being addressed where solutions are being developed and operated in a cost-efficient way. Solutions are being integrated with other banking institutions to facilitate things like collections and payments, which saves servicing costs for clients. Furthermore, banks are continuously optimising their technology

infrastructure to ensure it operates optimally, and cost savings are being transferred to customers through lower service fees.

Environmental sustainability is evident using digital resources, which eliminates the need for paper and footprints at branches. This shows a conscious effort by banks in ensuring environmentally friendly operations and services by leveraging digital technology.

The following section discusses the findings related to the internal organisation of banks' support for digital transformation efforts aimed at enhancing financial inclusion for underserved populations.

4.4 Digital Transformation Strategy and Business Organisation

4.4.1 Digital Transformation and Organisational Infrastructure

This section presents findings that relate to Proposition P3a, which states that organisations must transform their infrastructure to integrate digital transformation strategies for their financial inclusion objectives. Additionally, this section presents findings related to Proposition P3b, which posits that transformed organisational infrastructure to support digital strategies enhances operational efficiencies, reduces costs and contributes to sustainability goals for financial inclusion. Organisations need to transform their internal infrastructure to align with digital transformation initiatives. These changes are the creation of new business models to enable new value creations driven by operational efficiencies because of digital innovation. Furthermore, organisational restructures and the establishment of new organisational structures are necessary to enable digital transformation. Table 9 below presents participants' responses to the changes banks are making from an organisational infrastructure point of view to support the digital transformation journey.

Table 9: Digital Transformation and Organisational Infrastructure

Participant	Participant Transcript Text	Digital Transformation Theme	Digital Transformation Sub-Theme	Organisational Infrastructure Theme
Participant 1	… We have all the processes in place that any bank has to make sure that the infrastructure can cope with the volumes. We run most of our applications in AWS where you have three availability zones where you can auto scale, where there's pretty much infinite hardware available…	Digital Technology Adoption	Integration of digital technology	Process Clarity
Participant 2	… We have host to host integration where we are able to communicate with the various banks that are within that ecosystem and then they do the collection, and we do the reconciliation on behalf of the client. Essentially what it means is that there is no human intervention involved…	Changes in Value Creation	Change in Processes and Tasks	Process Clarity
		Structural Changes	Change in Roles	Role Clarity
Participant 12	...we have a program to help us get the right foundational technology in place so that we can improve our mobile app. So, it is obviously a long-term project because there's a lot of foundational elements that need to be overhauled and a lot of things that need to be put in place. But what that will give us is it will give us a little bit more Flexibility on our app. And what I mean with flexibility is the way that we deploy products and services on the app in it's not just kind of end to end. it's flexible in terms of where you can make changes, making changes to its quicker and faster deployments for our clients. And then the other	Digital Technology Adoption	Integration of digital technology	Process Clarity

Participant	Participant Transcript Text	Digital Transformation Theme	Digital Transformation Sub-Theme	Organisational Infrastructure Theme
	element of it is allowing for much more personalization, which I think is quite key from a client experience perspective...			
Participant 13	… D365 and credit digitization capabilities are all key initiatives to support the automation of a number of our processes. The other thing is we do a lot around artificial intelligence and self-support. We've got a lot of work already that we developed in terms of predictive modelling, predictive selling. In other words, we equipped the front line with predictive analytics to tell them what we believe, based on the analytical capability, the client's next product or service is needed. That is predicted with an 80% confidence factor as well, which is great to see…	Structural Changes	Digital Skills	Role Clarity
Participant 15	…From resources we hire, I think we've got some talented technical people. I think we've got some strong leaders within the technology space under raise leadership. I also think we are getting better at breaking down silos between technology and business which is very important, which requires a strong product owner …	Structural Changes	Organisational Structure Change/Redesign	Role Clarity

Participant	Participant Transcript Text	Digital Transformation Theme	Digital Transformation Sub-Theme	Organisational Infrastructure Theme
Participant 16	… Moving from office to kind of hybrid ways of working has been a bit more challenging. So, we've lost a little bit of that in person. You know, when we used to sit together in squads historically, you would sit with this journey map on the wall as an example …	Structural Changes	Change in Ways of working	Organisational Culture

4.4.1.1 Cloud Migration and Foundational Technology

Banks are introducing digital technology to their organisations to enable their digital transformation journey. Banks are leveraging the cloud infrastructure by migrating their applications to services like Amazon Web Services (AWS). Participant 1 noted that the migration of their applications to the cloud is to ensure they can meet the demands, such as an increase in volumes. Similarly, Participant 12 noted that banks are enhancing their technology stack by developing foundational technology structures, which will allow for scalability and flexibility to deploy products and services to their platforms. These projects illustrate how banks are preparing themselves for the future of digital transformation.

These initiatives link with Kandampully et al. (as cited in (Ardiansyah & Alnoor, 2024), who highlighted that such infrastructure changes drive sustainability in ways where resources are used optimally and waste is reduced. Similarly, Holtström and Teece (as cited in (Arifidianto, 2023)) suggested that business model transformation is core to digital transformation success, especially of value generation and maintaining competitive advantage. Cloud infrastructure thus supports this transformation by enabling flexibility, scalability and cost-efficiency for expanding financial access for underserved populations.

4.4.1.2 Modernisation of Systems and Transformation of Processes

Banks are modernising their systems through host-to-host interfaces and infrastructures to enable seamless integration with systems from others. Participant 2 noted that banks

are enabling these integrations to facilitate client services like collections. Moreover, participant 13 highlighted that banks are adopting digital tools like Microsoft Dynamics 365 (D365) and credit digitisation to support the automation of processes. Participant 13 further added that banks are exploring AI to facilitate predictive analytics, which will recommend the next product to offer a client. These initiatives reflect that banks are making efforts in transforming and automating their processes using new digital technology. Further, it reflects how banks are enhancing decision-making using data, which enhances service delivery.

These efforts are reflected in findings by Kraus et al. (as cited in (Arifidianto, 2023)), who posited that process transformation that embeds digital technology enhances operational efficiency. Additionally, Kahraman and Haktanir (as cited in (Behrens et al., 2023)), echoed this by arguing that digital transformation not only enhances operational efficiency but also improves productivity as part of service delivery.

4.4.1.3 Digital Talent and Organisational Capability Development

Banks are deliberate about getting the right talent with strong digital skills to support the digital transformation journey. Participants 15 emphasised that banks recruit the right resources and leaders with a strong background in technology. This highlights how banks are ensuring they have the right digital skills in place to support digital transformation.

4.4.1.4 Breaking Silos and Hybrid Ways of Working

At the same time, banks are looking at ways to break down silos to bridge departments impacted by digital transformation. Participant 15 highlighted that a culture shift is imminent where the working models are being transformed by breaking silos between business and technology. However, some participants have encountered challenges in this process. Kowalski et al. (2024), who highlighted the importance of introducing new organisational structures to enable successful integration of digital transformation, support this view.

Participant 16 expressed that the new hybrid ways of working are proving to be more challenging as they remove that in-person touch used historically. These sentiments reflect the dynamics of changes in organisational structure and cultures during the digital

journey. This aligns with literature on organisational culture for transformation success, which highlights the importance of cultural changes within banks necessary for digital banking adoption (Ebong & George, 2021), while Dhyanasaridewi et al. (2024) mentions business sustainability being achieved through organisational culture transformation.

4.4.2 Digital Transformation and Organisational Processes

This section shows findings that relate to Proposition P3c, which states that organisations that leverage digital technology to transform processes can reduce operational costs and achieve cost savings in the delivery of accessible and affordable financial products and services. The internal processes of an organisation embarking on digital transformation are impacted, which requires change. Organisations are adopting digital technology to automate processes as part of operational efficiency. Examples include banks streamlining and automating manual processes to save on costs. This improves productivity and eliminates waste. Table 10 below presents the participants' responses on how banks are transforming internal processes through the adoption of digital technologies.

Table 10: Digital Transformation and Organisational Processes

Participant	Participant Transcript Text	Digital Transformation Theme	Digital Transformation Sub-Theme
Participant 2	… We have host to host integration where we are able to communicate with the various banks that are within that ecosystem and then they do the collection, and we do the reconciliation on behalf of the client. Essentially what it means is that there is no human intervention involved…	Structural Changes	Change in Processes and Tasks
		Structural Changes	Change in Roles
Participant 3	… So what branches are doing. What we've done is that we integrate stuff like, for example, there may be certain things that trigger assistance for customers that are in the branch, but it still leads back to the app. What it does is that customer might not be able to do the stuff themselves but then prompts the assistance to	Structural Changes	Change in Processes and Tasks

Participant	Participant Transcript Text	Digital Transformation Theme	Digital Transformation Sub-Theme
	be able to assist the customer to do it either online in the branch itself, or on their own phone, which is through an existing type of thing. In other words, it's a system where, for example, you get an OTP or something where we are saying, hey, this assistance is about to give you advice, accept it on your phone…		
Participant 5	… we have adopted RPAs making it very seamless to send out communication to customers to simplify some of the work that a human being would do. We have adopted that, but it is still very slow, and it is not fully fledged operationally...	Structural Changes	Change in Processes and Tasks
Participant 11	…AI. We're working on a digital solution where clients might not be able to speak to someone…	Changes in Value Creation	Transformation of processes
Participant 12	… But in the technology department there's always contention because there's similar teams building on the same technology and even those teams have contention. So, there's again a layer of prioritisation that need to happen. And we have these fights between building things for business banking or commercial banking or companies versus individuals. We have this fight around do we build on the app, or do we build on staff systems? And it's a constant fight. I think over the last two years we've made some great strides with this particular contentious one that you are talking about around funding for digital versus funding for staff assisted channel technology…	Structural Changes	Change in Processes and Tasks

Participant	Participant Transcript Text	Digital Transformation Theme	Digital Transformation Sub-Theme
Participant 13	…digital strategies are more internal than. So, it's more around how do we digitize and automate our credit processes, how do we ensure that our product onboarding is more digitized and more seamless, and we reduce this burden of paper that our clients are subjected to in terms of having to sign up with us. So, it's more around our internal means to optimize and automate and digitize a number of our processes, our product and client onboarding processes from an internal perspective… … D365 and credit digitization capabilities are all key initiatives to support the automation of a number of our processes. The other thing is we do a lot around artificial intelligence and self-support. We've got a lot of work already that we developed in terms of predictive modelling, predictive selling. In other words, we equipped the front line with predictive analytics to tell them what we believe, based on the analytical capability, the client's next product or service is needed. That is predicted with an 80% confidence factor as well, which is really great to see…	Digital Technology Adoption	Automation of internal processes
Participant 14	…We talk about client experience but also happier staff because digital enables clients to deliver a better service. It also means streamlining of operations because you know, in the past we were very product driven world and I think now we're moving more towards	Digital Technology Adoption	Automation of internal processes

Participant	Participant Transcript Text	Digital Transformation Theme	Digital Transformation Sub-Theme
	converging things for clients around transacting lending, depositing, etc…		
Participant 15	…reconfigured to take into account the future state, to take into account inclusion of artificial intelligence, an element of Robo advisory, an element of really being real time interaction. They are a number of initiatives around real time offers where in real time if a client runs out of money, we're able to give them an offer to take up an overdraft or a personal loan or a credit card within that moment. So really being personalized to clients… … Stokvel account can be partially opened digitally so you can start the journey on USSD for instance and USSD specifically because majority of that market at the time when the product was developed were not adoptive into sort of smartphones etc. So, that process has reduced the account opening process from a good three hours because you need multiple stakeholders to be present for the account to be open to an hour or an hour and a half depending on the banker and the availability of the Stokvel signatories...	Changes in Value Creation	Transformation of processes

4.4.2.1 Banking Systems Integration

Banks are modernising their banking infrastructure by implementing host-to-host interfaces and system integration solutions. Participant 2 indicated that such solutions facilitate integration and communication between bank systems for functions like collections on behalf of customers. Additionally, mobile banking applications are being enhanced to trigger One-Time Passwords (OTP) at branches to facilitate assistance for customers who might be struggling with using the application (Participant 3). These examples illustrate how banks are using digital tools to improve service delivery systems

and processes for clients. Such integration is consistent with the study by Ebong and George (2021), who observed that technology-enabled solutions allow banks to deliver standardised processes that reduce operational costs and promote financial inclusion for the marginalised.

4.4.2.2 Automation and Streamlining through Digital Technology

Banks are further enhancing internal processes by using automation tools such as Robotics Process Automation (RPA) and Microsoft Dynamics 365 (D365). RPAs are being used to streamline and send communication to customers, though these solutions are not yet mature (Participant 5). Participants 13 noted that tools such as D365 and credit digitisation are being used to streamline processes through automation. Participant 14 further added that the digitisation of processes enables banks to enhance customer experience through automated and streamlined processes. These process developments show how banks are automating internal processes to improve customer service and experience, eliminating waste in costs.

The use of these technologies for streamlining processes aligns with Behrens et al. (2023), who assert that such innovations eliminated redundant manual work, thereby improving productivity and efficiencies. Similarly, Kahraman and Haktanir (as cited in (Behrens et al., 2023)) argue that automation eliminates manual work that allows organisations to improve productivity and reduce costs.

4.4.2.3 Artificial Intelligence Innovation

Banks are also exploring the use of Artificial Intelligence (AI) to further improve internal processes for service delivery. Participant 11 noted that banks are exploring AI to mimic actions typically performed by humans. Participant 15 added that banks are implementing AI-enabled robotic advisors that can provide real-time interactions that include things like real-time overdrafts or credit card or loan offers to clients if they run out of money. Similarly, Participant 13 noted that AI is being explored to facilitate automated predictions like what product can be offered next to a client. This sentiment shows how banks are continuously exploring innovative solutions that are futuristic and use the latest digital tools, like AI, to improve financial service delivery.

These innovations not only improve operational efficiency, but they also increase competitive advantage for organisations. Dana et al., Thrane et al., Maklan et al., and Zighan & Ahmed (as cited in (Zighan et al., 2023)) noted that organisational innovation – like the use of AI – enhances performance and customer reach.

4.4.3 Digital Transformation and Organisational Competencies

This section presents the findings related to Proposition P3d, which posits that organisations must invest in the continuous training and upskilling of their workforce to remain current with the latest digital competencies for long-term sustainability and financial inclusion. The effective implementation of digital solutions, specifically for financial inclusion, requires specialised digital skills. Banks undertaking digital transformation must continuously train and upskill their employees on how to use the latest digital tools, specifically for the design, implementation and management of digital solutions for financial inclusion. Table 11 below shows the participants' responses on how banks are upskilling and training their resources with digital competence to enhance financial inclusion.

Table 11: Digital Transformation and Organisational Competencies

Participant	Participant Transcript Text	Digital Transformation Theme	Digital Transformation Sub-Theme
Participant 3	… Internal sort of training education, there's also things like Udemy that one can access. It is selecting the right courses that relate to whatever one is trying to achieve and making sure that they upskill themselves then in that sense. The rest is mostly more from a compliance perspective, making sure that compliance trainings, et cetera are all done and they obviously cover different topics…	Changes in Value Creation	Digital Skills
Participant 5	… I get away host a lot of those consumer education workshops. So obviously with the workshops we try to make sure that we train	Changes in Value Creation	Change in Processes and Tasks

Participant	Participant Transcript Text	Digital Transformation Theme	Digital Transformation Sub-Theme
	the customers, but also at the same time we make sure that the agents are also trained....		
Participant 6	…The bank supports continuous learning, and they support people who are in like manager positions like me. They will take you to university to do your whole Masters. They invest a lot in education and training. For example, Visa, like because it's a bank and we are using the Mac tapes of Visa, they will ask someone from Visa to come from like UK to educate us of the latest technologies, the latest trends, what is what we can do to make more money…	Changes in Value Creation	Digital Skills
Participant 7	… We do skills assessments based on what we need to achieve, and we understand our gaps and we then have plans in closing those specific gaps, be it ensuring that we, we build from, or we take from the pipeline that we've been building over years, or we reskill and upskill where we need to. In most cases, I think with digital transformation, it does mean shifting from colleagues one position to the next.…	Changes in Value Creation	Change in Roles
Participant 8	… There's been a big drive in terms of training and even how the training is offered. There are multiple digital avenues for giving people access to training material. Outside of that, there's partnerships with companies that are part of the first world countries and companies that are quite big in the technology or digital sector. This includes companies like, Microsoft and AWS. There are strong partnerships with consulting	Changes in Value Creation	Digital Skills

Participant	Participant Transcript Text	Digital Transformation Theme	Digital Transformation Sub-Theme
	companies as well for skills where we are lacking…		
Participant 9	…we've invested a lot in people that are doing data science, mathematics, mostly those fields that are actually in technology right now…	Changes in Value Creation	Digital Skills
Participant 10	…Existing staff is getting upskilled, whether it's through coaching, learnerships, you know, sponsoring further studies, etc. Upskilling and recruiting and creating the centres of excellence that are required.	Changes in Value Creation	Digital Skills Organisational Structure Change/Redesign
Participant 12	… We have been on a journey around digital for quite a long time. There's been from a technology perspective, skills and those skills alignment program that makes sure from the techies, from our application architects and all the developers and so forth, we have the right skills. I think the next one is we from a frontline perspective and this is closer to my role have also been on a journey to make sure that our people on the ground in the call centre, the branch bankers and so forth also understand what digital means and understand where the bank is going with digital transformation. So, what we've also done in the last two years is cross skilled them and we have some set programs kind of in place to up their digital skills …	Changes in Value Creation	Digital Skills
Participant 15	… the biggest one is priority and resources. I think our biggest challenge is We have finite number of resources. When I say resources, I mean people and money for these projects.	Structural Changes	Digital Skills

Participant	Participant Transcript Text	Digital Transformation Theme	Digital Transformation Sub-Theme
	And we have usually tight timelines and deadlines and yeah, prioritization… … Because there's multiple projects that are running concurrently in the bank, all of those are fighting for the same sort of resources. And the second challenge I would say is ensuring that we're singing from the same hymn sheet because what you also find is a lot of duplication or people moving in different directions in this prioritization discussion…		

4.4.3.1 Upskilling and Training through Digital Learning and Academic

Banks are presenting internal stuff with various tools to upskill themselves with the latest skills. Participant 3 highlighted that staff have access to digital platforms such as Udemy, where they can select courses aligned with their development goals. In addition, they can upskill through formal academic learning for courses such as a Masters education and training for those who are at management level (Participant 6; Participant 7). These opportunities and initiatives illustrate how banks are deliberate about upskilling their staff from an academic and training perspective, for both technical and leadership competencies. Such investments in human capital align with Behrens et al. (2023), who note that the acceleration of digital transformation efforts requires continuous investments in training the workforce on digital technologies and skills.

4.4.3.2 Strategic Alliances for Digital Knowledge Sharing

Banks are forming strategic alliances with global technology companies to enhance digital competencies. Participant 6 indicated that banks are collaborating with companies such as VISA, which exposes South African banks to the latest technology trends in first-world countries like the United Kingdom (UK). In addition, Participant 8 highlighted collaborations and partnerships with big companies such as Microsoft or AWS for gaining access to skills and competencies in the digital space. These strategic

alliances illustrate the deliberate effort by banks to partner with giant technology companies that are advanced in the digital space to gain access to knowledge and competencies in the digital space. These collaborations allow banks to gain global best practices for internal competencies. This is affirmed by Lagna & Ravishankar and Joia & Cordeiro (as cited in (Falaiye et al., 2024)), who noted the importance of collaborating with technology providers and other partners in supporting digital transformation for financial inclusion.

4.4.3.3 Skills Assessment, Role Clarity and Recruitment

Several banks are performing skills assessments to evaluate the nature of competencies internally. Participant 7 noted that skills assessment in some banks is performed to determine if reskilling of internal staff is needed for achieving specific objectives such as digital transformation. In addition, employees are assigned to new positions and roles to meet the objectives of digital transformation (Participant 7). As part of closing the skills gap, banks are particular in the talent they bring in for digital transformation, specifically those with skills in technology, data science and mathematics (Participant 9). This corroborates with existing literature, which emphasises that organisations need to equip their workforce with digital skills and capabilities to integrate digital transformation into business (Hoe; Heavin & Power (as cited in (Arifidianto, 2023)).

Participant 12 specifically mentioned that banks are investing in upskilling existing staff with digital skills, starting from architects to developers all the way to frontline staff at call centres. This investment supports the idea of creating internal digital capabilities that allow organisations to be agile with the changing external environment (Sabihaini et al., 2023).

4.4.3.4 Challenges in Acquiring Digital Talent

Despite the efforts in investing in digital knowledge and skills, banks face challenges internally around digital resource constraints. The challenge that banks are facing is the fight for resources for the multiple projects that are running concurrently in the banks. Banks have a finite number of resources with the skills needed for projects, which usually have tight deadlines (Participant 15). This highlights the many issues faced by banks in accessing the right digital skills when on the journey of digital transformation.

These talent challenges are consistent with observations by Xv and Meng (as cited in (Ebong & George, 2021)), who noted that banks face a talent shortage alongside regulatory hurdles, which are barriers to advancing digital transformation efforts for financial inclusion.

4.4.3.5 Mandatory Regulatory Compliance and Training

In addition to digital skills and development, banks are also required to ensure staff is compliant from a regulatory perspective. Participant 3 emphasised that staff must complete compliance training, which should cover several topics from a compliance perspective. This ensures that banks remain compliant from a regulatory perspective while they upskill from a digital perspective. This focus on digital training and mandatory regulatory compliance reflects the observation by Chatain et al. and Lashitew et al. (as cited in (Ebong & George, 2021)), who emphasised the importance of such dual focuses for highly regulated sectors like banking to help balance risk to the underserved population when they adopt digital financial services.

4.4.4 Conclusion on Digital Transformation Strategy and Business Organisation

4.4.4.1 Conclusion for Proposition P3a and P3b

The first proposition, P3a, stated that organisations must transform their infrastructure to integrate digital transformation strategies for financial inclusion. The findings show that banks are actively investing in modernising their internal infrastructure to enable digital transformation for financial inclusion. The initiatives include the migration of applications to the cloud, foundational technology development and modernisation of systems. Applications are being migrated to cloud services such as AWS to enable scalability and flexibility to deploy digital financial services. The technology stack is being modernised with foundational technology to be future-ready for digital solutions for financial inclusion.

The second proposition, P3b, posited that transformed organisational infrastructure that supports digital strategies enhances operational efficiencies, reduces costs and contributes to sustainability goals for financial inclusion. The initiatives include the implementation of host-to-host interfaces, exploration of AI for predictive analysis and

RPA for automating processes, which contributes to operational efficiencies. These help banks to streamline operation, reduce waste and improve service delivery through data-driven decisions.

Additionally, the findings revealed that banks are also working on structural and cultural changes. Banks are actively breaking silos between business and technology to improve collaboration. They are navigating the challenges faced by new hybrid ways of working, which require cultural interventions.

In conclusion, the banks are aligned to Propositions P3a and P3b through strategic initiatives around modernising infrastructure, automating processes, developing digital capabilities, and reconfigurations of organisational structures. These collectively improve operational efficiencies, improve service delivery and enable conditions that are aligned to delivering services that support financial inclusion through digital solutions for the underserved populations.

4.4.4.2 Conclusion for Proposition P3c

The third proposition, P3c, stated that leveraging digital technology for the transformation of process can reduce costs of providing products and services that are more accessible and affordable. The findings demonstrated the adoption of host-to-host interfaces, automation of processes using RPAs and exploration of AI for predictive analytics.

Banks are implementing host-to-host interfaces, which allow banks to communicate with systems from other banks for functions such as collection. Operations are being implemented with digital tools like Microsoft D365 to automate processes. Mobile banking applications are being enhanced to include OTP used at bank branches to trigger assistance of customers with digital platforms.

RPA, Microsoft D365 and credit digitisation are solutions that banks are implementing to streamline and automate processes such as communicating with customers. This shows how banks are leveraging digital tools to enhance internal systems to improve service delivery to clients.

In addition, banks are exploring digital technology like AI and robotics to provide real-time predictions of what products to offer them next, which are innovative data-driven services.

In summary, the South African banks are aligning to Proposition 3c through streamlining of processes and data-driven decision solutions through exploration of AI and automation of processes, which can translate to improved customer experiences in a cost-effective way.

4.4.4.3 Conclusion for Proposition P3d

The fourth and last proposition, P3d, stated that organisations must invest in modernising their workforce through continuous training and upskilling on digital skills for long-term sustainability.

The findings show that banks are continuously investing in initiatives that contribute to upskilling of their workforce. Banks are offering digital tools such as Udemy, where employees can access course material for learning new skills, and sponsoring formal education such as university master's degrees for managerial staff.

Additionally, banks are forming strategic alliances with global technology companies such as AWS, Microsoft and VISA, who share insights on the latest technology trends in first-world countries like the UK and what best practices exist in the digital space.

To further strengthen the workforce's skills, banks are performing skills assessments to determine the gap in skills required to support digital transformation strategies for financial inclusion. Existing staff are being assigned to new roles and reskilled accordingly. From a recruitment perspective, banks are deliberate about who they recruit, which are people with skills such as data science, mathematics, and software development. Despite the efforts being made on upskilling and recruitment, banks are still facing scarcity of specialised skills for the projects aimed at digital transformation.

Furthermore, banks need to ensure the staff is compliant from a regulatory perspective through compliance training.

Overall, banks are investing in transformation and modernising their infrastructure, processes and people for integrating digital transformation to provide efficient digital experiences.

The following section discusses the findings related to the importance of strategic alignment between digital and business strategies for financial inclusion objectives for underserved populations.

4.5 Summary of the findings

Overall, the findings demonstrate that South African banks are investing and implementation sustainable digital transformation strategies to enhance financial inclusion to the underserved communities.

Table 13 below summarises the key findings by linking them back to elements and propositions of this study.

Table 12: Summary of the findings

Sustainable Digital Transformation Element	Proposition	Summary of Findings
Business Objective and Financial Inclusion (Scope)	P1a: Organisations that align financial inclusion objectives with business objectives can create financial products and services tailored around societal needs.	The findings show how South African banks are addressing financial inclusion through access, usage, and quality, with affordability and strategic positioning emerging as additional insights. The South African banks are demonstrating a commitment and making deliberate efforts to ensure that financial products and services are accessible, usable, and affordable, thereby meeting the needs of South African communities and removing barriers caused by cost.
Sustainability in Business Strategy (Competency)	P1b: Organisations that align business strategies with UN SDGs i.e. SDG 1,2,3,5,8,9 and 10 can enhance their impact to global sustainability and	Together, these results highlight that South African banks are integrating sustainability into their business objectives through social, economic, and environmental factors to support financial inclusion. • Economically, banks are implementing cost-effective banking platforms while also enabling

Sustainable Digital Transformation Element	Proposition	Summary of Findings
	financial inclusion objectives.	entrepreneurs to use tools like credit checks, which are provided inside the app. • Environmentally, banks are linking their strategic initiatives to sustainability goals and are promoting paperless solutions through digital services like digital wallets, while selling environmentally friendly products like solar products in their marketplace platforms. • Socially, banks are implementing solutions targeted to the unbanked and underserved, extending services to small business owners. This demonstrates strategic efforts towards financial inclusion that comprehensively consider sustainability.
Business Strategy and the External Environment (Governance)	P1c: Financial institutions that create partnerships with other financial institutions, FinTech companies, regulators and policymakers will ensure creation of innovative financial services that adhere to policies and regulations that address underserved population needs.	The findings illustrate that banks are leveraging external partnerships and strategic alliances to access specialised capabilities to innovate financial solutions, which must align with regulatory frameworks and meet the needs of underserved communities. The partnerships include alliances with large technology firms like Microsoft and AWS for cloud computing to enable scaling of banks' solutions. With a highly regulated banking sector environment, banks ensure they proactively engage regulators to ensure new financial solutions comply with the complex financial regulations. However, even though the regulatory engagement is necessary, it can be time-consuming and can be a barrier to the implementation of the financial solutions. Furthermore, banks are showing strong commitment to including customers and communities. This is achieved by conducting educational workshops and including them in the testing of financial solutions before they are released to the rest of the population.

Sustainable Digital Transformation Element	Proposition	Summary of Findings
		Additionally, banks are extending their reach by collaborating with retail stores, placing mobile kiosks for customers to access banking services at their convenient places.
Digital Technology adoption for Financial Inclusion (Scope)	P2a: The adoption of digital technology by financial institutions can enhance financial inclusion that provides accessible, usable and quality financial services for the underserved populations. P2c: Financial and digital literacy programs for the targeted underserved populations can enhance the adoption of digital financial solutions and promote inclusivity.	The findings indicate that banks are actively creating digital platforms to improve accessibility to financial services. These platforms include applications accessible via smartphones and internet banking, while integrating the USSD service for those without smartphones. Banks further enhance customer experience by installing self-service kiosks in branches, ensuring inclusive access for all clients regardless of their level of digital capabilities. Banks are also rethinking how they deliver financial solutions by integrating their systems with other banks, enabling the extension of service to those not banking with them. The multichannel nature of banking services empowers clients to choose their preferred methods of access to banking services. Moreover, digital platforms are being expanded to include services like paying for car licence discs and refuelling at petrol stations. Digital technologies like RPA, which automate processes and streamline client communication without the need for human intervention, are achieving operational efficiency. In addition, some banks are adopting digital-first mindsets for their strategic initiatives. Banking applications are also being enhanced to provide educational services to customers aimed at guiding them on financial things like budgeting, saving, and buying assets such as a home or a car. Overall, the responses reflect a strong focus on inclusivity and customer-centricity in digital banking, aimed at enhancing access to financial services for a broad customer base.

Sustainable Digital Transformation Element	Proposition	Summary of Findings
Digital Solutions for Financial Inclusion (Competencies)	P2b: Mobile banking financial technology is a foundational technology for financial inclusion for the underserved populations.	The findings reveal that banks are creating new value propositions by developing banking solutions accessible via mobile devices. These include applications available via smartphones, the internet banking platform and integrated USSD functionality. While self-service terminals and kiosks at branches offer the same features as mobile applications, they are considered distinct from mobile banking itself. Banks are also modernising their digital interfaces and infrastructure to enable integration with systems from other banking institutions, which, although not explicitly mentioned, support mobile banking. These developments demonstrate the expansion of scope for mobile banking services and empower customers to conduct transactions digitally through enhanced digital features. Overall, the responses reflect constant innovation in mobile banking aimed at improving accessibility and delivering inclusive solutions.
Sustainability in Digital Strategy for Financial Inclusion (Governance)	P2d: Financial institutions that integrate sustainability dimensions environmental, social and economic into their digital strategies can create business models that enhance financial inclusion.	The findings reveal that South African banks are incorporating social, economic, and environmental dimensions into their digital transformation strategy to enhance financial inclusion. Socially, banks are offering multichannel digital banking platforms that ensure accessibility to customers, regardless of possession of a smart device. Moreover, banks provide ongoing support through toll-free contact centres and educational tools. Economically, banks are focused on the cost-effective development of solutions and optimised technology infrastructure, which ensures lower operational costs, which translate to lower service fees for customers. Banks are implementing digitally enabled processes to reduce paper usage and branch visits, thereby promoting environmentally friendly practices.

Sustainable Digital Transformation Element	Proposition	Summary of Findings
		Overall, the responses indicate a customer-centric digital transformation approach, which ensures affordability of services through operational efficiency and environmentally friendly processes enabled through digital resources.
Digital Transformation and Organisational Infrastructure	P3a: Organisations must transform their infrastructure to integrate digital transformation strategies for financial inclusion objectives.	The findings demonstrate that banks are investing in transforming the organisation infrastructure to support digital transformation for financial inclusion. These include the migration of applications to cloud services like AWS; the adoption of host-to-host interfaces and infrastructures to facilitate client services; and the automation of internal processes using digital tools like Microsoft D365 and AI for predictive analytics. Additionally, the banks are equipping themselves with digital skills by hiring the right people and ensuring their existing resources are modern in terms of technology. Finally, banks are breaking silos and shifting to hybrid ways of working, which may require intervention in their organisational culture for smooth integration. Collectively, these initiatives illustrate the banks' commitment to investing in internal infrastructure transformation to support digital transformation by modernising their systems, processes and talent.
	P3b: Transformed organisational infrastructure to support digital strategies enhances operation efficiencies, reduces costs and contributes to sustainability goals for financial inclusion.	
Digital Transformation and Organisational Processes	P3c: Organisations that leverage digital technology for transforming processes can reduce operational costs and provide costs savings for providing products and services that are more accessible and affordable.	The findings suggest that banks are committed to modernising and transforming internal processes using digital technology to enhance service delivery, improve customer experience, and achieve operational excellence. The findings highlighted the key initiatives listed below: • The modernisation of infrastructure involves the host-to-host integration of banking systems with multiple other banks.

Sustainable Digital Transformation Element	Proposition	Summary of Findings
		• Automation using digital tools like RPA and Microsoft D365 to streamline internal processes for enhanced service delivery • Exploration of AI and robotics for predictive analytics, such as real-time product offerings and robotic advisors, such as offering overdrafts when bank balances are low. Overall, the developments indicate an investment by banks to use digital transformation for enhancing processes aimed at improving service delivery, which aligns to quality of banking services for financial inclusion.
Digital Transformation and Organisational Competencies	P3d: Organisations must invest in modernising its workforce by continuously training and upskilling on digital competencies for long-term sustainability.	The findings demonstrate that banks are investing in developing their workforce with the latest digital skills to support digital transformation initiatives. The key strategies include: • Provision of access to digital academic tools, sponsor of university degrees and training. • Strategic alliances with global leaders in technology such as VISA, Microsoft and AWS, for gaining digital knowledge and insights from first-world countries. • Skills assessment of internal staff to determine gaps to be closed by upskilling and role changes. • Navigating constraints in scarce digital skills and limited resources required for digital projects and initiatives with tight deadlines. • Compliance training for internal staff from a regulatory perspective.

Overall, the findings highlighted that clients are at the centre of the business objectives for financial inclusion through digital transformation strategies. The main theme that banks focus on from a financial inclusion is access to banking products and services.

Sustainability is an important factor that is being integrated into the strategies, the social factors dominating. Most efforts around digital adoption and solution are mainly focused on the banking app and transforming bank branches. Banks partner mostly with regulators and a not so much with FinTech companies. Figure 5 below summarises these dominant themes from the findings.



Figure 5: Findings summary word cloud (Source: Created by author)

CHAPTER FIVE: CONCLUSIONS & RECOMMENDATIONS

5.1 Introduction

The purpose of this study was to explore the sustainable digital transformation strategies that can be applied by banks for financial inclusion.

Chapter 4 presented the findings from data collection through semi-structured interviews and discussed them by linking them back to literature, research questions and propositions. The purpose of this chapter is to answer the main research question which is *What sustainable digital transformation strategies can be employed by banks to enhance financial inclusion?* This is presented by attempting to answer the sub-questions of the main question using the findings of this study. The chapter ends by outlining recommendations through implications to the stakeholders of this study and suggests future research.

5.2 Research Question Conclusions

5.2.1 RQ1 Conclusion: Digital Transformation Strategies

The first research question for this study was *What digital transformation strategies can banks employ for financial inclusion objectives?* This question set out to understand what digital transformation strategies can banks employ to enhance financial inclusion for the underserved populations as a business objective. Themes from literature review has shown that digital transformation strategies for financial inclusion objectives can be implemented through strategic alignment, digital technology adoption and organisational transformation aimed at creating inclusive financial systems for the underserved communities.

Banks can enable access, enhance customer experience and deliver affordable financial products leverage digital to underserved communities by leveraging on digital. This must be done by ensuring that digital product and services implemented are tailored around the needs of the target underserved communities. Organisation are advised to algin their financial inclusion objectives with digital transformation objectives

through strategic alignment. This depicted as business digitalisation according to the SAM framework adapted by Zhao et al. (2023) and the conceptual framework on this study.

Digital technology as a strategy needs to be adopted by banks across the organisation. The digital technology must be adopted for both internal and external use within the organisation. From an external perspective, the study has highlighted that multichannel platforms improve the accessibility to financial services. The platforms include applications that can be accessed through smartphones, internet banking and self-service platforms at bank branches to accommodate those who do not have access to smart devices. This empowers users to choose their preferred methods of accessing banking services and ensuring inclusivity of the services through digital. From an internal perspective, bank must utilise the new digital tool to automate and streamlines processes. These include things like AI and RPAs which are used to achieve operational efficiency.

Organisations are required to ensure staff and customers are educated about the digital tool. Banks must ensure that from a strategic and culture point of view they instil not only a financial mindset but also a digital-first mindset. This can be achieved through embedding educational tools into digital applications which provide digital and financial literacy.

Banks must transform their internal infrastructure to integrate digital transaction into the organisation. This can be done by migrating some application to the cloud, adopt architectures like host-to-host interfaces with other institutions and equip themselves with digital skills through recruitment or upskilling of existing staff. In addition, banks are advised to make structural and cultural changes by breaking silos between business and technology. This will ensure a future-ready organisation that can scale and deploy the financial services and products in a flexible manner.

By tying the themes and the findings of this study to the first research question, the study suggests that digital transformation must occur at both business level and at organisational infrastructure level to successfully enhance financial inclusion for underserved population.

5.2.2 RQ2 Conclusion: Sustainable Integration of Digital Transformation Strategies

The second research question for this study was *How can banks integrate sustainability into their digital transformation strategies for financial inclusion objectives?* This question is set out to explore how sustainability can be integrated into digital transformation strategies identified in research question 1. The aim is to ensure that these strategies can work for long term, and they do impact any of the targeted underserved population in any way from an economic, social or environmental perspective. The propositions collectively suggested that integrating sustainability factors with technology innovation and organisational transformation will ensure sustainable digital financial solutions for the underserved population.

The study revealed that banks can integrate sustainability into their digital transformation strategy by ensuring that the social, economic and environmental facts are incorporated to support financial inclusion. This can done (1) economically by implementing cost-effective platforms that can be afforded by the targeted underserved populations, (2) environmentally by implementing financial services and products in a digital manner which promotes paperless solutions; marketplace platform must sell environmentally friendly product like solar systems, (3) banks must include the underserved communities during the design of the digital financial solutions ensuring that it geared towards meeting the needs of these communities.

Moreover, the study revealed that banks must align their strategies, both digital and business, to SDGs 6 (clean water and sanitation), 7 (affordable and clean energy) and 12 (responsible consumption and production). This differs and adds to the previous studies which highlighted that organisation must align their strategies to SDGs 1,2,3,5,8,9 and 10 to enhance financial inclusion(World, 2025; Yap et al., 2023).

Banks must form alliance with external technology providers to leapfrog on digital transformation for financial inclusion in a sustainable way. The partnerships must include regulatory body to ensure the solution are compliant and consumers are protected. The example technology firms include the likes of Microsoft and AWS to access things like cloud computing and access specialised capability for innovating financial solutions. The partnerships help banks to understand what other first world

countries are implementing from a digital transformation perspective for financial inclusion.

Additionally, banks must ensure education around financial and digital literacy is achieved with communities, staff and customers. Also, banks can collaborate with retail stores by placing mobile kiosks to enhance access to banking services at their convenient places.

In conclusion, the findings together with literature demonstrate that digital solutions implemented for financial inclusion must be aligned to sustainability which includes economic, environmental and social factors. Partnerships with other financial institutions, technology firms, regulators and customers is vital to ensuring long-term sustainability of digital transformation initiatives for financial inclusion.

5.2.3 RQ3 Conclusion: Measuring Digital Transformation Impact

The third and last research question for this study was *How can banks measure the impact of digital transformation strategies and sustainability initiatives on financial inclusion for the underserved society?* This question set out to provide measures that banks can use to determine whether digital transformation strategies successfully enhanced financial inclusion for the underserved populations. The digital solutions need to be tailored around the needs of these underserved populations.

The study revealed several measures that banks can use to ensure the digital solution meet the needs of the underserved population from financial inclusion perspective. One part of the study revealed these measures namely (1) customer experience when utilising the digital products and services (2) affordability of the delivered products and services (3). The other part revealed that the solutions must be aligned to sustainability factors namely economic, environmental and social. The other aspect is around regulatory compliance since banks operate in a highly regulated environment, and consumers need to be protected. Banks must work closely with the regulator and must continually align with these regulations.

Bank must work closely with communities through community outreach programmes that educate them about financial and digital aspects of the bank. The platforms implemented must be inclusive and take into consideration those that do not have access to smart devices and the internet. This is called a multichannel platform architecture. Branches must be within the proximity of the targeted communities and must include self-service terminals for the underserved population without access to the internet and smart devices.

The findings of this study highlighted that banks could measure the impact of sustainable digital transformation solutions through customer experience, affordability of products and services, and presence of sustainability factors. This must be done by collaboratively working with customers and regulators to gain insights.

5.3 Recommendations

The study has highlighted several implications for the included stakeholders for this study within South Africa banks. The below highlighted several implications for implementing sustainable digital transformation strategies for financial inclusion:

5.3.1 Academic Implications

This study contributes to the ongoing research on sustainability digital transformation specifically for the banking sector. It also continues to contribute to research on strategic alignment and the use of the Strategic Alignment Model (SAM) for aligning business and technology strategies, specifically for digital transformation initiatives aimed at financial inclusion.

5.3.2 Practical Implications

- ***Business Scope:*** The banks must ensure the business objective reflect the aim to enhance financial inclusion before aligning it with digital transformation strategies aimed at financial inclusion
- ***Culture Shift:*** Banks must find ways to instil a digital-first mindset if it were to be successful at digital transformation for financial inclusion.

- ***Sustainable Strategy:*** Digital transformation strategies for financial inclusion will be sustainable if it considers not only the economic factor but also the social and environmental factor
- ***Stakeholder Engagement:***
    - Bank must have community outreach programmes and educational tools that will educate on financial and digital literacy
    - Customers must be included in the design of the digital solution aim at meeting their financial needs
- ***Business and Platform Transformation:*** Digital transformation will only be successful if transformation is done to existing infrastructure i.e. (processes, structure and skills) and business strategy (i.e. scope, competencies and governance).

5.3.3 Management Implications

- ***Digital upskilling:***
    - Managers must ensure the goals of their employees are aligned with the group strategy on digital transformation for financial inclusion
    - Goals on development must reflect digital upskilling

5.3.4 Policy Implications

- ***Existing Policy Changes:*** existing policies must be updated when digital transformation is integrated into the business.
- ***Regulatory compliance:*** the implemented digital solution for financial inclusion must comply with existing and updated regulations to protect consumers

5.3.5 Suggestions for banks

1. Banks must clearly state the business objectives aimed at financial inclusion and sustainability as part of the business strategy
2. The digital vision of the bank must clearly state the strategic focus on financial inclusion and sustainability, which should algin to the business strategy

3. The business strategy and digital vision must be communicated to the rest of the organisation through various strategies including
    a. Awareness programmes on the digital vision
    b. Policy changes to reflect digital transformation and sustainability
    c. Digital upskilling of employees and recruitment new employees with digital skills
4. Create project initiatives aimed at digitally transforming the business products and services
5. Create project initiatives aimed at digitally transforming the organisational processes and infrastructure to support the new digital products and services
6. Continuous customer engagement for education and insights on the new products and services

5.4 Suggestions for further research

The study collected data within the context of South African banks and focused on a specific number of banks. The future research may expand this to more banks within Africa, and the findings can be tested out in banks outside of South Africa. The participants only included professional that work at banks and excluded customers. Future study can further include customers to get their input on how they view digital transformation enhancing financial inclusion.

The literature review revealed that financial inclusion can enhance UNs SDGs. Future study can further research on how digital transformation aimed at financial inclusion within different contexts helps in achieving SDGs and which ones specifically do banks really play a part in. The study used SAM as a framework to help answer the question *What sustainable digital transformation strategies can be employed by banks to enhance financial inclusion?* Future research can use other analytical frameworks such as Dynamic Capabilities, Resource-Based View and Tripple Bottom Line (TBL) which were possible candidates for answering the research questions for this study.

The data was analyses using deductive thematic analysis which used existing themes from literature review. Future study can use other forms of data analysis which can include inductive thematic analysis to see what other themes emerge for this type of

study. The research only focused on the banking sector. Future research can expand this to other industries and sectors.

Table 13: Consistency table: research questions, propositions, data collection and data analysis

RQ #	State Research Question or Objective	Proposition #	State Proposition or Hypothesis	Data collection detail	Data analysis method
1	What digital transformation strategies can banks employ for financial inclusion objectives?	*P1a* *P2a* *P2b* *P2c* *P3a* *P3b* *P3c*	P1a: Organisations that align financial inclusion objectives with business objectives can create financial products and services tailored around societal needs. P2a: The adoption of digital technology by financial institutions can enhance financial inclusion that provides accessible, usable and quality financial services for the underserved populations. P2b: Mobile banking financial technology is a foundational technology for financial inclusion for the underserved populations. P2c: Financial and digital literacy programs for the targeted underserved populations can enhance the adoption of digital financial solutions and promote inclusivity.	Semi-structured interview – 2,3,4,5,6,7,8,9,10	Deductive Thematic analysis

RQ #	State Research Question or Objective	Proposition #	State Proposition or Hypothesis	Data collection detail	Data analysis method
			P3a: Organisations must transform their infrastructure to integrate digital transformation strategies for financial inclusion objectives. P3b: Transformed organisational infrastructure to support digital strategies enhances operation efficiencies, reduces costs and contributes to sustainability goals for financial inclusion. P3c: Organisations that leverage digital technology for transforming processes can reduce operational costs and provide costs savings for providing products and services that are more accessible and affordable.		
2	How can banks integrate sustainability into their digital transformation strategies for financial inclusion objectives?	*P1b* *P1c* *P2b* *P2c* *P2d* *P3b* *P3d*	P1b: Organisations that align business strategies with UN SDGs i.e. SDG 1,2,3,5,8,9 and 10 can enhance their impact to global sustainability and financial inclusion objectives. P1c: Financial institutions that create partnerships with other financial institutions, FinTech companies, regulators and policymakers will ensure creation of innovative financial services that adhere to policies and regulations that address underserved population needs.	Semi-structured interview – 3,4,5,6,7,9,10,11	Deductive Thematic analysis

RQ #	State Research Question or Objective	Proposition #	State Proposition or Hypothesis	Data collection detail	Data analysis method
			P2b: Mobile banking financial technology is a foundational technology for financial inclusion for the underserved populations. P2c: Financial and digital literacy programs for the targeted underserved populations can enhance the adoption of digital financial solutions and promote inclusivity. P2d: Financial institutions that integrate sustainability dimensions environmental, social and economic into their digital strategies can create business models that enhance financial inclusion. P3b: Transformed organisational infrastructure to support digital strategies enhances operation efficiencies, reduces costs and contributes to sustainability goals for financial inclusion. P3d: Organisations must invest in modernising its workforce by continuously training and upskilling on digital competencies for long-term sustainability.		

RQ #	State Research Question or Objective	Proposition #	State Proposition or Hypothesis	Data collection detail	Data analysis method
3	How can banks measure the impact of digital transformation strategies and sustainability initiatives on financial inclusion for the underserved society?	*P1a* *P1b* *P1c* *P2a* *P2c* *P2d* *P3b* *P3c*	P1a: Organisations that align financial inclusion objectives with business objectives can create financial products and services tailored around societal needs. P1b: Organisations that align business strategies with UN SDGs i.e. SDG 1,2,3,5,8,9 and 10 can enhance their impact to global sustainability and financial inclusion objectives. P1c: Financial institutions that create partnerships with other financial institutions, FinTech companies, regulators and policymakers will ensure creation of innovative financial services that adhere to policies and regulations that address underserved population needs. P2a: The adoption of digital technology by financial institutions can enhance financial inclusion that provides accessible, usable and quality financial services for the underserved populations. P2c: Financial and digital literacy programs for the targeted underserved populations can enhance the adoption of digital financial solutions and promote inclusivity.	Semi-structure interview – 2,4,6,7,8,11,12	Deductive Thematic analysis

RQ #	State Research Question or Objective	Proposition #	State Proposition or Hypothesis	Data collection detail	Data analysis method
			P2d: Financial institutions that integrate sustainability dimensions environmental, social and economic into their digital strategies can create business models that enhance financial inclusion. P3b: Transformed organisational infrastructure to support digital strategies enhances operation efficiencies, reduces costs and contributes to sustainability goals for financial inclusion. P3c: Organisations that leverage digital technology for transforming processes can reduce operational costs and provide costs savings for providing products and services that are more accessible and affordable.		

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APPENDIX

APPENDIX A: Semi-Structured Interview Questionnaire

SEMI-STRUCTURED INTERVIEW QUESTIONNAIRE

PARTICIPANT INFORMATION

Name:
Institution:
Position or role:
Reason for selecting participant:
Sex:

INTERVIEW DURATION

45 – 60 mins

INTERVIEW QUESTIONS

INTRODUCTION

1) Could you please provide an overview of your professional background, including your role and how long you have been in this role?

BUSINESS STRATEGY ALIGNMENT

2) Can you please describe your bank's main objectives for financial inclusion and their relationship to your sustainability goals?
3) What initiatives has your bank employed to promote financial inclusion?

IT AND DIGITAL TRANSFORMATION STRATEGY

4) Please describe your bank's main goals for digital transformation strategies, particularly for financial inclusion.
5) How does your bank integrate sustainability into its digital transformation strategies for financial inclusion?
6) Please provide examples of specific digital solutions or technologies adopted by your bank to enhance financial inclusion.

STRATEGIC ALIGNMENT

7) How does your bank ensure digital transformation initiatives align with financial inclusion and sustainability objectives?
8) What challenges does your bank encounter when aligning digital transformation with sustainability and financial inclusion goals?
9) In what ways does your institution ensure its infrastructure is equipped to support digital transformation strategies for financial inclusion and sustainability?
10) Describe how your institution ensures that the necessary competencies for digital transformation are in place for financial inclusion and sustainability?
11) What role does stakeholder engagement and partnerships, such as regulators, FinTech and policymakers, play in supporting digital transformation for sustainability and financial inclusion objectives?
12) What mechanism or performance indicators does your institution use to assess the effectiveness of digital transformation strategies for financial inclusion and sustainability?

APPENDIX B – Ethical Clearance Certificate

Graduate School of Business Administration
University of the Witwatersrand, Johannesburg

Wits Business School Ethics Committee
Constituted under the University Human Research Ethics Committee (Non-Medical)

Ethics Clearance Certificate

Ethics protocol number: WBS/DB2527146/992

This certificate is only valid with a legitimate ethics protocol number and signed by the Researcher (below).

This certificate is only valid if accompanied by formal permission from the relevant stakeholder(s).

Project title	Sustainable digital transformation strategies for financial inclusion by South African banks
Investigator / Researcher	Mr Thembinkosi Ngubane
Nature of Project	MM (Digital Business)
Decision of the Committee	Approved, provided stakeholders and participants are guaranteed confidentialty.
Issue Date of Certificate	31/01/2025
Expiry date	Date of submission of the project / research report
Chairperson	Dr Ayanda Magida ☎ +27 11 717 3953 ✉ ayanda.magida@wits.ac.za

Declaration by Researcher

One copy must be signed by the Researcher and returned to the Chairperson of the Wits Business School Ethics Committee.

I fully understand the conditions under which I am authorized to carry out the abovementioned research and I guarantee to ensure compliance with these conditions. Should any departure to be contemplated from the research procedure as approved I undertake to resubmit the protocol to the Committee.

Signature	2025-02-06 Date:

APPENDIX C – Consent Form

Consent Form

Title of project: Sustainable Digital Transformation Strategies by South African Banks for Financial Inclusion

Name of researcher: Thembinkosi Innocent Ngubane

I, ……., agree to participate in this research project.

I agree to the following:

(Please circle the relevant options below)

The research study was explained to me. I understand what this study is about.	YES	NO
I understand that I can volunteer to take part in the study	YES	NO
I agree that the interview may be audio recorded	YES	NO
I agree that anonymous quotations from my interview may be used by the researcher in their research report	YES	NO
I agree that my participation will remain anonymous (my name or other identifying data will not be used by the researcher in their research report)	YES	NO
I agree that other researchers may use the information I provide in my interview (depending on their own ethics clearance being obtained) but my name and any personal information will not be used or passed on	YES	NO

…… (signature)

…… (name of participant)

…… (date)

…… (signature)

…… (name of researcher/person seeking consent)

…… (date)

APPENDIX D – Participation Information Sheet

Participant Information Sheet

Dear Sir / Madam

My name is Thembinkosi Innocent Ngubane. I am a Masters student in Digital Business at the University of the Witwatersrand, Johannesburg. My supervisor is Prof. Nixon Ochara. I am conducting a research study about exploring sustainable digital transformation strategies that South African banks can apply for financial inclusion. The study title is Sustainable Digital Transformation Strategies by South African Banks for Financial Inclusion.

I am inviting you to take part in an interview. The interview has 12 questions If you decide to take part, your participation in this research study will last about 45-60 minutes The interview will take place in a mode of your preference between mode face to face, conference calls or telephonic interviews using digital mobile or laptop or desktop computer. This will be during working hours.

With your permission, I would like to audio record the interview. This data will be stored in university's OneDrive and deleted after 2 years. Only the researcher will have access to the data.

During the research activity, I will need to ask for some personal information about you, including role, institution and sex.

The interview will be confidential and anonymous. When I share the results of the research study, I will not include your name or anything else that could identify you. With your permission, other researchers may use the data collected from this research study, but your name and any personal information will not be used or passed on.

If you decide to take part in the research study, it should be because you want to volunteer. You do not have to take part. You can stop being in the study at any

time. You do not have to answer any questions if you do not want to. You will not get any direct benefits if you choose to join the research study. You will not lose any services, benefits or rights you would normally have if you decide not to join. Taking part in the research study will not cost you anything. You will not be paid for being in this research study. Your travel/data costs to attend the interview will be reimbursed to a maximum of R150.

This research study will be written up as a research report. The report will be available on the university library website. If you would like to receive a summary of this report, I will be happy to send it to you.

If you have any questions during or afterwards about this research study, feel free to contact me or my supervisor on the details listed below. If you have any concerns or complaints about the ethical procedures of this research study, you are welcome to contact the University Human Research Ethics Committee (Non-Medical), telephone +27(0) 11 717 1408, email hrecnon-medical@wits.ac.za.

Yours sincerely,

Mr Thembinkosi Innocent Ngubane

Researcher:

2527146@students.wits.ac.za/ 0834845533

Supervisor:

Professor Nixon Ochara, Nixon.Ochara@wits.ac.za, 0117173544

APPENDIX E – Permission Letter



University of the Witwatersrand,

Wits Business School 011 717 3544

[Insert addressee details]

[Contact person]

[Organisation name]

[Organisation address]

[Date]

Dear Sir/Madam,

Re: Permission to conduct research at [insert organisation name].

My name is Thembinkosi Innocent Ngubane.

I am studying for a Masters in Digital Business in the Wits Business School at the University of the Witwatersrand. I am seeking permission to do research at [insert organisation name].

I am conducting research on I am conducting a research study about exploring sustainable digital transformation strategies that South African banks can apply for financial inclusion. The study title is Sustainable Digital Transformation Strategies by South African Banks for Financial Inclusion.

I will invite individuals from your organisation to participate in this study. [Explain who you want specifically, a certain group, or anyone in the organisation?] If they agree, they will be asked to be interviewed for about 45-60 minutes. The interview will be during working hours. The mode of the interview will be at the preference

of participant between face-to-face, conference call or telephonic using mobile phone or laptop or computer desktop.

Participants will be asked to give their written or verbal consent before the research begins. Their responses will be treated confidentially, and identities (their names and the name of the organisation) will be anonymous unless otherwise expressly indicated. Individual privacy will be maintained in all published and written data resulting from the study.

The results will be communicated as a research report on the university library website.

The research participants will not be advantaged or disadvantaged in any way. They will be reassured that they can withdraw their permission at any time during this project without any penalty. There are no foreseeable risks in participating in this study. [If there are risks, these must be clearly stated.] The participants will not be paid for this study.

All research data will be destroyed after 2 years.

I therefore request permission in writing to conduct my research at your organisation. The permission letter should be on your organisation's headed paper, signed and dated, and specifically referring to myself by name and the title of my study.

Please let me know if you require any further information. I look forward to your response as soon as is convenient.

Yours sincerely,

Mr. Thembinkosi Innocent Ngubane

2527146@students.wits.ac.za/ 0834845533

Supervisor:

Professor Nixon Ochara, Nixon.Ochara@wits.ac.za, 0117173544

APPENDIX F - Research Project Timeline

RESEARCH PROJECT TIMELINE

START DATE: 2024/08/19

ACTIVITY	START	END	NOTES
Ethics Approval	2024/08/19	2024/09/23	5 weeks
Data Collection	2025/01/06	2025/03/03	8 weeks
Data Analysis	2025/03/03	2025/04/14	6 weeks
Writing and Drafting	2025/04/14	2025/05/26	6 weeks
Review and Feedbank from Supervisor	2025/07/22	2025/08/19	4 weeks
Final writing of Research report	2025/08/19	2025/09/02	2 weeks
Submission	2025/09/09	2025/09/16	1 week

APPENDIX G – Turnitin report

turnitin

Digital Receipt

This receipt acknowledges that Turnitin received your paper. Below you will find the receipt information regarding your submission.

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Assignment title:	Research Report
Submission title:	MMDB Research Report - TN Ngubane - 2527146 - BUSA7480A...
File name:	MMDB_Research_Report_-_TN_Ngubane_-_2527146_-_BUSA74...
File size:	2.64M
Page count:	161
Word count:	40,198
Character count:	244,378
Submission date:	14-Sep-2025 07:54PM (UTC+0200)
Submission ID:	2750460519



UNIVERSITY OF THE WITWATERSRAND JOHANNESBURG

Sustainable Digital Transformation Strategies for Financial Inclusion by South African Banks

Thembinkosi Ngubane

A research report submitted to the Faculty of Commerce, Law and Management, University of the Witwatersrand, in partial fulfilment of the requirements for the degree of Master of Management in the field of Digital Business

Supervisors
Prof. Nixon Ochara and Mr Mitchell Hughes

Johannesburg, 2025

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