Gordon Institute of Business Science
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Impact of data analytics capabilities on customer-centric approaches in South African retail banks

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Abstract

In recent years, the banking sector has undergone a significant transformation due to rapid digital advancement and shifting customer expectations and needs. Many banks, however, are failing to achieve customer-centric outcomes because they struggle to translate their data analytics capabilities into a value-creating customer experience. The main objective of this qualitative study is to explore how data analytics capabilities impact customer-centric strategies in the South African retail banking sector. Qualitative exploratory methodology was used to guide the study, following an interpretivism philosophy, which employed a non-probability purposive sampling method. The study used in-depth semi-structured interviews with industry professionals and inductive thematic analysis guided by dynamic capabilities theory. The findings reveal that analytics significantly impacts how banks understand their customers, their engagement strategies, and their responses to customers' changing needs, although maturity remains uneven. The findings of the study show that the data analytics capabilities have the ability to enhance personalization, satisfaction, trust, loyalty, and competitive advantage. To realize this potential, banks require a holistic organizational transformation that includes capability activation, governance, cross-functional collaboration, leadership alignment, and outcomes measurement. South African retail banks, therefore, need to move beyond infrastructure investment toward institution-wide analytical enablement to realize genuine customer-centric value.

Keywords

Data analytics capabilities, dynamic capabilities theory, customer-centricity, retail banking, and emerging markets

Plagiarism Declaration

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

Khauhelo Ramatlo

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List of Abbreviations & Acronyms

AI	-	Artificial Intelligence
DAC	-	Data Analytics Capabilities
CDAO	-	Chief Data Analytics Officer
DCT	-	Dynamic Capability Theory
FNB	-	First National Bank
KPI	-	Key Performance Indicator
NPS	-	Net Promoter Score
POPIA	-	Protection of Personal Information Act
R&D	-	Research and Development
SARB	-	South African Reserve Bank
SME	-	Small and Medium Enterprise
TOE	-	Technology Organizational Environment

Chapter 1: Introduction to the Research Problem

1.1. Background

The banking industry has undergone major shifts owing to consistent digital changes, regulatory actions, and customer requirements (Alonge et al., 2023; Anning-Dorson et al., 2023). Essentially, the traditional advantages, such as having a wide branch network, having economies of scale, and offering the same products, are not sufficient anymore for the purpose of being competitive; banks have to realign their business models in line with these disruptive developments (Panday et al., 2024). According to Gupta & Ramachandran (2021) and Holmlund et al. (2020), the capability of banks to create seamless, personalized, and value-adding experiences across physical and digital channels has become very important. In this regard, data analytics capabilities have become a prominent feature of financial institutions as they leverage massive data assets to build insights that can be utilized in the design of the products (Pillay & van der Merwe, 2021).

This transformation is mainly driven by the incorporation of big data platforms, AI, and predictive modeling into operations. Nonetheless, Anning-Dorson et al. (2025) register that “the effective utilization of big data remains challenging, particularly in terms of data integration, real-time analytics, and translating insights into actions” (p. 6). The proficiency of analytical tools in spotting fraud, managing risks, and ensuring compliance indicates that analytics is a strategic differentiator as well as an operational necessity. For actual impact to materialize, however, the organization must be ready, which means that it must be backed by strong leadership, relevant skills, governance of data, and a culture that continuously translates insights into actions (Awan et al., 2021).

Analytical skills are closely related to dynamic capability skills, which are the ability of a firm to identify opportunities, make decisions, and act in rapidly changing markets and reconfigure resources (Akter et al., 2020; Mikalef et al., 2021; Teece, 2007). The banking industry can, through analytics sense(‘Identify evolving customer needs’), seize(‘quickly design and implement solution’) and reconfigure(‘continually

refine customer journeys and processes' (Akter et al., 2020; Anning-Dorson et al., 2025). Although research has already documented these relationships in developed markets, their applicability in an emerging context where regulation, legacy infrastructure, and inclusion remain barriers is still rather under-researched (Anning-Dorson et al., 2025).

According to a study done by Anning-Derson et al. (2025), emerging markets can gain benefits from analytics. The South African banking industry faces a lot of obstacles caused by legacy systems, limited resources, and having to adhere to the requirements of the Protection of Personal Information Act (POPIA). When applied in a responsible manner, analytics can promote financial inclusion, improve affordability, and build trust (Acosta-Prado et al., 2024). Recent local studies show a growing acceptance of digital-only propositions (Cele, 2023), which reflects the strategic importance of customer loyalty and competitiveness (Bisschoff & Els, 2023). Given these dynamics, it is now urgent and important to investigate the extent to which data analytics capabilities can truly influence customer-centricity in the South African retail banking sector.

1.1.1 South African Retail Banking Institutions

The banking sector of South Africa is one of the most developed on the continent of Africa. The South African Reserve Bank (SARB) enforces strict regulations on the South African banking industry. The big five banks, which include the country's top banks, dominate the South African banking environment based on their assets and customer base. The prominent banks are Standard Bank, FNB, Absa, Nedbank, and Capitec, and they are responsible for shaping the customer experience and the competitive landscape (Bisschoff & Els, 2023). For a long time, these banks have relied on the large network of branch presence with strong brand equity (Gao et al., 2020). Currently, however, their position in the market is being challenged by digital players such as TymeBank and Discovery Bank(Panday et al., 2024). The new competitors have disrupted the banking sector by providing cost-effective, technology-driven, and user-friendly customer experience (Mhlongo et al., 2025)

At the same time, South Africa's socio-economic context places huge pressure on the banking sector. Qithi and Mkhize (2023) state that inequality and unemployment continue to be high, with a large population unbanked or underbanked. Banks are now motivated to move beyond profit maximization to offer affordable and easily accessible financial services to all (Langa & Smith, 2024). Using analytics for personalization gives incumbents a method for customizing service and products across income brackets, helping them balance between premium and mass-market customers. (Panday et al 2024)

The industry is displaying competitive dynamics as the established banks and disruptive entrants are growing apart. From inception, TymeBank and Discovery Bank utilized analytics to provide hyper-personalization at scale. New competitors are ramping up customer engagement. Many incumbents risk falling behind if they do not effectively embed and adopt analytics in their customer strategies and processes.

1.1.2 Data Analytics Capabilities

Mikalef et al. (2020) define data analytics capabilities as "the ability of a firm to effectively deploy technology and talent to capture, store, and analyze data, toward the generation of insight" (p. 2). These abilities are not limited to the technology alone. In fact, they also encompass the skills of employees, the governance that shapes data use, and the organizational routines allowing insights to be embedded in everyday practice. According to Mikalef et al. (2021), analytics becomes meaningful if it is included within wider organizational processes, helping firms to transgress inertia to adapt and evolve within a dynamic environment. In the same vein, Johnson et al. (2021) indicate that analytics capabilities can be realized spontaneously through experimentation and local learning or in a more orderly manner, whereby leadership explicitly puts systems and governance mechanisms in place to focus on decisions based on data insights. Analytics capabilities can be referred to as a multi-dimensional capability that consists of technology, process, and people.

The importance of data analytics capabilities can be associated with data-driven decision-making, organizational agility, and generating innovative opportunities. Furthermore, the findings of Holmlund et al. (2020) advanced the view that analytics lies at the heart of the improvement of customer experience across a continuum of touchpoints in a customer journey. Meanwhile, Anning-Dorson et al. (2023) emphasize that governance and quality practices are essential for ensuring the reliability of insights extracted from data analytics. Besides its operational benefits, analytics can also assist companies in dealing with uncertainty through improved forecasting, greater process optimization, enhanced evidence-based decision-making for strategic choices, and forward-looking impacts. Vesterinen et al. (2025) claim that businesses with advanced analytics skill sets not only respond quickly to customer behavior and market changes but also lead in innovation and performance. Different research comes to the same conclusion that analytical capabilities act as a barrier to creating an invincible resource characterized by resilience and flexibility in the long run.

1.1.3 Customer-Centric Strategies

The ability of an organization to deliberately place customer needs, their experiences, and the creation of value at the center of any decision-making is known as having a customer-centric strategy (Dalsace et al., 2025). Likewise, customer centricity is not simply a function of the product's features or internal efficiency. It is about designing the processes, systems, and engagement models around what matters to the customer the most. Holmlund et al. (2020) believe that genuine customer-centricity involves an end-to-end perspective on the customer journey, whereby every touchpoint is regarded as an opportunity to build trust and provide enhanced value. According to Heinonen (2023), customer-dominant logic is important because it acknowledges that value is created in the customer's own context, not as imposed by others. To put it briefly, customer-centric strategies entail embedding the customer perspective into the very fabric of organizational thinking.

Organizations that have switched to customer-centric models from product-centric models report stronger loyalty, customer satisfaction, and sustainable growth (Gupta

& Ramachandran, 2021). Through personal and pertinent customer engagement, firms can differentiate themselves in competitive markets and become more resilient in times of difficulty. Customer centricity supported by analytics and organizational learning improves customer experience quality with an aim to build long-term relationships (Holmlund et al., 2020). The Pardo-Jaramillo et al. (2020) study shows that “what people really desire are not products but satisfying experiences” (p. 2). Research indicates that such firms are better able to innovate due to learning from changing customer needs and expectations (Stremersch et al., 2024). In short, being customer-centric helps organizations to be more competitive and create sustainable value.

1.2. Research Problem

Many banks are falling short on providing customer-centric results from their digital initiatives, as they lack understanding of how technological investments integrate within their overall business goals (Alonge et al. 2025). Most studies have shown that more mature analytics capabilities are linked to improved personalization, better customer experience, and competitive advantage (Alonge et al., 2025). There is an indication that South African banks remain product-driven and transactional (Bisschoff & Els, 2023). This indicates that analytics potential isn’t delivering on customer-centricity in South African retail banking.

This issue is caused in large part by the uneven maturity of analytics adoption. As highlighted in the literature, most banks are still plagued by outdated IT systems, siloed data, and a lack of data professionals. Consequently, this limits the incorporation of analytics into the way they make decisions (Awan et al., 2021; Mhlongo et al., 2025). POPIA and other regulatory requirements require stringent security measures on how customer data is collected and used, as well as the intended purpose for that data (Mbonye et al., 2024). The truth of the matter may be that while such frameworks help to strengthen consumer rights and enhance trust, they inadvertently create tension between freedom of data use for innovative offerings and responsible governance (Steinhoff & Martin, 2023). As a result, the regulatory act complicates reaching genuine customer-centricity.

As such, the research problem centers on the gap between the theoretical and actual potentials of the analytical capabilities and their impact on customer-centric strategies in South African retail banking. It is an important issue to be solved for academics as well as in practice. There is, however, limited evidence on how analytics-enabled dynamic capabilities foster customer experience and trust in emerging economies.

Business Problem

According to Alonge et al (2025) and Mhlongo et al. (2025), the business problem under investigation is the lack of South African retail banks' ability to convert analytics insights into customer value. Alonge et al. (2025) argue that, despite investing heavily in digital systems, the focus is primarily on operational efficiency and regulatory compliance rather than on using insights to create customer benefits. In comparison, because of their use of data analytics, Fintechs can provide clients, low-cost products and experiences tailored to their needs. This gives them an upper hand over traditional banks and helps earn them customers' trust and loyalty (Cele, 2023; Pillay & van der Merwe, 2021).

Larger banks are at a competitive disadvantage for not leveraging insights from data analytics. Customers prefer to do business with banks or financial institutions that provide them with personalized services. Chauhan et al. (2022) claim that the bigger banks are at a high risk of losing their customers to small banks or fintech. Banks need to improve their disclosure efforts as consumers are becoming more transparent. According to Bisschoff & Els (2023) and van Deventer & Shezi (2021), brand loyalty is a rare but strong differentiator in the South African banking industry. All things considered, if these large banks do not start becoming more customer-centric, they might lose considerable market share to smaller banks (e.g., TymeBanks, Discovery) who offer cheaper, better services (Bisschoff & Els, 2023).

In addition, larger Banks are facing heightened regulatory and societal scrutiny. Correctly following protection laws like POPIA is a must. In addition to that, banks

need to tackle the inclusion challenge by offering affordable services. Analytics can help meet these essential requirements, although only if the capabilities of analytics are aligned with a customer-centric strategy. The issue for businesses is not the lack of analytics per se, but the inability to leverage data analytics as a strategic enabler of customer-centricity, trust, and sustainable competitiveness in the evolving South African retail banking industry.

As it stands, South African retail banks urgently need to find a way of operationalizing data analytics capabilities and become a real customer-centric bank, so as to remain in the running and respond to regulatory and social pressures.

Academic Problem

It is only recently that this area has received empirical attention with respect to the issue of data analytics capabilities and customer centricity in emerging markets. According to global studies, analytics maturity helps to enhance better customer experiences, better agility, and better performance of the firm (Gao et al., 2020; Mikalef et al., 2021).

The retail banking space in South Africa, as an emerging market, has its own set of challenges and opportunities still to be explored. The country is highly unequal, with large unbanked or underbanked populations, issues with legacy banking systems, and an array of regulatory requirements like POPIA that hamper innovation. Challenger banks, like TymeBank, provide a useful example of analytics-based and customer-focused approaches. However, academic research has yet to investigate how incumbents with most of the market share are engaging in this (Cele, 2023; Steinhoff & Martin, 2023). Such insights are fundamental for comprehending the nature of analytics as a dynamic capability in emerging markets. Further, only a few research have brought both analytics and dynamic capabilities together as an overarching framework to understand how banks can systematically become customer-centric.

This gap has both theoretical and practical consequences. In theory, it obstructs the construction of frameworks that show how analytics-enabled dynamic capabilities influence customer outcomes (Gupta & Ramachandran, 2021). In practical terms, it indicates that South African banks may continue to underutilize their analytics investments without a clear understanding of how the use of these capabilities will enable true customer-centricity (Pillay & van der Merwe, 2021). As a result, there is a gap in the literature and in practice, as there is no evidence-based empirical research that links data analytics capabilities, dynamic capabilities theory, and customer-centricity in South African retail banking.

1.3. Research Focus

This study aims to examine how data analytics capabilities can underpin customer-centric strategies in South African retail banks. The dynamic capabilities framework highlights the ability of a company to detect opportunities, grab them, and adapt its resources when the environment is changing (Teece et al., 1997). The study's goal is to discover not only how banks are implementing analytics for the purpose of getting closer to their customers and refining the service already offered, but also how they can be more inclusive, reliable, and personalized through service delivery.

The dynamic capabilities theory in this study seeks to explain how South African retail banks adapt to and grow by integrating, renewing, and transforming different and internal skill-sets to cope with the ever-changing environment. Banks must leverage data analytics abilities in order to act on the shifting expectations of customers.

This purpose directly addresses the identified gaps. In business terms, it aims to elaborate upon how banks can capitalize on analytics as a strategic tool for gaining customer centricity, trust, and sustainable competitiveness in the South African retail banking environment. In terms of academia, this further adds to the not-so-much empirical research on analytics-enabled dynamic capabilities in the emerging market

context, where socio-economic realities, regulatory frameworks, and resource constraints uniquely influence the adoption (Panday et al. 2024).

1.4. Research Questions

The main research question driving this study is:

How does data analytics capabilities influence the effectiveness of customer-centric approaches in South African retail banks?

To answer the main question, the following secondary questions will be answered.

1. How are data and analytics insights currently being used to inform customer-centric strategies?
2. What are the data analytics capabilities needed to effectively implement customer-centric approaches?
3. What are the key barriers that are preventing South African retail banks from leveraging customer-centric strategies?
4. How to encourage adoption of the data and analytics strategy to achieve customer-centricity?

1.5. Research Aims

South African retail banks deployed substantial investment in data and digital infrastructure, yet how well they transform analytics to drive genuine customer impact remains underexplored. The Holmlund et al. (2020) study finds that data analytics can enhance personalization, trust, and customer loyalty. Much, however, depends on barriers such as regulatory requirements, legacy systems, and cultural resistance (Kasse Kengne et al., 2025; Pillay & van der Merwe, 2021). Moreover, there is a growing disconnection between what institutions say about being customer-centric and what customers experience. Customers still express dissatisfaction in terms of service, accessibility, and inclusion (Bisschoff & Els, 2023; van Deventer & Shezi, 2021). The aim of the research is to investigate the status of analytics, their usage, the involved barriers, and the adoption thereof. Not only does the study address

pressing business issues, but it also contributes to the academic debate about how analytics-based capabilities promote customer centricity in South African retail banking in an emerging market context.

The study sets the following objectives:

1. To explore how South African retail banks are currently using data and analytics to inform customer-centric strategies.
2. To identify the data analytics capabilities required to implement customer-centric strategies effectively.
3. To examine the key barriers preventing South African retail banks from leveraging analytics-enabled customer-centric strategies.
4. To propose ways in which the adoption of data analytics strategies can be encouraged to strengthen customer-centricity.

1.6. Relevance and motivation for the research

The South African banking industry is the focus of this study owing to its growing pressures to be profitable, stay compliant, and be inclusive.. In case of traditional banks failing to reach the level of agility that the fintechs have, they will be left with no option but to lose their part of the market since the fintechs will be using analytics to provide services that are not only cheap but also highly customized. Taking the customer-centric strategies along with data analytics as the viewpoint, this study aims to suggest practical steps for the banks to boost their loyalty programs, protect their market share, and be competitive in the rapidly changing financial environment. Hallencreutz and Parmler (2021) state that satisfied customers can contribute a lot to the company by making a good image, keeping the market share, increasing loyalty, and reducing complaints (p. 2). Customer-centric approaches should be adopted by banks to design products and deliver services that are useful to customers. This strategy focuses on the consumer rather than the marketplace (Kaartti et al., 2025).

The study extends the contributions of the academic discourse as well. A large part of the literature on data analytics and customer-centricity is produced by developed economies, thus creating a gap within the context of emerging markets. South Africa is a very interesting case for study due to its high inequality, heavy regulations, and

the presence of both old and new players in the market. The researchers using the dynamic capabilities framework are aiming at contributing towards clarification of the theoretical debates on the functioning of analytics-enabled capabilities under the conditions of resource constraints and socio-economic pressures (Panday et al., 2024).

The entire research is conducted with banking as the backbone of society, reflecting the key importance of the issue. Financial services access opens up the economy, and the user would be able to choose both the makers and institutions he or she trusts, which will be a great power. Still, the majority of South Africans are either totally cut off from or very poorly served by the system. (Cele & Mlitwa, 2024) Analytics has the potential to solve the problem of developing inclusive products and providing affordable and trustworthy services to the population at large (Acosta-Prado et al., 2024). Not only is this research contributing to the academic literature, but it is also helping to realize the goal of creating a more customer-centric and inclusive finance world.

1.7. Scope of the research

The research will examine how the use and implementation of data and analytics capabilities lead to the adoption of a customer-centric approach. The study has distinctive delimitations. The study will concentrate on the top five incumbents in the South African retail banking sector. These are Standard Bank, FNB, Absa, Nedbank, and Capitec. Crucially, these banks sit at the center of the financial system of a country and together create competition in the sector. While new entrants such as TymeBank, Discovery Bank, and Bank Zero are considered major disruptors, this research will focus on how established banks use data analytics to enhance customer-focused strategies.

This study would limit its scope to data analytics capability and customer-centricity only. It analyzes the influences of analytics in personalization, engagement, trust, and inclusivity. While overall digital transformation and product innovation outside of customer experience are acknowledged as important contextual factors, they lie beyond the scope of this study. The results concern South Africa, but could have

useful implications for other emerging markets experiencing inequality, regulatory pressure, and disruptive competition.

1.8. Conclusion

This chapter introduces the study by outlining the background, contextualizing the South African retail banking sector, and establishing the role of data analytics capabilities in enabling customer-centric strategies. It articulates the research problem as the gap between the potential of analytics and its realized impact on customer centricity in South African banks, distinguished between the business and the academic challenges, and presents the purpose and objectives of the research. The chapter also highlighted the practical, academic, and societal relevance of the study, while setting out its scope and boundaries.

The golden thread running through this chapter positions data analytics capabilities as dynamic capabilities that allow banks to sense customer needs, seize opportunities, and reconfigure processes to remain competitive. Yet, in South Africa, their potential remains unevenly realized, making it critical to investigate how incumbents are applying analytics to strengthen customer-centric strategies.

1.9. Outline of the Research Report

The outline of this research report is as follows:

Chapter 1: Provides the background of the study. Also, it explains the need of the study and the major problem addressed by the study

Chapter 2: The chapter presents a detailed literature review linking analytics capabilities, dynamic capabilities theory, and customer-centric strategies.

Chapter 3: Sets out the research questions guiding the study

Chapter 4: Discusses the research methods, design, data collection, and analysis. The findings of the data collection are presented.

Chapter 5: Presents the results of the study based on qualitative data collected from the research participants

Chapter 6: Presents the discussion of the study findings in relation to theory and practice.

Chapter 7: Concludes the study, provides recommendations, outlines the contributions and limitations of the study, and offers suggestions for future research.

The next section will provide a detailed literature review on the effect of data analytics capabilities on customer-centric strategies of retail banks in South Africa.

Chapter 2: Literature Review

1. Literature Review

2. Introduction

The previous chapter provides the background of the study and clearly indicates the need for the research, the main problem, and the main aim of the study regarding the impact of data analytics capabilities in driving the effectiveness of customer-centric strategies in the South African retail banking sector.

This Chapter will explore the existing body of knowledge, identify what is currently known, and what the gaps are. This chapter will articulate the challenges identified in research, particularly in how data analytics capabilities can be utilized to drive customer-centric strategies, particularly in the South African context. Over and above that, it aims to better understand the recent literature on data analytics and its capabilities to influence customer-centricity.

Current literature demonstrates that the ability to analyze data can revolutionize customer experience; however, it is unclear how this might work and at what level it could be implemented among emerging markets. The main argument in this review, therefore, is that although the global studies are all about technological maturity, the South African context needs to look at the integration of organizational and dynamic capabilities in order to attain customer-centricity. It is evident from the current literature that analytics capabilities have become central to digital transformation.

Existing global scholars have consistently shown that advanced use of analytics improves decision-making, enhances agility, and contributes to customer experience (Holmlund et al., 2020). However, despite these insights, there remains a limited understanding of how analytics is embedded in emerging markets, where contextual realities such as inequality, regulatory frameworks, and resource limitations complicate implementation.

The different data analytics capabilities refer to the skills, technology, management, and expertise that help explore data potential. Through storytelling, these capabilities utilize advanced computational, statistical, and visualization tools (Chen et al., 2022). Similarly, Elia et al. (2022) state that without the use of data analytics capabilities, firms won't be able to extract knowledge and insights from the data, and they won't be able to use them to make informed decisions, which will assist in the creation of customer-centric outcomes.

Due to intensive competition and the forced necessity of keeping profitable customers, banks have realized the importance of sophisticated data analytics. It helps in increasing customer loyalty and improving marketing strategies to attract more and more customers to new bank products (Hung et al., 2020). The study by Pillay and van der Merwe (2021) shows that the banks can enhance the quality of their customer data, products, risk assessment, and market forecasts. However, deploying such data analytics insights in line with business value has proven to be difficult in having so much data (Hung et al., 2020; Pillay & van der Merwe, 2021).

Outline of the Literature Review

The literature review is arranged in a way to help understand how data analytics capabilities shape customer-centric strategies within the South African retail banking system.

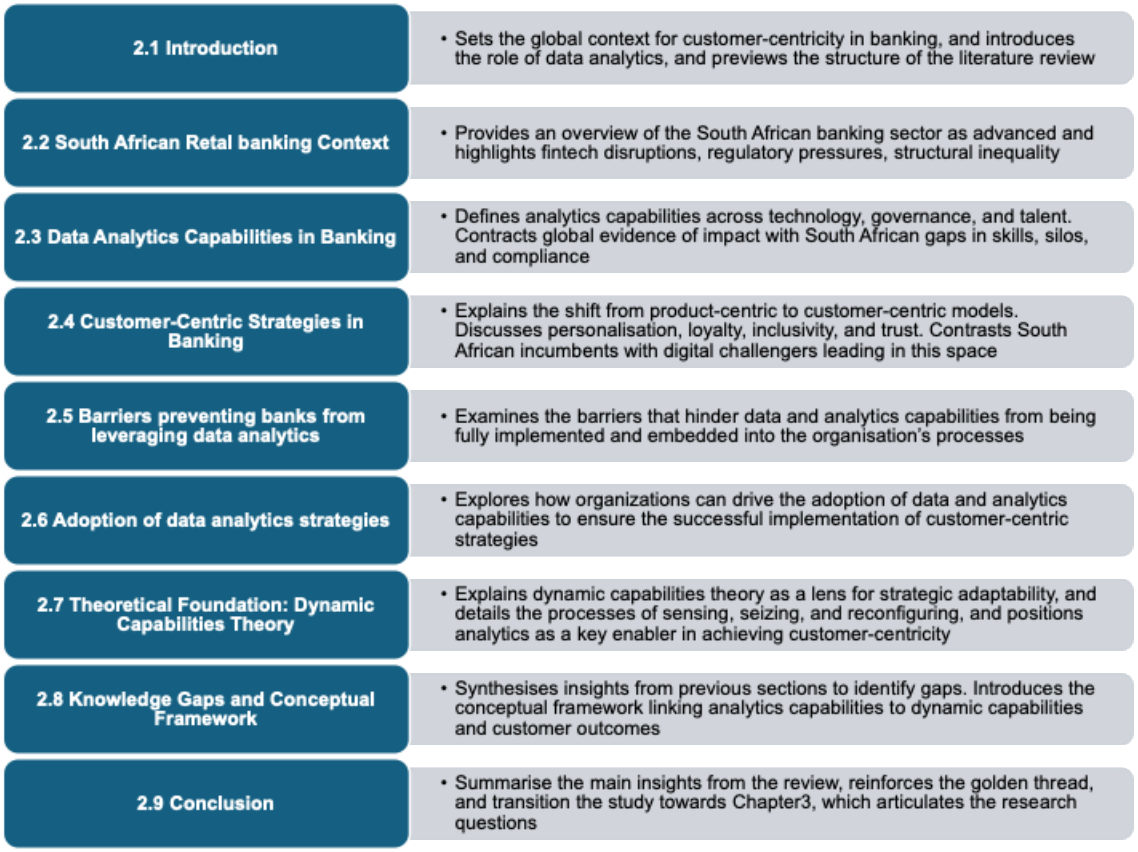


Figure 1*: Literature review layout*

Source: Author's own

2.1. South African retail banking context

The banking sector in South Africa is deemed the best in Africa and is characterized by strict regulations, well-developed technologies, and connections with the global markets (Bisschoff & Els, 2023; Louw & Nieuwenhuizen, 2020). The big five banks, First National Bank (FNB), Standard Bank, Nedbank, ABSA, and Capitec, are the main players in the interactions with customers and the processing of funds (Bisschoff & Els, 2023). This arrangement brings about security but does not support rivalry or progress. The industry has the skills to operate at a technological level, but very often, it takes a long time before customer requirements are met. Alonge et al. (2025) highlights that "Aligning technology with customer needs and regulatory demands can enhance the loyalty of retail banks, drive revenues, and ensure long-term sustainability" (p. 1).

Fintechs and digital-only banks, which respond to customer needs quickly and conveniently, are disrupting traditional banks. The pricing, onboarding, and digital

experience that challengers deliver are reshaping customer expectations by being clearer (Acosta-Prado et al., 2024; Cele, 2023). Research indicates that fintech innovation has increased financial inclusion, primarily of segments that are traditionally unserved by banks (Alonge et al., 2025). Because of their legacy systems, top-down decision making, and compliance-driven processes, structural weaknesses hamper traditional banks, which can result in slow or no innovation. Are the traditional banks using data analytics to stay competitive? This is the question.

Regulatory burden hampers the transformation of the banking sector. The South African banking sector is highly bogged down by regulatory requirements. Anning-Dorson et al. (2025) underline the need to meet compliance requirements, such as POPIA, without sacrificing innovation. Even though the regulations are recognized as viable and important for consumers, they can, however, hinder innovations if the bank lacks transparency and fails to adhere to the regulations (Alonge et al. 2025). Recent research has shown that consumer trust in digital banking is not very strong, particularly regarding the use and management of people's personal data (Acosta-Prado et al. 2024; Cele 2023). This is another complicating factor for the banking sector. It is important that the banks ensure that any governance and adoption issues are tackled to instill trust and confidence in any data-driven strategies.

South Africa's digital uptake illustrates the socio-economic inequalities of the country. Rural and low-income earners are confronted with affordability and infrastructure problems, as well as digital illiteracy. Whereas, digital banking is accepted by middle- and high-income-earning customers (Acosta-Prado et al., 2024). The digital divide between rich and poor raises the question: do analytics-driven customer-centric strategies alienate the underserved, thereby aggravating existing financial inequalities? According to Bisschoff et al. (2023), brand loyalty under these circumstances is uncertain, and it requires banks to constantly prove value to different groups of customers.

In conclusion, South African retail banks are the most advanced in Africa. Yet, it still faces challenges of legacy systems, strict regulations, and pockets of digital adoption. These challenges that the bank faces require it to assess and comprehend

not only how current capabilities of data analytics are being put to use to further customer-centricity, but also what the barriers are that are limiting their impact, how to confront them, and thus push towards a successful implementation of customer-centric strategy.

2.2. Data analytics capabilities in banking

According to Medeiros and Maçada (2022), businesses that leverage analytics capabilities can make impactful decisions about operational functions to drive a competitive advantage over competitors. DAC encompasses technical infrastructure, governance, human skills, and organizational processes and is a multi-dimensional capability (Mikalef et al., 2020). Nevertheless, the scholars vary in the way they view analytics capability maturity. Mikalef et al. (2020) focus more on integration of multiple resources, but Kistiana et al. (2023) criticize this approach, stating that data analytics capability is not only about resource integration, but rather the continuous management of technology, governance, and culture interactions that can preserve its efficacy over time. In addition, Kristiana et al. (2023) emphasize that embedding DAC in the company's processes and systems generates the highest value. When systems are fragmented and there is no collaboration mindset, firms fail to translate data into insights. Similar barriers can be seen in the banking sector. Banks acquire a vast amount of data from customer interaction and behavior, but it gets saved in multiple systems that are not linked to one another, hence in the failure to extract insights.

The authors Medeiros and Maçada (2022) stress that the technological aspect of DAC has already been studied in-depth, with banks worldwide making investments in state-of-the-art predictive modeling tools, analytics, and, most recently, artificial intelligence (Medeiros & Maçada, 2022). However, according to the evidence, infrastructure on its own cannot create valuable data analytic insights that add value to the business. Mikalef et al. (2020) state that analytic efforts may yield unreliable and biased outcomes without sound information governance, eroding trust in decision-making. Similarly, Awan et al. (2021) state that the quality of decisions can be enhanced and strategically aligned with emerging opportunities through data-

driven insights that depend upon reliable and well-organized data. This indicates that technology and governance depend on each other.

Another element that impacts the quality of data-enabled decision-making is data quality. Business relies on data for business decisions and to making strategic choices (Chatterjee et al., 2023; Soldatos & Kyriazis, 2022). Data quality issues make it more complex to use data for delivering customer outcomes. Many scholars have reiterated that ensuring data quality is a crucial step to enable sound business decisions (Kristiana et al., 2023). The legacy system has a huge impact on the quality of data, according to Jha et al. (2020)"Legacy data has rigid format issues that do not suit big data platforms" (p. 11). The integration of data should be done with precision and consistency, and it must follow the organization's big data framework and the organization's architectural standards to ensure accuracy and data quality (Mikalef et al., 2021).

Aspects of both managerial and human DAC are equally important to the business. According to Kristiana et al. (2021), the banking sector has been finding it difficult to embed data-driven decision-making into its operations (Kristiana et al., 2023). There are two ways that are identified by Johnson et al. (2021) for management to accomplish data-driven decision making: they can follow an administered path, where top management guides the digital change, or an organic path that is driven through local learning and experimentation. Both of these are relevant in the banking sector, where operational teams should start using analytics in their daily decision-making, and top management should create a culture that makes decisions based on data and analytics. Mikalef et al. (2021) warn that organizational inertia can stop banks from developing dynamic capabilities through analytics, leaving them not able to adjust quickly to customers' needs or market change.

Globally, banks that have matured their DAC portfolios report tangible gains in agility and innovation. According to Medeiros and Maçada (2022), data visualization tools can enhance banks' ability to monitor and respond quickly to the shifting needs of the customer, while Kristiana et al. (2023) find that analytics-enabled customer-centricity improves customer experience. DAC can help with the implementation of

customer-centric strategies when it is effectively incorporated into the company's strategy and operational processes. Similarly, predictive analysis plays a huge role in customers' experience, as highlighted by Khan et al. (2024). When used effectively, analytics can enable proactive customer outreach, creating true loyalty and helping to retain customers.

Cele (2023) states that there are still barriers such as an analytics skill gap, siloed data systems, and a compliance-driven organizational culture. Adoption of data analytics is still unbalanced in the South African socio-economic environment. The implementation of customer data platforms (CDP) is hindered due to legacy infrastructure and risk-averse decision-making. Leading banks have adopted artificial intelligence, but operationalizing insights for the benefit of customers remains a challenge (Panday et al., 2024). Customer trust adds another dimension. According to Mhlongo et al. (2022), consumers remain reluctant to utilize digital services due to data privacy concerns. For South African retail banks to deliver customer-centric transformations, they must first mitigate these factors.

To sum up, based on the literature, DAC is a multi-dimensional capability ranging from technology to governance, talent, and processes. Global literature has written about the ability of DAC to stimulate innovation and customer-centricity. However, evidence from South Africa shows that structural and cultural constraints have slowed down innovation. There's a need to investigate which data analytics capabilities are required to influence customer-centric strategies

2.3. Customer-Centric strategies in banking

In competitive banking, the focus of business models has changed from product to consumer. Customer-centric strategies refer to designing products, services, and experiences around customer requirements rather than the organizational requirements. Gupta and Ramachandran (2021) contend that the reorientation is particularly essential in the case of emerging markets, whose customers have faster-changing expectations and where the traditional model fails to secure loyalty.

Holmlund et al. (2020) further note that “Obtaining behavioral customer experience insights requires organizations to be able to capture consumers’ decisions along the customer journey” (p. 5). Customer-centricity is an ongoing process of working together with customers to create value, rather than as a one-time initiative (Heinonen, 2023).

According to Mach-Król and Hadasik (2021), the essential element of customer-centricity is knowing the image of customers, which is derived from customer insights. This picture of the customer depicts the knowledge about the customer’s needs, expectations, and opinions. The organizations use this knowledge to create innovative efforts and processes (Mach-Król & Hadasik, 2021). According to research from Khan et al. (2024), it is important for businesses to design goods and services to meet customers’ immediate needs to be able to retain such customers.

Personalization emerges as a key differentiator of analytics-enabled customer centricity. According to Casaca and Miguel (2024), the impact of “personalization on customer satisfaction is profound, leading to enhanced customer experience, increased engagement, improved customer retention, and building of trust and credibility”(p. 2). Furthermore, Camilleri (2020) shows that data-driven technologies enhance customer segmentation. This enables the banks to move from broad demographic categories to micro-segmentation, where services are customized to specific behaviors of the customer. However, too much personalization can take away the authenticity and trust of customers if they feel their privacy is threatened. This has been prevalent in South Africa, where customers raise concerns about data handling, which ultimately affects customers’ willingness to engage with digital platforms (Mhlongo et al., 2025). Therefore, while there are clear benefits of personalization, the banks need to be transparent in how they utilize customers’ data and what ethical data processes have been put in place to ensure data protection.

Customer loyalty and relationship management are very instrumental in customer-centric strategies. According to Bisschoff and Els (2023), loyalty can have a huge impact on a bank’s competitiveness. For banks to ensure that they keep their customers loyal to them, Bisschoff and Els (2023) identified three antecedents:

Customer satisfaction, Customer service, and Trust. Nevertheless, banks must also take other steps, with some managerial intervention, to stimulate customer loyalty. Thus, loyalty is not just measured by repeat customers, but it's a reflection of shared value between the banks and customers, and about creating valuable, trust-based relationships with customers. The increasing competition of convenience and price from fintech disruptors makes customer-centricity a strategic differentiator in this context.

Putting customers first causes companies to adapt and innovate. According to Stremersch et al. (2024), innovation can be successful only if firms know what customers want. Therefore, the ability to extract customer insight becomes important. The information gained can subsequently assist banks in generating novel ideas for their products and services, making sure those meet customers' requirements. Moreover, according to Dalsace et al. (2025), leadership commitment is vital, noting that "leadership refocuses organizational culture and reconnects employees with customers" (p. 7). According to these perspectives, customer centricity is an organizational strategy rather than just a marketing function, which requires cultural transformation and strategic investment. The translation of insights into innovation is slow within South African banks due to their hierarchical structure and risk-averse decision-making (Cele, 2023).

Many researchers in the literature now have different views on the scope and measurability of customer-centricity. Casaca and Miguel (2024) describe it as services linked to loyalty, trust, and personalization, while Dalsace et al. (2025) see it as a strategic orientation with cultural and leadership support. These varied perspectives highlight the complexities of developing unified measures of customer-centricity. This complicates empirical research and implementation strategies towards customer-centricity practices. The varying perspectives make adopting customer strategies that much more difficult, especially in the regulatory-driven environment within which South African banks operate.

The adoption of customer-centric strategies for South African retail banks is a sure way for them to remain competitive in an evolving market. The advantages of being

customer-centric are well documented in the literature, but in South Africa, the trust issue, regulatory constraints, and unequal access still persist. To meet these challenges, banks must decide how best to operationalize customer centricity and ensure that they do not lose customers.

2.4. Barriers preventing banks from leveraging data analytics

Digital transformation involving analytics-enabled customer centricity is a transformation that aligns with the strategic vision, organizational culture, and technological capabilities (Shah, 2022). In the context of South Africa's retail banks, this makes this transformation extremely complicated. This is because there are issues with legacy systems, traditional banking hierarchies, strict regulations, and changing customer needs. According to Shah (2022), banks that want their customer-centric approaches to be successful need to be aware of these barriers if they wish to improve their relationship with their customers while establishing a sustainable competitive advantage.

According to the research, organizational culture is the key and primary hurdle in digital and analytics adoption in organizations. As Zhao et al. (2024) show, unwillingness to share knowledge is also high in the development of data analytics capabilities, where employees feel entitled to the knowledge they acquired over the years. Collaboration amongst stakeholders is also identified as a barrier; most departments work in silos, leading to differing results when comparing adoption outcomes. Additionally, Perçin (2023) stresses that the lack of management support plays a huge barriers in preventing banks from leveraging the use of data analytics capability, leaving behind unhappy employees and confused stakeholders. Management support is being explained as the cornerstone for data-driven strategies to be implemented successfully.

In South African retail banks, where traditional banking practices are well established and embedded, the absence of visionary leadership commitment to drive data-driven transformation can effectively delay the initiatives from taking place. This issue of

organizational culture goes beyond the leadership. Culture involves multiple scenarios, which involve the attitude and willingness of employees to work towards digital transformation, and organizational readiness in terms of resources, technological infrastructure, and skills to leverage data analytics capabilities. Furthermore, Kar and Kushwaha (2023) identified that “fear of failure slows down an employee’s experimenting and learning new technologies” (p. 4). He adds that fear of upgradation is also a concern, where employees “fear going through the cycle of upgrading themselves through learning upskilling or cross-skilling themselves” (p. 15). Similarly, Justy et al. (2023) reveal that the struggle with organizational culture is evident within the SME’s, revealing that “lack of data-driven organizational culture generates great sentiments of conservatism, skepticism, and rejection against data analytics” (p. 7). While South African retail banks are not SME’s, they often have similar cultural inertia, particularly in their branch network and traditional customer service operations.

The technological landscape presents equally significant challenges for analytics-enabled customer-centricity. Insufficient data governance structures are one of the most technological barriers, followed by having to pull from multiple different systems to consolidate the data. For South African banks, this challenge is heightened by legacy core systems that were not designed to support real-time analysis. Due to fragmented platforms or systems, banks struggle to integrate all the touchpoints saved across multiple channels. The complexity of data itself emerges as a constant theme across the literature. Zhao et al. (2024) share the same sentiments that they found that 100% of maritime industry practitioners identified “complexity of data” (p. 5) as an obstacle, while identifying the challenge with “lack of a data integration approach” (p. 7). South African retail banks face similar challenges when it comes to creating a single view of a customer, necessary for implementing customer-centric strategies.

The human dimension of analytics presents perhaps the most persistent barriers identified in the literature. Perçin (2023) identifies “lack of skilled human resource” (p. 1) as the most crucial social barrier, while Zhao et al. (2024) emphasize that organizations “had difficulties finding qualified data scientists even if high salaries

were given" (p. 13). The lack of technical skills does not only relate to technical skills but what Jimenez et. al. (2025) depict as "lack of training in using data analytics solutions and lack of understanding how to use data analytics to improve the business" (p. 6). Teng and Khong (2021) note that even when the organization implements the use of analytical capabilities, the customer experience is still a challenge. This indicates that using analytics insights for improving customer experience is only effective when there's an understanding of how to turn insights into customer value.

Multiple studies revealed that data quality is among the obstacles hindering the implementation of data-enabled customer-centric strategies. While Raut et al. (2021) emphasize the lack of authentic data accuracy, Jimenez et al. (2025) add that inconsistent data quality and data security issues are a significant technological barrier to data and analytics adoption. Without robust data governance frameworks, there will always be a struggle for the banks to guarantee that customer analytics are based on reliable, consistent, and ethically sourced data. These obstacles can be viewed as dynamic capabilities principles, as they signify organizations' ability to sense, seize, and redesign their products and services that will create customer value. In conclusion, the theoretical connection highlights the importance of viewing analytics adoption as a capability development process rather than a technical implementation.

2.5. Adoption of data analytics strategies

For organizations navigating the digital transformation landscape, adoption of data analytics strategies has become a central focus. The perceived usefulness of data and analytics strategies influences the adoption of the capabilities. While the potential of data analytics to enhance efficiency, competitiveness, and customer experience is widely acknowledged, the path to adoption is shaped by complex organizational, technological, and cultural factors. Research shows that successful adoption is rarely about technology alone; it requires an integrated strategy that links resources, skills, governance structures, and cultural readiness (El-Haddadeh et al., 2025; Lem, 2024).

One of the most cited frameworks in technology adoption is the Technology Organizational Environment (TOE) model, which underscores the interplay between the domains that determine the adoption outcomes. Maroufkhani et al. (2023) challenge the assumption that these factors act independently, showing instead that, when top management is involved and is encouraging the adoption, highly likely that the employees will also follow and adopt the technologies. Moreover, Inamdar et al. (2020) point out that different sectors adopt different trends. The adoption of data analytics capabilities for South African retail banks, with the competitive pressures against the new incumbents and digital-only banks, is essential. Sutarman et al. (2025) argue that the adoption of data analytics and advanced analytics accelerates decision-making when they are embedded into the organization's core processes. However, a shortage of skills, data governance challenges, and cultural differences hinder the adoption of data analytics capabilities.

The literature strongly recommends that adoption should not be considered as a singular event, but rather as a continuous process of capability building. For instance, Lem (2024) demonstrates that the adoption of analytics leads to the improvement of information quality within organizations only if it goes hand in hand with proper data governance and cross-functional collaboration. Likewise, there is evidence from cases that adoption requires not only the training of employees but also the changing of the organizational culture, and the establishment of incentives that link analytics practices to the organization's goals (Inamdar et al., 2020). In the absence of such mechanisms, organizations may end up with partial adoption. This is where the appropriate tools are available but not being fully utilized.

In summary, for the successful enactment of data analytics tactics, the company needs to be equipped technologically, have the backing of the leadership, undergo cultural change, and demonstrate the business value of sustainability. Similarly, the literature depicts that the successful adoption of analytics occurs when they are rooted in the value-generating process, which is supported by the leadership vision and organizational alignment. This largely emphasizes the need to consider adoption not only as a technical decision but as a vital capability-building activity that is indispensable for the facilitation of customer-centered transformation in the fiercely

competitive banking sector. The TOE model has been empirically validated in various countries. Conversely, there has been limited model testing in the South African banking sector, where institutional rigidity and data governance issues persist. This gap, therefore, implies the necessity to establish a particular context model for the analytics' deployment, dynamic capabilities, and customer-centric outcomes.

2.6. Theoretical Foundation: Dynamic Capabilities Theory

Dynamic Capabilities Theory (DCT) extends the resource-based view by focusing not only on the possession of resources but also on the ability to renew and reconfigure them in response to environmental change. (Teece et al., 1997) define dynamic capabilities as the “firm’s ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments” (p. 8). Dynamic capabilities theory is built on three interrelated stages: 1) Sensing, which relates to the ability of an organisation to identify new opportunities, 2) Seizing, which relates to the ability of an organisation to make strategic decisions and take advantage of opportunities they identified on the sensing stage, and 3) Reconfigure, which is the ability to continuously update and improve your processes to meet evolving customer needs. DCT provides a framework for organizations as guidance to adapt to uncertain markets and to remain competitive in an ever-changing environment. More relevant now in the South African retail banks, where banks have to serve the rapidly shifting customer needs and expectations.

Recent scholars have applied DCT to digital transformation contexts. Warner & Wäger (2019) propose that digital transformation requires dynamic sensing of new technologies, strategic seizing through investments, and reconfiguring organizational structures to diffuse digital practices. Strengthening this perspective, Ellström et al. (2022) show that firms that build dynamic capabilities over time achieve more sustainable transformation results, in comparison to those relying solely on their technological investments. However, Randhawa et al. (2021) caution that organizations often underestimate the impact of dynamic capabilities on organizational and cultural dimensions.

Data analytics capabilities have gained increasing attention within organizations that are dealing with digital transformation. Mikalef et al. (2021) state that dynamic capabilities “allow firms to attain market capitalization and operational adjustment agility, which are key components of competitive advantage” (p. 7). Awan et al. (2021) similarly point out that analytics enables higher-quality decisions that are strategically aligned and enhances performance in complex environments. Nonetheless, they are not automatic as they depend on overcoming the inertia of the organization and embedding them in ever-changing processes. Mikalef et al. (2021) caution that embedded practices may impede the transformation potential of analytics and the ability to adapt.

In the South African banking sector, DCT is relevant because banks constantly have to align with customer-centric initiatives and adhere to regulatory orders. Banks must have the ability to sense evolving customer expectations. Then leverage analytics not only to capture customer data but to detect weak signals of changing behavior or trust from the customers. Seizing involves the extraction of analytics insights and translating these insights into innovative products, services to solve for evolving customers’ needs. And reconfiguring may require restructuring legacy processes and systems, flattening hierarchies, and embedding cross-functional collaboration across the organization. Warner and Wäger (2019) emphasize that organizations that approach digital transformation as “an ongoing process of using digital technology in everyday organizational life” (p. 2) are better positioned to sustain a customer-focused advantage.

There has been some criticism of the DCT framework. Randhawa et al. (2021) note that the framework is too high-level and that it is difficult to operationalize, but Ellström et al. (2022) contrast this view, saying the framework’s flexibility is actually its strength, because it allows different organizations to adapt it to fit their own context. For this study, the advantage of DCT is its ability to bridge the gap between data analytics capabilities and customer-centric strategies, providing a process-based explanation of how banks can achieve flexible, customer-focused transformation.

In summary, DCT provides a theoretical foundation for this study by providing the process through which data analytics capabilities can be implemented to deliver customer-centric outcomes. In an ever-changing environment, like banking, the competitive advantage does not only depend on whether you have resources but rather on its ability to sense opportunities, seize them through decisive action, as well as reconfigure structures so that changes are sustainable in the long run. Hence, DCT gives the South African retail banks a strong framework for transforming their analytics investments into sustainable customer-centered outcomes.

2.7. Knowledge gaps and conceptual framework

2.7.1. Knowledge gaps

Notwithstanding the growing body of knowledge on data analytics capabilities (DAC) and customer-centric strategies, several important gaps remain apparent.

The implementation of DAC in banking contexts remains under investigation. Global studies highlight that analytics enhances agility, innovation, and decision quality (Awan et al., 2021; Medeiros & Maçada, 2022). Yet, most literature doesn't explain how to implement DAC successfully within an organization. Kristiana et al. (2023) state that while the strategic potential of customer-centric analytics is acknowledged, it is unclear how insights are translated into practical customer experiences. It was shown in the preceding sections that there is a high degree of agreement regarding the potential of analytics to enhance customer-centricity, but a weak empirical understanding of how the potentials are achieved and exploited within South African banks.

Barriers to leveraging DAC for customer-centricity are insufficiently studied in the South African context. Organizational inertia, skills shortages, and a fragmented data environment are all found in the literature as obstacles to data analytics adoption (Mikalef et al., 2021; Warner & Wäger, 2019), but few studies examine how these

obstacles are demonstrated within South Africa's concentrated and compliance-heavy banking systems.

Adoption strategies for analytics are not explored and developed enough. Much of the literature assumes that skills development or upskilling automatically leads to the adoption of analytics. However, Johnson et al. (2021) caution that adoption requires cultural buy-in, leadership support, and cross-functional alignment, elements that are frequently overlooked. Evidence from South Africa suggests that even when technical infrastructure is in place, resistance to change and concerns about trust among both staff and customers hinder adoption (Mhlongo et al., 2025).

Finally, there is a gap in integrated studies that combine DAC, customer-centricity, and dynamic capabilities in South Africa. Research worldwide highlights how linking analytics with customer experience can be strategically important (Gupta & Ramachandran, 2021; Stremersch et al., 2024), but South African studies tend to focus on fintech disruption or regulatory compliance. By integrating DCT and DAC with customer-centricity, the study aims to formulate a localized conceptual framework. Few provides a comprehensive perspective on how DAC can be harnessed to achieve sustainable and customer-oriented results in the banking sector, which is marked by market concentration, inequality, and regulatory issues.

2.7.2. Conceptual Framework

This study employs Dynamic Capabilities Theory (DCT) as a link between DAC and customer-centric outcomes. The structure of the framework is proposed as an input-process-output framework..

Inputs: Data Analytics Capabilities (DAC). DAC is referred to as multidimensional, comprising technological infrastructure, governance mechanisms, human expertise, and organizational routines (Kristiana et al., 2023; Mikalef et al., 2020). These inputs form the foundational resources required for a data-driven strategy.

Process: Dynamic Capabilities. DAC enables the dynamic routines of sensing customer needs, seizing opportunities through new products and services, and reconfiguring organizational structures to adapt to change (Teece, 2007). Empirical studies confirm that analytics can act as a catalyst for these processes, provided organizational inertia is addressed (Awan et al., 2021; Mikalef et al., 2021).

Outputs: Customer-Centric Outcomes. The literature identifies improved personalization, trust, loyalty, satisfaction, and inclusivity as key outcomes of effective customer-centric strategies (Casaca & Miguel, 2024; Gupta & Ramachandran, 2021; Stremersch et al., 2024). However, as highlighted in the gaps, these outcomes depend on whether DACs are embedded effectively and adopted consistently within organizational practices.

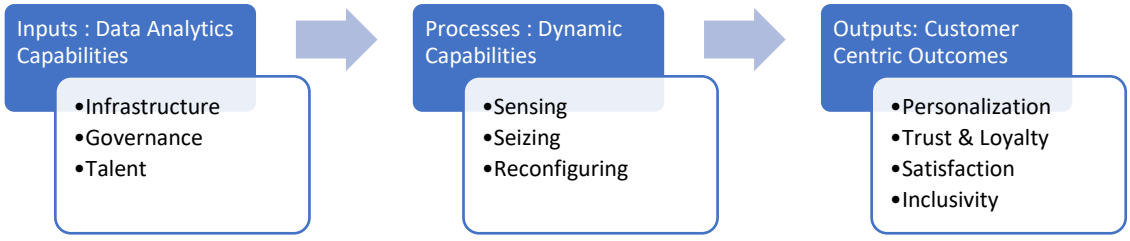


Figure 2: *Conceptual framework linking data analytics capabilities, dynamic capabilities, and customer-centric outcomes*

Source: Author's own

This framework shows how data analytics as inputs enable dynamic capabilities as processes for delivering customer-centric outcomes as the outputs of the study. DAC refers to the combination of technology infrastructure, governance mechanisms, organizational processes, and analytical skills. (Kristiana et al., 2023; Mikalef et al., 2020). These resources provide the foundation for leveraging data analytics capabilities. The dynamic capabilities theory proposes three stages of sensing, seizing, and reconfiguration mechanisms (Teece et al., 1997; Warner & Wäger, 2019). Thus, dynamic capabilities theory depicts how DAC can be transformed into adaptive customer–centric measures. The literature at the final output level indicates

that customer-centric outcomes comprise personalization, satisfaction, trust, and loyalty, and inclusivity (Casaca & Miguel, 2024; Gupta & Ramachandran, 2021; Stremersch et al., 2024). This conceptual framework combines insights from various literature and puts dynamic capabilities as a mediator between DAC and customer-centric transformation in the South African retail banking sector.

2.8. Conclusion

As discussed in the chapter, various studies related to data analytics capabilities and retail banking in South Africa were reviewed. Furthermore, dynamic capabilities theory has also been identified as the main theory. The assessment reveals that South Africa's banking industry is highly advanced and internationally recognized. However, the country faces limitations due to market concentration, regulatory complexity, and disparities in digital adoption. These factors both present opportunities and challenges for banks to leverage analytics for customer-centric transformation. Fintech challengers have demonstrated what can be achieved through agile, data-driven innovation. Incumbents should accelerate their use of analytics to stay competitive.

DACs involve infrastructure, governance, talent, and organizational processes. According to Kristiana et al. (2023) and Medeiros and Maçada (2022), these capabilities have been linked to improving innovation, agility, and customer outcomes globally. Research shows the analytics can't be successful on their own. You need cultural buy-in, governance, and integration into dynamic processes. Customer-centricity is also recognized as a business strategy. This rests on personalization, loyalty, innovation, and inclusivity (Gupta & Ramachandran, 2021; Stremersch et al., 2024). Impediments exist for South Africa to effectively implement these strategies: customer trust, legacy infrastructure, and socioeconomic divides hinder the adoption of analytics capabilities, according to Acosta-Prado et al. (2024) and Mhlongo et al. (2025).

Literature review highlighted four key gaps: Implementation of DAC into customer-centric outputs, which remain under investigation; insufficient understanding of obstacles in the South African context; limited empirical research on adoption strategies on data and analytics; and the absence of integrated studies connecting DAC, customer-centricity, and dynamic capabilities in the context of the South African retail banking sector.

The next chapter builds on these insights by presenting the research questions that will guide the study, showing how they emerge directly from the gaps identified in the literature. The methodological design that is developed in Chapter 4 is informed by the conceptual synthesis created here, through which the research questions are developed that investigate the process of how DAC transform into dynamic, customer-centric capabilities of South African retail banking.

Chapter 3: Research questions

3. Research questions

3.1. Introduction

The previous chapter examined the current body of knowledge from the literature and identified the existing gaps. It also aimed to highlight the challenges in research, particularly regarding how data analytics capabilities can be used to drive customer-centric strategies. Additionally, it sought to better understand recent literature on data analytics and its ability to influence customer-centricity.

3.2. Main research question

The central question driving this study is:

How do data analytics capabilities influence the effectiveness of customer-centric approaches in South African retail banks?

This question integrates the three main pillars of the study: the role of DAC, the theoretical lens of dynamic capabilities, and the intended outcomes of customer-centric transformation. It is deliberately broad, recognizing that DACs do not operate in isolation but are embedded in organizational processes and contextual realities. The main question ensures that the study contributes to both theory and practice by linking the development of analytical capabilities with the pursuit of customer-focused strategies.

3.3. Secondary research questions

3.3.1. Research Question 1

How are data and analytics insights currently being used to inform customer-centric strategies?

The banking industry is affiliated with forever-changing customer needs, so the capability of a bank to respond to customer-centric opportunities with innovative solutions is very important (Hajli et al., 2020). According to Camilleri (2020),” Tech-savvy organizations have already started using big data to improve their decision-making, agility, and customer-centric approaches” (p. 2). Most companies are collecting data on their customers, for them to try and understand their needs, wants, and desires (Camilleri, 2020). The use of data and analytics insights creates a huge opportunity for banks to be innovative and offer customer-centric solutions to their customers.

3.3.2. Research Question 2

What are the data analytics capabilities needed to effectively implement customer-centric approaches?

Data and analytics capabilities are focused on assembling, integrating, and deploying resources, and importantly, the data and analytics insights into the company’s processes that will enhance the effectiveness of decision-making processes (Lozada et al., 2023). The company needs to have the ability to deploy the following capability resources:

1. The company needs to have access to the data and the willingness to invest financially in the relevant capability (Lozada et al., 2023).
2. The company must drive and adopt a data-driven decision-making culture(Lozada et al., 2023).
3. The company must employ individuals with technical skills on how to extract and analyze valuable insights from the data, including data scientists and data analysts (Lozada et al., 2023).

3.3.3. Research Question 3

What are the key barriers preventing South African retail banks from leveraging analytics-enabled customer-centric strategies?

Digital transformation has become the focus in areas of management and business (Diener & Špaček, 2021). Banks are currently facing a disruptive innovation challenge that requires the use of digital approaches; however, the digitalization adoption is still a major challenge within the banking industry (Kasse Kengne et al., 2025). According to Kasse Kengne et al. (2024), there are several barriers to digital adoption, and these include economic inequality, skills shortages, resistance to change, and insufficient collaboration. Diener et al. (2021) also added that there needs to be more focus on management in how they approach digital adoption and how they ensure all employees of the bank are included.

3.3.4. Research Question 4

How can the adoption of data and analytics strategies be encouraged to achieve customer-centricity?

Like with all strategies, implementation and adoption play a huge role in ensuring that the strategy is successful. The need to be clear, specific performance KPI's linked to the strategy to ensure adoption across all levels of the organization. Collaboration from different business units of the organization can enhance the adoption of the path to customer-centricity (Gupta & Ramachandran, 2021).

3.4. Conclusion

The study aims to answer the main research question, which seeks to investigate the impact of data analytics capabilities on the effectiveness of customer-centric approaches in South African retail banks. The main question is underpinned by four secondary questions that were identified to address the gap in the literature review as outlined in the previous chapter.

Having defined the research questions, the next chapter outlines the methodological approach adopted to answer them. Chapter 4 will discuss the research design, data collection, and analysis methods, along with considerations of trustworthiness and ethics, providing the foundation for the subsequent empirical work.

Chapter 4: Research methodology

4. Research methodology

4.1. Introduction

The previous chapter looked at the research questions guiding this study, derived from the gap in the literature. This chapter will then look at an overview of the research methodology that will be used to conduct the study on the impact of data analytics capabilities in customer-centric approaches in South African retail banks. The methodology was designed to collect data from executives and data leaders with vast experience in data analytics capabilities and customer-centric strategies. This chapter details the research design choices, data collection procedures, analytical approaches, and quality controls that were adhered to during the study.

4.2. Choice of research design

The research design for this study was based on the research onion framework proposed by Saunders and Lewis (2018), which serves as a roadmap to navigating through this chapter. Each layer of the research onion was carefully embedded to ensure that it aligns with the research objectives, thereby ensuring that the golden thread is maintained throughout the study.

4.2.1. Purpose of research

The research used an exploratory design, as the design to be followed when the research needs to find new insights, asking open-ended questions, and understanding the topic from a different perspective(Saunders & Lewis, 2018). The research aimed to identify new insights into how companies are currently leveraging data and analytics, which capabilities are needed for the implementation of data and analytics, what barriers are preventing the adoption of data and analytics, and lastly, what enablers are key to driving the adoption and implementation of customer-centric strategies. This design provided a foundation to take note of the areas or topics that might need further empirical investigation in future research.

4.2.2. Research Philosophy

Interpretivism philosophy was used for the research. According to Nickerson (2022), interpretivism philosophy seeks to understand a topic in a particular context, from multiple individuals with their own different experiences. This was relevant as the research aimed to understand the perspectives of executives from different banks on how they utilize data analytics capabilities to drive customer-centric strategies, and following the context of South African retail banks.

Furthermore, by following the interpretivism philosophy, the researcher was able to adopt multiple common qualities. These included focusing on the full experience of participants, enabling probing questions during interviews to better understand individual experiences, and recognizing that people's experiences are valuable contributions to expanding the body of knowledge (Nickerson, 2022). This philosophy assisted with the research aim of providing the banking industry with the framework or a tool on how to incorporate the use of data & analytics to impact customer-centric approaches from insights that will be derived from the research.

The interpretivism philosophy acknowledged that reality will be different for everyone and that it is inherently subjective. As noted by Cuthbertson et al. (20202), interpretivism believes that people's interpretations of events will differ, and these interpretations cannot be generalized for different contexts. This philosophy type was particularly relevant in understanding how different data professionals from different organizations approach the use and implementation of data analytics capabilities, as their interpretation will differ based on their organizational contexts, personal experience, and strategic priorities.

4.2.3. Approach selected

An inductive approach was used for this study, and by using an inductive approach, the researcher is looking to understand how humans perceive common events in the banking industry (Saunders & Lewis, 2018). This was particularly relevant as the researcher aimed to understand how data professionals perceived common events

within the banking sector. The researcher selected this approach strategically because it aligns with the study's exploratory nature and the limited literature specific to the South African retail banking context.

According to Saunders and Lewis (2018), when using induction, the emphasis is placed on the context of the research, and it involves building of theory by collecting data and analyzing it to extract common themes. Interviewing individuals with experience in data and analytics in the context of retail banks will give the researcher a view of how the data and analytics insights are being used differently or even similarly to achieve the same goal of customer-centric approaches.

Similarly, the inductive approach allowed for the development of relevant frameworks and recommendations that were uncovered from the data. The inductive approach allowed the voices and experiences of banking professionals to shape and contribute to the study, ensuring that the findings are based in reality and industry experience.

4.2.4. Methodological choices

This research used a mono-method qualitative methodology, with emphasis on one method for this study. Qualitative methodology seeks to provide an understanding of a specific context of a phenomenon, from individual experiences within the South African retail banking sector (Stenfors et al., 2020); hence, this methodology was chosen. In addition to that, qualitative research enables the researcher to develop a theory from qualitative responses gathered through the interview process that will add value and insights to the existing body of knowledge (Stenfors et al., 2020).

The qualitative approach allowed the researcher to explore the 'how', in how data analytics capabilities are currently being used to drive customer-centricity, and the 'why', in why banks are struggling to extract insights that will impact customer-centricity. This helped understand the processes through which data analytics capabilities influence customer-centric approaches, and how organizations tackle cultural factors, and also strategic concerns that impact the implementation of customer-centric strategies.

The mono-method approach was used instead of mixed methods for multiple practical and theoretical reasons. Based on the research's explorative nature and limited literature in the South African context, a focused qualitative approach provided a greater depth and rich insights. Furthermore, qualitative research helped the researcher develop a theory from the data collected through the interview process, which added valuable insights to the existing body of knowledge (Stenfors et al., 2020).

4.2.5. Research Strategy

A phenomenological strategy was used to capture the true experiences from the different and specific individuals within the same context, by way of in-depth interviews (Saunders & Lewis, 2018). This strategy aligns with the interpretivism philosophy, and it provides an understanding of how banking professionals facilitate the implementation of data analytics in their customer-centric approaches.

Interpretivists believe that reality is not based on one person's idea and that it is subjective. As noted by Cuthbertson et al. (2020), people interpret the meaning of events differently, and these interpretations cannot be generalized across all contexts. The research involved interviewing executives associated with banks to gather different meanings and interpretations across populations through the phenomenological approach.

The use of semi-structured interviews ensured an acceptable level of structure on one hand and flexibility on the other within the phenomenological strategy. This helped the researcher pinpoint key and common themes and stay alert to the insights that arose during the interviews.

Through employing a phenomenological approach in combination with a semi-structured interview protocol, rich insights were obtained from participants about their lived experiences in their own words, whilst retaining focus on aspects of the research topic warranting exploration. This methodology enhanced our understanding of just how effective data analytics capabilities can be in driving customer-centricity, which will, in turn, help banks with recommendations.

4.2.6. Time Horizon

The research was a cross-sectional study, as it conducted interviews and collected data from individuals at only one point in time. The design was more appropriate for the research due to the time limitations of the study and the nature of the phenomenon being studied (Saunders & Lewis, 2018).

The limited time in which the MBA research project needs to be completed influenced the decision to use a cross-sectional approach. The design selected for this study permitted the researcher to capture the lived experience of the participants at a certain moment in time regarding how data analytics impacts customer-centric effectiveness.

Since it was not possible to achieve a longitudinal study design, given the time constraint of this research, some insight into how data analytics capability and its effect on customer-centricity evolve could have provided an interesting outcome.

4.3. Proposed Research Methodology

This research methodology section explains how the study was carried out. Often, it refers to the types of procedures and techniques used. The study's population and sampling strategy, data collection instruments and procedures, analytical techniques, quality controls, and ethical considerations are discussed in this part of the study.

4.3.1. Population

Population is defined as the full set of group members (Saunders & Lewis, 2018), but it is not limited to only employees; it can include places and organizations that the researcher has an interest in including in the study. The population of this study was defined as the organizations involved in the development of data and analytics strategies used for generating customer insights in financial services.
The population was deliberately selected to focus only on retail banks in South Africa. Firstly, South African retail banks constitute the highest number of customer-facing segments in the financial services industry. Banks leverage customer-centricity

approaches in a bid to retain their competitive advantage and achieve business success. Similarly, local retail banks in South Africa have injected substantial sums of money to acquire data analytics capabilities; therefore, the research phenomenon is appropriate in this industry.

This study's population focused on the “big five” South African retail banks based on market share. These banks are FNB, Capitec, Standard Bank, Nedbank, and ABSA, and have data analytics capabilities for a customer-centric approach.

4.3.2. Unit of analysis

Saunders and Lewis (2018) describe a unit of analysis as a subgroup of the whole population that is selected for detailed investigation. This category can include not only the employees but also other places or organizations that the researcher deems fit for the investigation. When the entire population cannot be accessed because of time, cost, logistical, or when the researcher does not know the whole population, the unit of analysis is used (Saunders & Lewis, 2018).

The roles included in the unit of analysis were chosen for their direct involvement and experience in formulating and implementing a data analytics strategy. The researcher gathered information from top management and senior executives who are involved in defining customer strategies in the bank. Chief Data Analytics Officers represented specialized leadership roles focused on driving data analytics capabilities across the organization. Data Scientists were selected due to their technical expertise and hands-on experience in applying analytics to generate customer insights. Additionally, Data Managers and Data Warehouse Managers were selected to offer perspectives on how data are mined, processed, and maintained in accordance with governance and data quality standards.

The research ensured the unit of analysis was chosen in such a way that the participants were in a position to provide useful and relevant inputs to the understanding of the impact of data analytics capabilities for customer-centric approaches.

The selection of the unit of analysis ensured that all the participants were in a position to contribute meaningful and material insights into the understanding of the impact of data analytics capabilities in customer-centric approaches.

4.3.3. Sampling method and size

This study used a non-probability purposive sampling method. When employing non-probability purposive sampling, the researcher uses their own judgment to choose who will be the most appropriate participants to answer the research question (Saunders & Lewis, 2018). Given the specialized nature of the research subject, this was deemed to be the most suitable approach. As per Saunders and Lewis (2018), the researcher chooses to use non-probability sampling when they do not have access to the complete population list, but they can select participants with specific knowledge, expertise, or experience that is aligned with the research aims.

Within purposive sampling, criterion sampling was applied as the specific technique. According to Saunders & Lewis (2018), the criterion sampling is used when the researcher is looking for participants who meet predetermined criteria relevant to the study. Criterion sampling ensured that participants had the necessary skills, experience, and insight to contribute meaningfully to the research of the study.

The researcher conducted semi-structured interviews based on the principle of saturation, defined by Hennink and Kaiser (2022) as “the point in data collection when all important issues or insights are exhausted from data, which signifies that the conceptual categories that comprise theory are saturated” (p. 1). Empirical studies have shown that the data saturation point is typically observed between the twelfth and fifteenth interview (Hennink & Kaiser, 2022), which is the range that guided the principle of saturation for this study

Saturation is widely recognized as a key indicator of rigor in determining adequate sample size for qualitative research. The researcher conducted thirteen interviews, the final number determined by the point at which no new themes or insights

emerged. That helped to ensure that the data collected were comprehensive and reflective of diverse voices within the research context.

The research team targeted potential respondents by means of professional networking sites such as LinkedIn; they concentrated on positions that are directly related to the creation and implementation of data analytics and customer-centric strategies. A heterogeneous group of Executives, Senior Managers, Data Managers, Chief Data Analytics Officers, and Data Scientists took part in the discussions. The experience and knowledge of data analytics and customer-centric strategies were the factors that determined the selection of all participants.

4.3.4. Measurement Instrument

A semi-structured interview guide was used as the main measuring instrument. This is a method of data collection whereby the researcher asks a pre-defined set of questions, with predefined themes related to the research questions. The interviewer can decide not to ask some of the questions, and depending on how the interview is going, they may ask additional questions (Saunders & Lewis, 2018).

Semi-structured interviews made provision for asking personalized questions to a specific individual, which was essential in capturing unique experiences and participants' different perspectives (Georgescu & Anastasiu, 2022). The predetermined themes and questions were dynamic and captured the in-depth and detailed response from the respondent (Georgescu & Anastasiu, 2022).

The interview guide was split into four themes, each of which had a set of sub-questions addressing the four research questions that were discussed in Chapter 3. Care was also taken to ensure the interview would yield meaningful results that would address the research question. Screening questions were asked at the beginning of the interview to ascertain that participants are suitable and they meet the unit of analysis sampling criteria of the study

The screening questions included:

1. Is your role one of the following? Executive/ Senior Manager/ Chief

Data and Analytical Officer (CDAO) / Data Scientist/ Data Architect?

2. Have you been in your role for more than three years?
3. Have you ever used data and analytics to make business decisions?
4. Are you involved in the development and implementation of data and analytics strategies?

Participants would need to answer yes to at least two of the screening questions to proceed with the full interview; this was to ensure that only participants with the relevant expertise and experience were included as part of the research.

4.3.5. Data gathering process

The research used both the primary and secondary data collection methods to ensure complete coverage of the research topic and triangulation of findings. The collection of the primary data was conducted via virtual interviews, with Executives and Data professionals with expert knowledge of data and analytics and customer-centric strategies. The data-gathering process started with the identification of relevant participants through professional networking platforms, primarily LinkedIn. An email was sent to invite the participants after identifying them for the study. The email sent to the respondents included a short explanation of the objective of the research, the nature of the interviews, and the time it would take for each participant to complete the interview. Each interview lasted on average 50 minutes as suggested by Saunders and Lewis (2018).

Before the commencement of the interview, the participants were requested to sign the consent form stating that they were voluntarily participating in the interview and that the interview may be recorded. The interviews were scheduled at times and locations that were convenient for each participant, ensuring that interviews were conducted in a comfortable environment, without disruptions, and that the participants were comfortable.

A total of 13 interviews were conducted with individuals identified within the unit of analysis. Each interview lasted an average of 50 minutes and was conducted via Microsoft Teams and transcribed using the FireFlies.ai tool. Interviews were

recorded following participant permission to ensure accuracy when capturing the responses of the participants for subsequent analysis, except for two participants who were not comfortable being recorded, but they were happy that the researcher could transcribe the conversation. The semi-structured interview guide was used as the measurement instrument, which also provided the researcher with the flexibility to ask probing questions to understand the participants' views and to identify any possible interesting subjects that might come up (McGrath et al., 2019).

After the interview, as recommended by Saunders and Lewis (2018), the researcher offered to send the participants a copy of the research report once it had been marked and the results had been published. The researcher ended the interview and thanked the participants for their contribution

A comprehensive academic literature review of research work by past scholars served as a secondary data collection method, focusing on highly rated, peer-reviewed journals, books, and case studies that were published within the last five years (2020 to 2025). This secondary data provided important context and a theoretical foundation for interpreting the primary data findings.

4.3.6. Analysis approach

This study used thematic analysis as its analysis method. As stated by Kiger and Varpio (2020), thematic analysis is a "method for analyzing qualitative data that entails searching across a data set to identify, analyze, and report repeated patterns" (p. 3). Thematic analysis is one of the methods that can be used to analyze any type of data, which will yield potentially meaningful and relevant analysis. It can also be used to derive data from different types of research questions (Lester et al., 2020). In a way, thematic analysis worked hand in hand with the exploratory research as it tried to understand a set of experiences in relation to how data & analytics capabilities impact customer-centric methods, based on the experiences of the participants, their skills, and their behaviors (Kiger & Varpio, 2020).

The following phases were based on the Lester et al. (2020) methodology. In the first stage of thematic analysis, all the transcripts were organized, and the text was cleaned by removing repetitive words and correcting spelling mistakes to be sure that the participants´ views were truly reflected. After the transcript cleaning phase,

the researcher listened to the recordings to become familiar with the data and ensure that there were no inconsistencies between the recordings and the transcripts (Lester et al., 2020). The study used the Atlas.ti software tool for data analysis.

The software assisted in revealing various codes, themes, and patterns within the data. The researcher was given a large amount of freedom to select themes as they felt appropriate. This adaptability was crucial in enabling them to optimize for the insights that will provide answers to the research questions (Kiger & Varpio, 2020). The thematic analysis tool used was one of the factors for ensuring the analytic process was vigorous.

Analyzing through the use of thematic analysis allows researchers to discover interrelated concepts, such that the same theme is often recorded in the data. These themes can be regarded as the most prominent and lived parts of the phenomenon (Lester et al., 2020). The final step was to scrutinize the data concerning the themes and findings, which was a lengthy but necessary process.

4.3.7. Quality Control

At every step of the research process, the researcher ensured that quality control measures were put in place. This was to ensure that the process was carried out ethically and the study findings had rigor and were trustworthy. Morse et al. (2002), cited by Enworo (2023), without rigor, stated that “research is worthless, becomes fiction and loses utility” (p. 1). The importance of quality was further emphasized by Lincoln and Guba, as cited by Alexander (2019), who stated that the trustworthiness of research improves its value and contribution to the body of knowledge.

The trustworthiness framework was applied in this study to ensure scientific rigor. The framework looked into four important criteria: dependability, credibility, transferability, and confirmability. Each of the criteria was addressed to enhance the overall quality and reliability of the research findings in the study.

4.3.7.1 Credibility

Credibility was established to ensure that the findings represented the views of the data professionals, and their responses were presented and interpreted accurately (Enworo, 2023). Several reliability and credibility measures were put in place to ensure the data is a correct representation of the data profession in the South African retail banks.

Semi-structured interviews with participants were recorded via Teams channel and transcribed verbatim using the FireFlies.ai tool, with participants' permission. This was done to ensure that once the interview is done, the researcher can go back and validate the responses to eliminate their own biases. The researcher used an analytical tool to analyze the data, which ensured coding quality in the analysis process. The researcher followed a systematic approach and maintained a documentation of all the codes and themes that surfaced.

Sridharan (2021) stated that triangulation implies that there must be consistency in the data, which will influence the trust level of the said data collection and findings. To enhance credibility, the study looked at the two elements of triangulation, the theory and the data. Data triangulation was used to verify common themes from different viewpoints of data professionals, and theory triangulation was used to understand the overall views of the themes as they emerge from the literature.

4.3.7.2 Transferability

This means that care is taken to ensure that data can be generalized to inform similar findings even when used in a different context (Enworo, 2023). In this respect, the findings were specific to South African retail banks, in an emerging market, with heavy regulatory requirements, and unequal socio-economic standards. Without the exact context, generalization would not be possible. This captured the views of data professionals who work in the retail banking sector, which might be different for other data professionals from a different sector, or from a banking sector with a different context of emerging markets.

4.3.7.3 Dependability

Dependability is related to the degree to which the data collection process and procedures are consistent. The study enhanced dependability by following the same interview guide across all interviews and maintaining consistent analytical procedures that could be replicated by other researchers. The methodological procedures were documented in detail in the event of replication studies.

4.3.7.4 Confirmability

It is vital to ensure confirmability, because the researcher can add their own bias into the findings without knowing. The researcher was competent and careful not to be biased so that the results represent the true views of the participants (Singh et al., 2021). According to the consent given by the participants, the interviews were recorded and documented to ensure appropriate interpretation of the data. By making use of the analytical tool to analyze the data, the tool helped bring down the researcher's bias that could have influenced the results.

In addition, the university ethics committee granted ethical clearance prior to data being collected. All the ethical protocols were followed, a signed consent form guaranteed participant confidentiality, and data protection of participants was an important part of the quality control process of this study.

4.3.8. Ethical Considerations

As part of the ethical requirements, ethical clearance approval was obtained from the GIBS ethics committee before any contact was made with prospective participants. The approval application included the research methodology, interview guide outlining all the questions the researcher planned to ask the participants, and the consent letter, outlining confidentiality and protection of the data.

Before interviews commenced, participants were thoroughly briefed about the voluntary nature of their participation and their rights to pull out of the interview at any time should they feel uncomfortable, and it would not constitute any penalty on their part.

Confidentiality was guaranteed throughout the research process, and all data were anonymously stored. Participants were informed that all data would be reported without identifiers, to ensure that participant responses and their organization name would remain anonymous. The recordings of the interviews were carried out only with the participants' consent, and participants were informed that the recordings would be used only to corroborate the transcripts and ensure ethical data collection. (Saunders & Lewis, 2018). Through the study, it was explained how the data was going to be treated, analyzed, and reported. The interviews were recorded for analysis and will be stored on the web for 10 years. Access to the information will be restricted to the respective researcher and no one else. To ensure ethical standards related to compensation, participants were informed that they would not receive any cash or any kind of compensation for participating.

Participants were offered a copy of the final research report once the marking was done. This approach showed respect for participants' contributions and maintained a transparent and good relationship between the researcher and the participants.

4.3.9. Limitations

Several limitations were identified that could impact the scope and generalizability of the research findings.

a) The interpretivism philosophy opens the researcher to their own bias. The researcher must be aware and ensure that they understand the point of view of the participant (Saunders & Lewis, 2018).
b) Time restriction of the research might be a limitation in that only a certain number of participants will be interviewed, within the stipulated time period, within which the report has to be completed.
c) By choosing a cross-sectional study, it means only data at a certain point in time will be used, which could be a limitation if we want to measure continuous improvement (Saunders & Lewis, 2018).
d) Access to the executives from the big five banks posed a challenge with their availability, having to reschedule the session, at one point up to four times.
e) The focus on South African retail banks also presented a contextual limitation;

findings may not be transferable to other regions or banking sectors with a different context.

Despite these limitations, the research design was carefully constructed to provide valuable insights into the impact of data analytics capabilities on customer-centric approaches in South African retail banks.

4.4. Conclusion

The process by which the study arrived at its results is summarised in this chapter, which aimed to examine the effects of data analytics capabilities on customer-centric strategies adopted by South African retail banks. The qualitative design employed an exploratory, interpretivist, mono-method design, where the study followed a phenomenological approach and utilized semi-structured interviews to gather the lived experiences of the participants.

A cross-sectional time horizon was chosen; the executives and data professionals of the five significant retail banks were purposely sampled to 13 participants. The interview guide was practical in terms of relevance to the participants, as it matched the research questions and screening criteria. Primary data were transcribed verbatim and analyzed using thematic analysis in Atlas.ti to determine the codes, patterns, and themes.

To ensure the study's credibility, transferability, dependability, and confirmability, we embarked on data triangulation to ensure validation of the data. Ethical approval was obtained for the GIBS research committee. The practical constraints, including the project's timeframe, the researcher's subjectivity, and cross-sectional limitations on generalisability, were recognized and mitigated through a sense of reflexivity and meticulous records. The theoretical saturation of the sample, comprising thirteen interviews, was achieved, indicating a sufficient sample for qualitative inquiry and theory formulation. Overall, the adopted methodology has already yielded in-depth and contextually grounded information, providing a solid foundation for presenting and discussing the results of the empirical study in the following chapter. The next chapter will look at the findings that resulted from the semi-structured interviews as outlined in this chapter.

Chapter 5: Findings and Results

5. Findings and Results

5.1. Introduction

Chapter 4 presented the research methodology, which set out the processes that were taken during data analysis. This chapter presents the findings of the qualitative study, following a thematic analysis of interview data. The findings are thematically aligned to the four research questions outlined in Chapter 3. They highlight how data and analytics insights are used in the banking sector to inform customer-centric strategies, the data analytics capabilities needed to implement customer-centric approaches effectively, the barriers preventing South African retail banks from leveraging customer-centric strategies, and recommendations for adopting a data and analytics strategy to achieve customer-centricity.

5.2. Overview of the sample

Twenty-five individuals were identified and approached to participate in the study, with 13 participants via LinkedIn and eleven through direct email and the team's messages. Sixteen expressed their willingness to participate in the study, with two having had to cancel due to them not being comfortable after they had consulted with their managers, and one had scheduling constraints, resulting in the final number of thirteen participants who were available for interviews.

Semi-structured one-on-one interviews were conducted with the thirteen participants over a period of 4 weeks, commencing from the 15th of August 2025, and the last interview was held on the 15th of September 2025. All participants were from the banking industry and held positions that were identified in the unit of analysis in the previous chapter. Each interview, on average, lasted for about 50 minutes. The interview first collected demographic information of participants, with a focus on the participants' work roles and experience in the position.

Table 1: *Participant demographic information*

Participant ID	Role	Experience (Years)
P1	Executive Head: Personalization	5
P2	Chief Data and Analytics Officer	6
P3	Data Manager	4
P4	Senior Executive: Data and Analytics	20+
P5	Executive Head: Data and Analytics	10
P6	Chief Data Analytics Officer	6
P7	Head of Enterprise Data Warehouse	20
P8	Head: Data Analytical Insights	5
P9	Chief Data Officer	10
P10	Data and Analytics Manager	4
P11	Data Science Head for Retail	3
P12	Head of Reporting, Insights & Analytics	4
P13	Chief Data Analytics Officer	6

Source: Author's own

Table 1 shows that all 13 participants held positions with data analytics responsibilities. Evidence provided in the data indicates that these participants were in leadership roles. They also had significant expertise and vast experience in their respective disciplines. Moreover, the experts had a good knowledge of the development and implementation of customer-centric strategies and processes. Finally, they also implemented data, as well as analytics. The data showed that all participant profiles had a relevant understanding of data analytics capabilities, which contributed to the quality of investigation responses and findings thereof.

5.3. Presentation of the research findings

The analysis process started with the researcher immersing themselves and going through the transcripts of the interviews, while also listening to the recordings to get an understanding of the participants' responses, and to correct any misspelled information. Once the transcripts were cleaned and ready, they were imported into Atlas.ti for commencement of data analysis coding process. The researcher

identified meaningful codes that were relevant to answering the four research questions. The coding processes yielded 150 codes, which highlights a high quality of responses, associated with data saturation. The distribution of codes per participant is presented below.

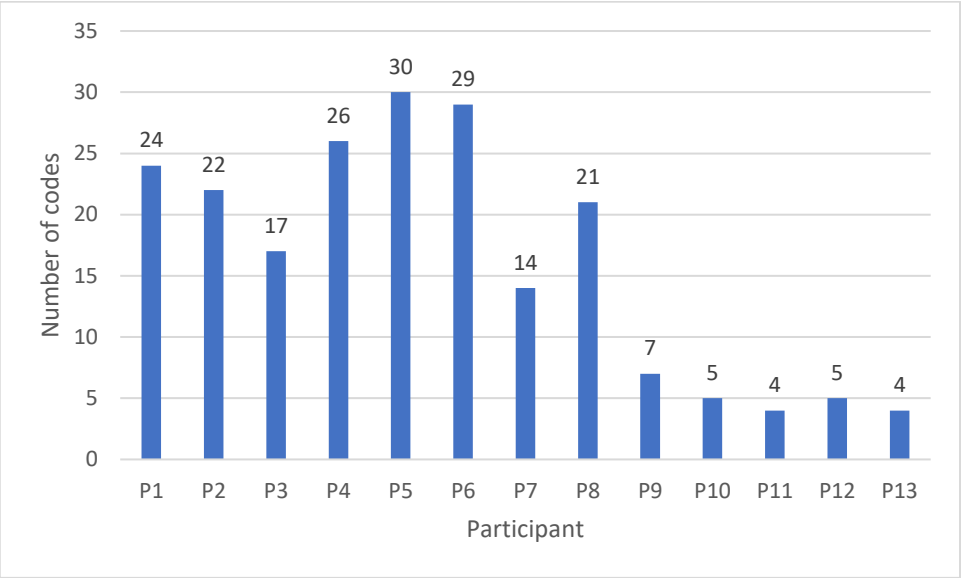


Figure 3: *Distribution of codes per participant*

Source: Author's own

The data, which is presented in Figure 3, is rich and diverse. It indicates that every participant immersed themselves well in the themes. Participants 5 and 6, with 30 and 29 codes respectively, have the highest number of codes among participants. This suggests that their interview were dense with insights, which could be linked to their senior roles. From participant 9, the codes showed a marked decline, consistent with data saturation, where fewer new insights were raised.

5.4 Overview of themes

The study aims to investigate how data analytics capabilities impact the effectiveness of customer-centric approaches in South African retail banks. This was answered through four research questions:

1. How are data and analytics insights currently being used to inform customer-centric strategies?
2. What are the data analytics capabilities needed to effectively implement a customer-centric approach?
3. What are the key barriers that are preventing South African retail banks from leveraging customer-centric strategies?
4. How to encourage adoption of the data and analytics strategy to achieve customer-centricity?

Thirteen participants were recruited for the study to answer the questions, and data were collected through interviews. The interview data were analyzed using thematic analysis. The following themes were identified:

Table 2: *Summary of themes*

Research Question	Theme	Sub-Themes
RQ1: How are data and analytics insights currently being used?	Deepening customer understanding and personalization	○ Behavioral insight and Hyper-personalization ○ Creating a unified customer view
	Proactive engagement and value-added services	○ Proactive outreach and advisory ○ Journey optimization and friction removal
	Strategic and operational decision-making	○ Informing business strategy ○ Performance management and risk control
RQ2: What data analytics capabilities are needed?	Foundational technology and data infrastructure	○ Robust and flexible technology stack ○ Advanced analytics and AI capability

	Hybrid talent and strategic skills	○ The "Hybrid" professional ○ Execution and change Management skills
	Organizational structure and data management	○ Effective data governance and sourcing ○ Dedicated data teams and operating models
RQ3: What are the key barriers?	Structural and systemic hurdles	○ Legacy systems and regulatory constraints ○ Organizational silos and misaligned incentives
	Talent and capability gaps	○ Acute scarcity of skilled talent ○ Lack of data literacy and business understanding
	Cultural and mindset challenges	○ Resistance to Change and Internal Focus ○ Strategic Misalignment and Competing Priorities
RQ4: How to encourage adoption?	Upskilling, talent management, and culture change	○ Comprehensive learning and development ○ Fostering a Data-Driven Culture
	Leadership, communication, and demonstrating value	○ Securing top-down support & alignment ○ Effective communication of benefits
	Collaborative and user-centric implementation	○ Breaking down silos through collaboration ○ Designing for adoption and ease of use

Source: Author's own

5.4. Findings in relation to Research Question 1

How are data and analytics insights currently being used to inform customer-centric strategies?

In response to the first research question on how data and analytics insights are currently being used to inform customer strategies, three major themes emerged. These indicate that data and analytics insights are used to deepen customer understanding and enhance personalization.

Table 3: *Themes relating to how data and analytics insights inform customer-centric strategies*

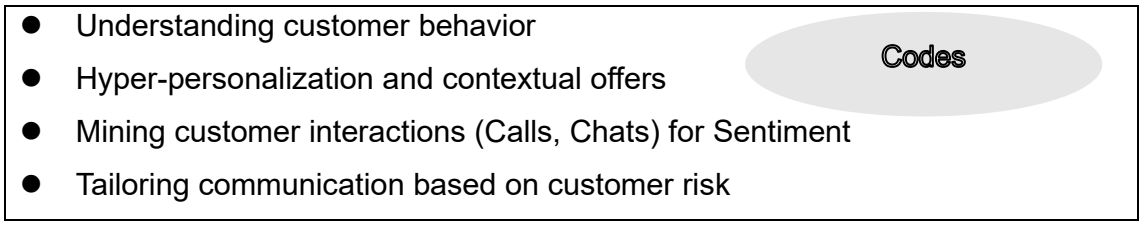
Research Question	Theme	Sub-Themes
RQ1: How are data and analytics insights currently being used?		
	Deepening customer understanding and personalization	○ Behavioral insight and hyper-personalization ○ Creating a unified customer view
	Proactive engagement and value-added services	○ Proactive outreach and advisory ○ Journey optimization and friction removal
	Strategic and operational decision-making	○ Informing business strategy ○ Performance management and risk control

Source: Author's own

5.4.1. RQ 1: Theme 1 - Deepening Customer Understanding and Personalization

This theme was shared by ten participants (P1, P2, P3, P4, P6, P7, P8, P9, P10, P13). According to the study participants, the banking sector is a benchmark industry that shows that data and analytics help to get a complete and detailed view of the customer. A significant first step to becoming customer-centric is breaking down silos to create a single view of customers.

5.4.1.1. Behavioral Insights and Hyper-Personalization



This sub-theme was shared by eight participants (P2, P3, P6, P7, P8, P9, P10, P13). The participants cited that data analytics' ability to generate behavioral insights and to deliver hyper-personalized customer insights is a vital function. The respondents revealed that a data-driven segmentation technique enables banks to go beyond generic services and products. It allows them to have more custom engagements with customers, which are aligned with their needs. The participants echoed the following views:

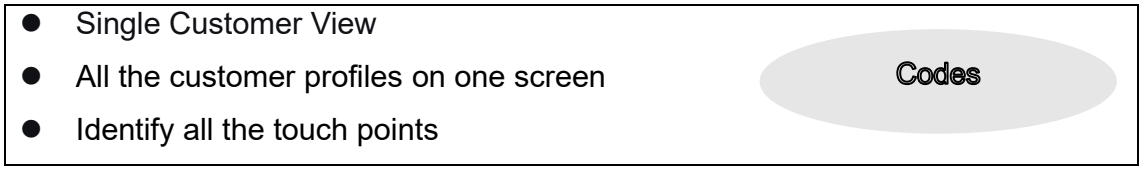
"We now can see what kind of products a customer interacts with most frequently, and then recommend something more targeted, rather than pushing every product to everyone." (P7)

Another participant stated that it is linked to predicting capacity and data analytics:

"…with the transactional behavior data, we can anticipate what customers are likely to need next, whether it's a credit facility or investment advice, and engage them at the right time." (P13)

The evidence presented shows that data analytics and insights not only describe the past behaviors of the bank customer but also provide predictions about customer behavior. This capability helps banks become more proactive in managing customers.

5.4.1.2 Creating a Unified Customer View



This idea was shared by six participants (P1, P4, P5, P8, P9, P10). They emphasized that breaking down data silos helped to generate a unified, single view of each customer. The participants also indicated that fragmented systems and disjointed data in legacy systems hampered customer engagement. With analytics platforms, banks can now have all relevant customer information on a single screen. The following selected excerpts summarise participant perceptions on the subject:

"We unify a lot of the data sources into one summarised view where for every interaction that the banker has with the customer, they have that page at their disposal." (P8)

"Because already the personal information is in front of the service consultant… You just enter the ID number, and that ID number brings about all the customer profiles in one screen… it actually simplifies the conversation with the customer." (P4)

"…we ensure that we identify all the touch points that clients need to have with their bankers… and we ensure that we proactively nudge the banker for all those touch points." (P1)

From the evidence provided above, the study established that creating a unified customer view enhances the consistency and efficiency of customer interactions. As the evidence states, the banks are using analytics insights to unify customer profiles. This improves the customer experience.

By providing consultants with a consolidated profile, customers will not have to repeat information at different service points. The bank receives information that is right, real-time, and complete.

5.4.2 RQ 1: Theme 2 – Proactive Engagement and Value-added Services

Proactive engagement and value-added services	○ Proactive outreach and advisory ○ Journey optimization and friction removal

Insights gained from data analytics can be effectively operationalized to produce value-added services. Ten respondents (P1, P2, P4, P5, P6, P8, P9, P10, P11, P12) mentioned the theme. Participants were of the view that data analytics would enable banks to proceed from a reactive service delivery model to a proactive model. The evidence shows that analytics tools and innovations allow for timely outreach as well as streamlining customer journeys through friction point identification. Two subthemes emerged: proactive outreach and advisory, and journey optimization and friction removal.

5.4.2.1 Proactive Outreach and Advisory

- Proactive client engagement / generating leads
- Acquisition and retention modeling
- Advisory and value-added services
- Predicting life events for proactive offers
- Providing total cost of ownership reports
- Using data for comparative brand advisory

Codes

Seven participants (P1, P2, P4, P5, P6, P9, P10) mentioned that data analytics helps banks to be able to reach their clients with timely offers and solutions. According to the participants, the data analytics-driven insights help bankers anticipate customer needs, behavior, and use these insights to offer advisory support that builds trust and loyalty. The participants stated:

"We calculate something called life moments. So we know when our clients are going through these life moments based on our data... our data would suggest this client is likely to be getting married pretty soon." (P9)

"What we do is we push a lot of potential leads and opportunities to engage the customer at various points, touch points... to keep the customer satisfied" (P1)

"There's a part where we also try to reduce churn... So we'll leverage some of those insights to say, wait a minute, we see that Khauhelo is starting to move her money to a certain bank... How do you start having a conversation with her to say Don't go..." (P5)

Banks' practices of proactive outreach help them market their products and services as well as build a relationship between the bank and the customer. The bank is seen as a trusted advisor.

5.4.2.2 Journey Optimization and Friction Removal

- Identifying friction points and product gaps
- Automating processes for customer convenience
- Streamlining customer onboarding journeys
- Channel-specific deployment based on data confidence

Codes

This subtheme was shared by six participants (P4, P5, P8, P10, P11, P13). According to their views, data analytics helps banks in smoothing customer journeys by highlighting pain points and eliminating friction. The participants noted that banks use analytics to track customer interactions across multiple platforms and use these platforms to create a smoother, faster, and seamless customer experience. The participants shared the following views:

"To identify the customers' need, you identify the friction points. So, for example, our wills sales journey used to be either you call one of the advisors to help.....but that doesn't give customers enough control" (P13)

"But for a practical sense, what I've been exposed to is that initiatives that use customer data, and you plug that into the journey map of the customer... You start to reduce friction... you start to take their feedback looping into your system..." (P5)

"How we actually use data and analytics at Capitec, we actually... were one of the first to create the ticketing system to actually classify the customer queues according to what the customer came to do in the branch... it simplifies the queue... Then that informs how many consultants we needed to allocate to that queue." (P4)

These insights can be interpreted as an illustration of the capability of data analytics to optimize customer journeys and reduce friction in the process. According to study findings, analytics helps to diagnose customer experiences and confirms whether the problems are resolved through optimization.

5.4.3 RQ 1: Theme 3 – Strategic and Operational Decision-Making

The theme was raised by eight participants (P2, P3, P4, P5, P6, P8, P11, P12). The participants indicated that customer data informs not only frontline interactions but also high-level business strategy, risk management, and internal operations. The participants described how insights derived from analytics inform business planning, innovation, and risk management. Two subthemes emerged: informing business strategy and performance management, and risk control.

5.4.3.1 Informing Business Strategy

- Enabling data-driven decisions across functions
- Client experience as a primary metric
- Deriving strategy from customer feedback (NPS)
- Using data to identify new market spaces
- Leveraging partnerships based on customer data
- Using data to counter competitor offerings

Codes

- Informing merger and acquisition opportunities
- Using ESG data for customer funding decisions
- Dynamic pricing based on customer data

This theme was raised by six participants (P2, P4, P5, P6, P9, P10). They stated that analytics is getting integrated into the strategy of the bank. Furthermore, it reveals how data-driven insights lead to new products, product positioning, customers, and innovations. Participants viewed analytics as a tool to provide evidence-based information for executives to make informed, forward-looking decisions rather than relying on intuition only. The following excerpts summarise the participant perceptions:

"So a customer-centric strategy actually creates value for the business itself because, over and above, the business provides core capabilities, a customer-centric strategy allows the business to discover new market spaces." (P4)

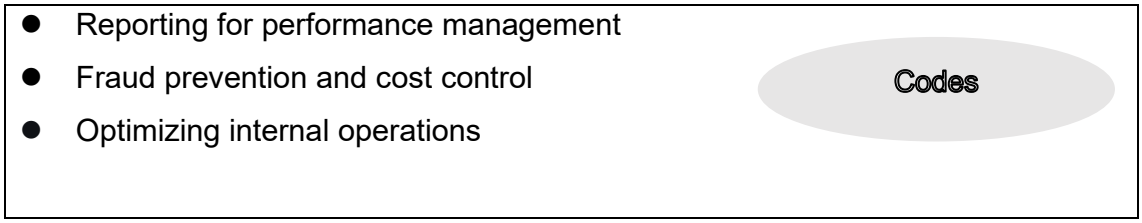
"There's also the advisory piece that we need to do... when it comes to investments, our customers would be looking for the next merger and acquisition opportunity... We will then leverage that data to go and sense where those kinds of opportunities are and... advise." (P5)

"What I found really worked well was bringing data and analytics to the forefront of customer-centric strategies... instances where they brought data and analytics at the forefront to give the insights around, these are the competitor solutions... these are their preferences..." (P6)

"And also how we use the analytics to assist the clients to stay with the vast database of different suppliers... we can show... what cost it is to maintain a different brand... Given that we've got that rich history of over 30 years in business. So that when we give that advice to clients, we can advise which brands..." (P2)

The above transcripts highlight how data analytics help banks to be a compass and a map in business strategy. When banks embed data into strategic decision-making, they will be better positioned to anticipate the market environment, allocate resources effectively, and remain competitive.

5.4.3.2 Performance Management and Risk Control



Six participants shared this sub-theme (P12, P3, P2, P8, P5, P4). They indicated that data analytics are central to monitoring performance and mitigating risks. The participants explained that dashboards and reporting systems designed on analytics allow banks to track key performance indicators (KPIs) across departments. In addition, the data indicated that predictive models enable early detection of risks as fraud and credit defaults. The participants echoed the following:

"We are responsible for producing all of the insights on performance measurement... to assist in decision making. Our scorecards, which we need to deliver and automate end-to-end. So you're looking at... a banker scorecard in the frontline." (P12)

"From a fraud perspective, if there is a suspected fraud, it's a real-time event that's happening. So you can then protect your customer from incurring fraud." (P3)

"Also, furthermore to that, we assist clients in terms of preventing fraud because, for example, a VW Polo has a 45 litre capacity fuel tank... if you're feeling a Polo and you're feeling beyond the maximum capacity of the car, that means there's something wrong." (P2)

"We use data analytics for different purposes... at the basic level, it would be for reporting purposes." (P8)

The above insight suggests that the data analytics are not only descriptive but also preventative in nature, which helps the banks to safeguard their financial stability as well as reputation. Based on this data, it can be concluded that banks are able to deliver timely updates, remain compliant, and stay operationally resilient.

5.4.4 Conclusion of RQ 1: How are data and analytics insights currently being used to inform customer-centric strategies?

The findings of the participants reveal that South African retail banks are currently using data and analytics insights to be customer-centric. The proof marked a significant shift from the older product-centered method to the new one that is lighter and more data-centric in customer engagement, which puts more stress on personalization, service delivery, and decision-making.

The main issue was about understanding and personalizing the customer more deeply. Banks are using analytics to provide one view of the customer that makes interactions very personalized and easy. This power allows banks to get rid of the usual product offerings and give contextually relevant ones based on behavioral insights and predictive analytics. Merging the customer data helps in getting one view that can turn repetitive exchanges into informed conversations. It not only improves customer experience but also increases the efficiency of operations.

A proactive engagement and value-added services have, in essence, shifted from a sequential service to an anticipatory one. Banks can now predict life events, retention risk estimation, and remove the hurdles that the customer has to go through in the journey. Moreover, it reverses the situation in the customer-banking relationship where banks become trusted advisers, not just dowagers, thus enhancing customer satisfaction.

Strategic and Operational Decision-Making shows how executive-level games and risk decisions can rely on customer data. When banks include customer data in

strategic decisions, they will be able to predict the market situation more wisely and distribute the steered resources more smartly.

The general outcome points out that shopping banks in South Africa are the ones that apply data and analytics in a customer-centered approach. They have included the insights into their tactical, operational, and strategic processes. Nonetheless, the findings also imply that the degree to which banks rely on data

5.5 Findings in relation to Research Question 2

What are the data analytics capabilities needed to effectively implement a customer-centric approach?

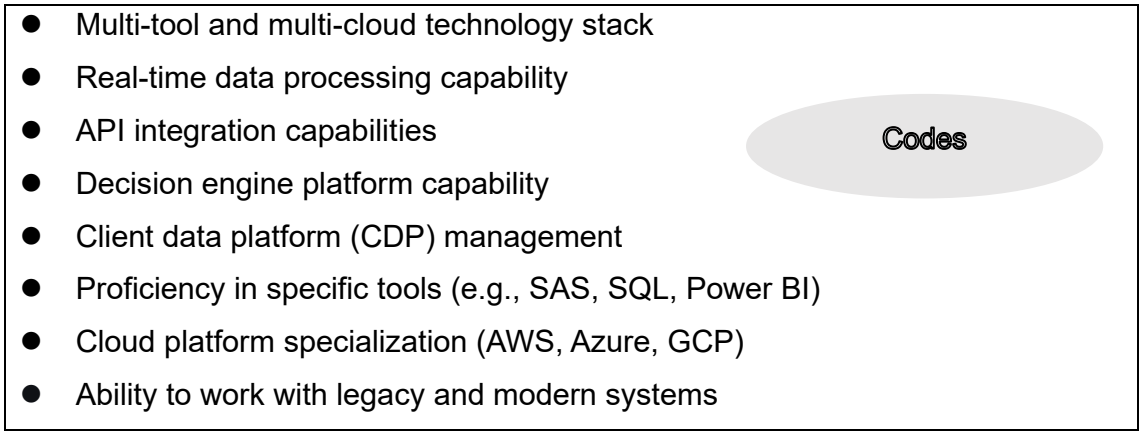
To address research question 2, the study established that foundational technology and data infrastructure, hybrid talent and strategic skills, and organizational structure and data management.

Research Question	Theme	Sub-Themes
RQ2: What data analytics capabilities are needed?	Foundational technology and data infrastructure	○ Robust and flexible technology stack ○ Advanced analytics and AI capability
	Hybrid talent and strategic skills	○ The "Hybrid" professional ○ Execution and change Management skills
	Organizational structure and data management	○ Effective data governance and sourcing ○ Dedicated data teams and operating models

5.5.1 RQ 2: Theme 1– Foundational Technology and Data Infrastructure

This theme had two sub-themes: flexible technology stack and advanced analytics or AI capability.

5.5.1.1 Robust and flexible technology stack



The results show that the participants emphasized the necessity of scalable, cloud-enabled, and interoperable infrastructure. In essence, the participants described data analytics capabilities as a robust and flexible technology stack that is critical to any effective analytics insights. More and more organizations are interested in AI and machine learning. However, the participants believed that these innovations would not add value if there were no well-organized underlying infrastructure. For example, P10 pointed out that the presence of data warehousing, data storage, and enterprise data is critical for enabling analytics at scale. P2 described how Oracle SQL servers are processed through Hadoop and visualized using Power BI. The participants indicated the following:

"We use a whole lot of tools. Firstly, in terms of the data visualization… we currently use Power BI... But in terms of modeling storage… Our core system is sitting on an Oracle server, so we extract the data from an Oracle SQL Server into Hadoop." (P2)

"But with the introduction of the cloud technology… we are now cloud agnostic and we are multi, we're driving multi cloud strategies… Capitec adopted the AWS, adopted the GCP technology as well." (P4)

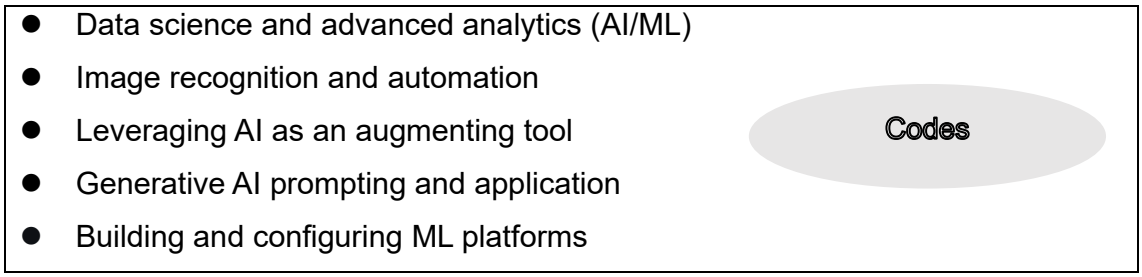
"We've got multiple cloud partners... we are multi cloud... We use a lot of open source... we want to push open source data formats so that we're not tied to a single provider." (P9)

*“The beauty about it is that the different tools from a technology stack perspective are integrated... so analysis services can easily integrate into Power BI.” (*P11)

"Everyone is interested in AI, ML, fancy dashboards, but that doesn't come into play if you don't have your data warehousing, your feature stores, your enterprise data lakes, and cloud infrastructure and your scalability." (P10)

The evidence presented above highlights that without clean, integrated, and scalable data platforms, advanced data analytics will fail to scale. This was a consistent theme raised by the participants.

5.5.1.2Advanced analytics and AI capability



Six participants (P10, P2, P5, P6, P9, P1) who shared similar perspectives about the need for advanced analytics and AI capabilities described specific analytics and AI capabilities needed. All six participants consistently underscored that advanced analytics and AI capabilities go beyond isolated models but require the ability to operationalize, integrate, and monitor predictive systems. P10 specifically indicated that modeling and personalized recommendations engines are key in driving next best action and timely engagement with customers. However, P6 and P9 cautioned

that human oversight is still required, making AI an augmentation tool that enhances productivity. The participants stated the following:

“Your AI and predictive analytics… driving next best action. You'd require some predictive modeling, personalized engines for marketing, contacting your customers at the right time.” (P10)

“…we use analytics models and AI models to listen into the market” *(P2)*

“We are seeing AI starting to play… prescriptive, predictive, as well as descriptive and diagnostic. And the prescriptive bit for the AI, maybe let's talk about large language modules and gen AI, is that when you do analytics with a Gen AI model, it will do it still based on the previous data set that it's been trained on” (P5)

“The AI tools… help with productivity, but it does need a lot of human intervention and experts in the loop.” (P6)

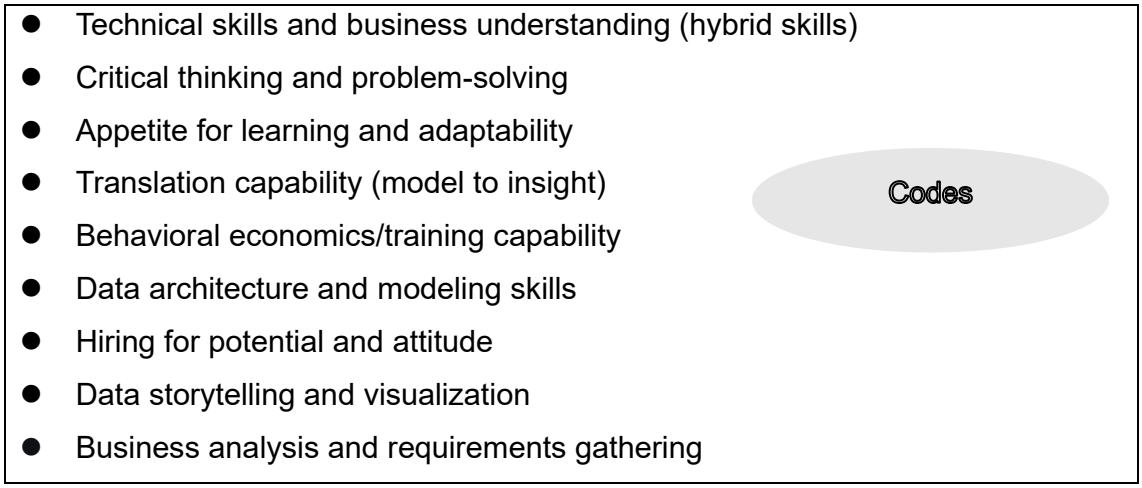
These participants' views highlight that organizations need not just models but production-grade predictive engines and processes for human oversight. The findings reflect that advanced analytics capability can augment human functions.

5.5.2 RQ 2: Theme 2 – Hybrid Talent and Strategic Skills

Hybrid talent and strategic skills	○ The "Hybrid" professional ○ Execution and change Management skills

The theme of hybrid and strategic skills was strongly supported by nine participants (P1, P2, P3, P4, P5, P6, P8, P9, P11) out of thirteen. The participants argued that technical capability alone is insufficient. They stressed that talent must combine technical and business knowledge skills.

5.5.2.1 The hybrid professional



This subtheme emphasizes that a modern, flexible, and multifaceted technology environment is considered non-negotiable. Participants indicated that banks are moving away from single-vendor reliance towards cloud solutions that offer scalability. However, the majority of participants (P1, P2, P3, P4, P5, P6, P8, P9, P11) highlighted the need for people who have data analytics knowledge with business knowledge and critical thinking as critical for customer-centric strategies to be successful. Participants echoed the following:

"*Personally, also from my previous job, a qualification is not here nor there to start with… we need someone with very good critical thinking, someone who's into the detail, and someone who's statistically well balanced*" (P2)

"*One of the things that we often jump to when we think about doing data analytics, we think just about the analytics piece and the data science, which is critical. But the*

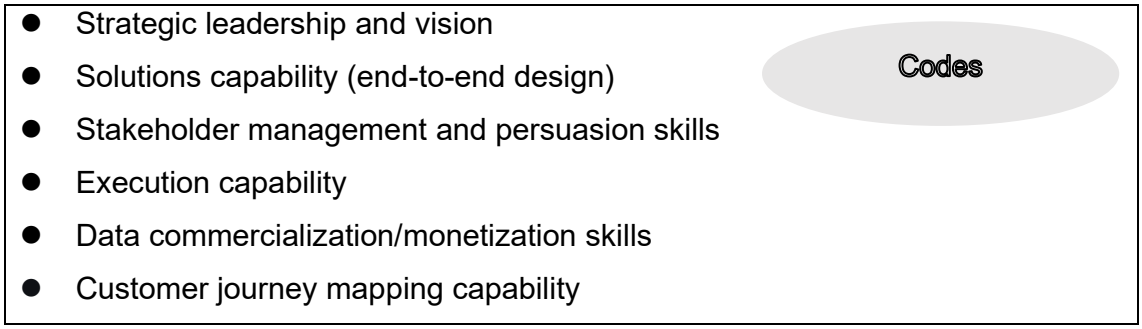
*foundational piece you talked about, garbage in, garbage out, is very critical in our space. We talk about making sure that you've got the data stewardship that is going to help ensure that the data is clean, is valid, is complete from when you acquire it, to when you store it, to when you process it, and to when you start reporting on it. That is the one critical thing that we talk about."(*P5)

"we don't just look for technical skills... even more importantly, to understand business... to understand the problem statement " (P11)

"So you need people who have the great capability in writing the right code, giving great commands to the database, and getting the right information back…… So you need to have guys who have an eye for detail, they're able to see that pattern in the data and tell the story back to business…… You need someone in business who is technically savvy and who's also good in business, who's a business person." (P4)

The above evidence suggests that technical strength or technical expertise alone is not sufficient for the development of effective client-centric analytics. The results indicate the necessity of a hybrid professional who can merge technical capabilities with business expertise. Based on the findings, it can be said that organizations need techno-business professionals.

5.5.2.2 Execution and change management skills



The data shows that managing management competencies is key in ensuring that the transition from legacy system to data analytics is managed effectively. This theme was shared by four participants who emphasized that the ability to lead, design,

persuade, and implement is what bridges the gap between data capability and business value. Participants highlighted the importance of strategic intent that requires a solution owner to design and deliver it holistically (P1). To achieve this takes a lot of persuasion and assertiveness. The participants stated:

"...you cannot actually move without having a proper strategy and a business case for you to leverage data". (P5)

"…the solutions capability... is how do you identify specific solutions and give them a solution owner and end-to-end design it"(P1)

"I do feel like it sometimes takes a lot of persuasion and assertiveness from myself to push that, and it doesn't come naturally." (P1)

"But maybe I mustn't forget to mention the leadership part because you also need leadership, and leadership must have a level of technical skills that come with. So we do not have in our environment a chief data or digital AI officer. But I play that role. I'll play a role in that, setting the strategy and the direction. " (P5)

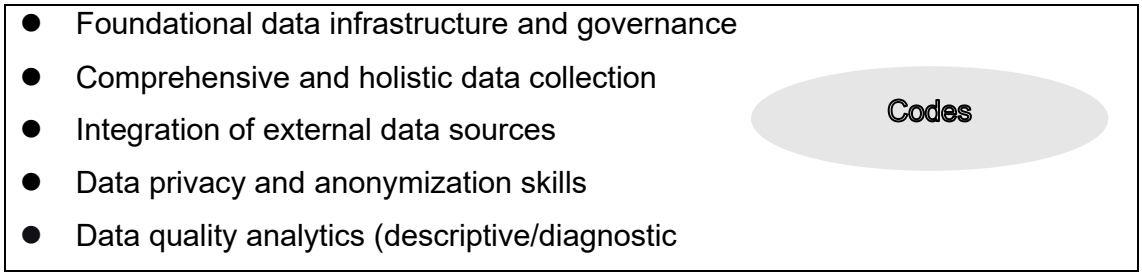
The evidence presented above highlights that execution and change management skills are enablers that activate organizational technical and data investments. These capabilities help change managers to close the loop between data insight and customer-centric execution.

5.5.3 RQ 2: Theme 3 – Organizational Structure and Data Management

Organizational structure and data management	○ Effective data governance and sourcing ○ Dedicated data teams and operating models

Six participants (P5, P10, P8, P4, P1, P6) emphasized that a supportive organizational structure is essential for effective data capabilities. They specifically pointed out that dedicated data governance, clear ownership, and operating models that balance centralized control with business unit integration.

5.5.3.1 Effective data governance and sourcing



The participants highlighted the importance of data governance as a foundational capability. For example, P5 emphasized the importance of data stewardship, while P10 emphasized the importance of data quality, linking it to future AI capabilities. The main insights raised by participants are presented below:

"…the foundational piece is very critical… making sure that you've got the data stewardship that is going to help ensure that the data is clean, is valid, is complete from when you acquire it, to when you store it, to when you process it, and to when you start reporting on it." (P5)

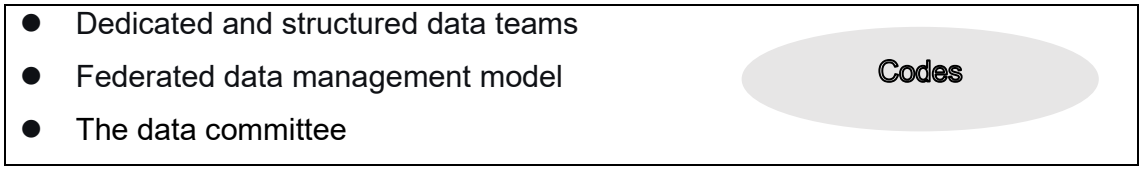
"You need to have clean quality data and the descriptions or your metadata captured for anything AI-related in the future." (P10)

"The data that we collect was not necessarily intended to personalize so constantly. Trying to bridge that gap... especially coming from a legacy bank... it does take quite a bit of work." (P8)

“You need to have top-notch data modelers to be able to create good data models so that the analysts have that centralized, validated environment of high data quality that is logical for them to go in and pull the data.”(P4)

These insights highlight that organizational structure is not merely a background factor but an active and critical capability. Governance frameworks were presented as crucial in facilitating quality, dedicated roles to enforce stewardship and operating models that clearly articulate how data responsibilities are distributed.

5.5.3.2 Dedicated data teams and operating models



The importance of having dedicated data teams and operating models has emerged as an accurate data analytics capability that banks should have. This view was shared by seven participants (P1, P4, P5, P6, P3, P2, P10). They indicated that successful customer-centric analytics is contingent on several factors that include having skilled individuals and establishing organizational designs for how data teams are structured and integrated. The perceptions raised by participants highlight that there is no one-size-fits-all model; rather, organizations are implementing different operating models that range from centralized functions to federated governance structures, to ensure accountability and effectiveness. The participants’ views of this theme are captured below:

“We have an entire data science team, and they build models for different touch points…” (P1)

"I’ve got an equivalent… peer who then has got responsibility over their domain... those people, they form what we call the data committee. (P5)

“And also, I’m dependent on another external team. It’s not part of my team. Those are the guys who do the governance and quality for us.” (P4)

The importance of operating models and their impact on strategic decision-making is evident from these transcripts. Whether the model is a centralized team (P1), a federated team (P5), or it is dependent on specialized external units (P4), the common goal is to create a structure of ownership and accountability.

5.5.4 Conclusion of RQ 2: What are the data analytics capabilities needed to effectively implement a customer-centric approach?

The results indicate that a customer-centric approach that utilizes data analytics will require an ecosystem of interconnected capabilities that go beyond technical skills. The evidence suggests that retail banks in South Africa need to develop a comprehensive capability framework that involves a functional technology infrastructure, hybrid talent, and a suitable organizational structure.

The essential structures of technology and data have emerged as the key important capability. For instance, participants stress that analytics and AI capabilities cannot add value without underlying systems. The results show how important it is to have multi-cloud, scalable platforms that can bring legacy systems and analytics together. Banks are choosing cloud-agnostic systems and using different tech stacks from Oracle and Hadoop to PowerBI and AWS, showing that flexibility in tech stacks will lead to sustainable analytics. The evidence has shown that although organizations are keen on implementing AI and machine learning solutions, these solutions will not work unless organizations have proper data warehousing, enterprise data lakes, and scalable cloud infrastructure.

In addition, hybrid talent and strategic skills represent arguably the most nuanced capability requirement, with most participants emphasizing that technical expertise alone is not enough. The concept of the “hybrid professional,” meaning individuals who combine deep technical skills with business acumen and critical thinking, has

become a non-negotiable requirement. These professionals must be able to translate complex analytical insights into actionable business strategies while demonstrating strong problem-solving skills and adaptability. Also, execution and change management skills are seen as crucial enablers that connect data insights to customer-focused implementation, requiring strategic leadership, stakeholder management, and solution design capabilities.

Furthermore, organizational structure and data management were recognized as the enabling framework that activates technical and human investments. Data governance must be effective, as stressed by the participants. Data stewardship, data quality, and the data collection process are important. The analysis further revealed that winning banks adopt a variety of operating models – from centralized data science teams to hybrid governance structures – but all see a clear need for ownership, accountability, and integration between data teams and business units.

Studies reveal that the interconnectedness of the capability dimensions positively fosters their growth. Banks aiming at customer-centricity through analytics must direct their efforts towards the formation of integrated capabilities by the combination of robust technical infrastructure with versatile human resources and conducive organizational frameworks. It seems that a thorough approach to capability development is one of the major differentiating factors between the successful and the not-so-successful analytics investments in terms of producing customer-oriented results. The results indicate that South African retail banks are at varying points along the path of capability development. This underscores the necessity of effective planning for the purpose of ensuring sustainable competitive advantage through customer analytics, which is thus recommended.

5.6 Findings in relation to Research Question 3

What are the key barriers that are preventing South African retail banks from leveraging customer-centric strategies?

While answering this research question, three major themes related to the key barriers to the adoption and implementation of data analytics in South African banks were identified. The challenges include structural and systemic hurdles, talent and capability gaps, and cultural and mindset issues.

RQ3: What are the key barriers?	Structural and systemic hurdles	○ Regulatory constraints ○ Legacy systems as a barrier
	Talent and capability gaps	○ Acute scarcity of skilled talent ○ Lack of data literacy and business understanding
	Cultural and mindset challenges	○ Resistance to change and internal focus ○ strategic misalignment and competing priorities

5.6.1 RQ 3: Theme 1 – Structural and systemic hurdles

The barriers to customer centricity are more complex than they seem. Regulatory and structural constraints, along with organizational silos and misaligned silos, underlie these barriers.

5.6.1.1 Regulatory constraints

- Regulatory and compliance constraints
- Security, fraud, and privacy concerns
- Long, bureaucratic implementation processes
- Foreign solutions not fitting the local context
- Political will and economic priority conflicts
- Challenges with data sensitivity and secrecy
- Multi-stakeholder complexity is slowing progress
- Balancing security risk with innovation

This theme was shared by six participants (P1, P4, P2, P6, P9, P13). The participants mentioned external and internal structural constraints that create a slow and rigid environment that hinders banks' ability to compete with more nimble players within the banking industry. One of the regulatory challenges mentioned by the participants was POPIA and other regulations, which they regarded as barriers. They indicated that such laws impede personalization and innovation. The participants expressed the following about regulatory hurdles.:

"The first, I'd say, is risk and governance. You know, with POPIA and a lot of the stuff, it really, really takes away the essence of personalization. Clients say they want personalization and customization, but then there's POPIA, which doesn't let you do anything." (P1)

"Yeah, we've got a long way to go. Actually, we're playing catch, and given the nature of the business being a bank, we will never, ever catch up because of the regulations and how we govern things." (P2)

"We are limited to using the more simplistic methods because we need to get to that point of… explainability. (P6)

"…regulatory issues are one of the biggest hurdles... around what data you're allowed to consume, how you're allowed to consume the data, how long you're allowed to keep the data." (P13)

The evidence presented above indicates that structural and systemic challenges create a significant barrier to the use of data analytics to enhance customer centricity. Regulatory constraints are perceived as stifling the very personalization banks seek to achieve.

5.6.1.2 Legacy systems as a barrier

- Legacy systems and technical debt
- Data integration and quality challenges
- Lack of real-time data matching capability
- Data collected not originally for personalization
- Fragmented customer experience across product silos

Codes

The participants highlighted challenges posed by legacy systems. They pointed out that outdated banking systems create a technological barrier, hindering integration, real-time capabilities, and innovation. The types of barriers indicated by the participants ranged from the burden of outdated technology (P3), specific capability gap (P1), data integration challenge (P12), and the impact on product development (P2). The participants stated:

“All of their technologies are outdated. And for them to keep up with new technology… Migration from an old technology to a new technology is not easy."(P3)

“We don’t have the ability, for example, to go in real time and match… We actually don’t have that ability today from a system perspective.” (P1)

“…the difficulty we sometimes experience is that data is described in that it sits on various core banking systems. Landing and staging large sets of data can be quite tricky.” (P12)

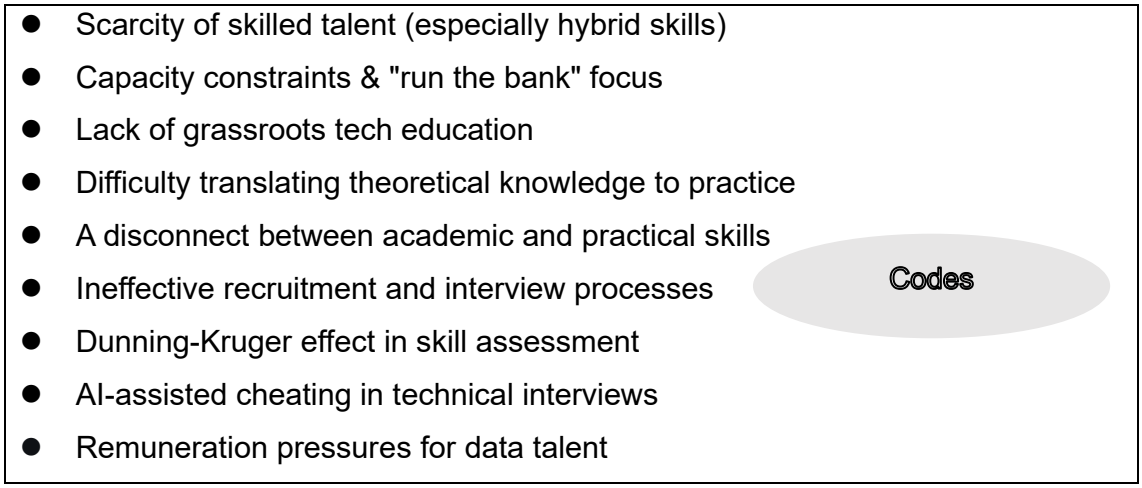
“So basically, legacy systems, it’s hard to innovate and evolve them to be current… You need to plug in multiple layers for you to be able to just produce a bare basic minimum product for the client." (P2)

These findings show how out-of-date legacy systems are detrimental to customer-oriented data analytic strategies. Many feel that legacy systems limit real-time data integration, hindering product development.

5.6.2 RQ 3: Theme 2 – Talent and capability gaps

The theme of talent and capability gaps was mentioned by a significant portion of the participants (P2, P3, P6, P7, P8, P10, P11, P12, P13). The participants highlighted that a severe shortage of specific skills, especially the hybrid talent, is a passive barrier. Two main themes that emerged from this theme are the scarcity of skilled and hybrid talent and the lack of data literacy and business understanding.

5.6.2.1 Acute scarcity of skilled talent



Several participants mentioned the theme of talent and capability gaps. These participants were P2, P3, P6, P7, P8, P10, P11, P12, P13. The participants highlighted that a severe shortage of specific skills, especially the hybrid talent, is a passive barrier. Two main themes that emerged from this theme are the scarcity of skilled and hybrid talent and the lack of data literacy and business understanding.

"…the ability to be a really strong translator of customer needs is actually to be able to empathize with a client or a stakeholder on a problem and to use structured storytelling. So I think those two things are really hard to find." (P1)

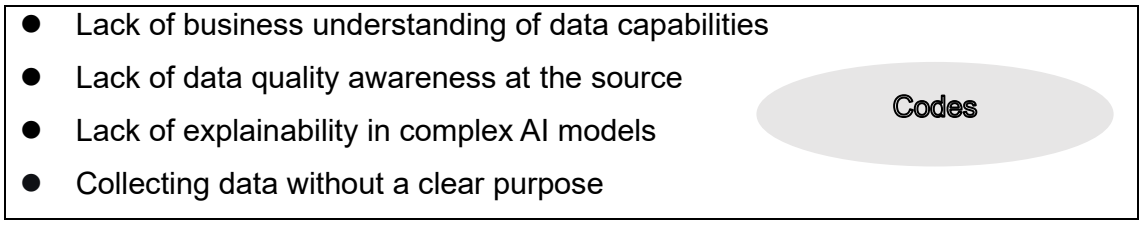
"Yes, there are. So I think the biggest niche skills that we have seen are not there, information architecture, data engineers, and data modelers" (P3)

“I think that's where we have a skill shortage, where people understand data and business and can bridge that gap... the newer generation is just siloed into one practice. “(P10)

“…it is still a very sought-after industry. So everybody wants these guys… we are basically in a competition with our competitors to get the best of the best.” (P6)

The evidence highlights the effect of talent and capability gaps on the implementation of customer-centric strategies using data analytics. The findings stress that acute scarcity of skilled talent, particularly professionals with both theory and practical competencies, limits the effective implementation of data analytics strategies.

5.6.2.2 Lack of data literacy and business understanding



On the business side, this sub-theme was identified as a crucial barrier. Participants highlighted that stakeholders often lack the understanding to effectively leverage data capabilities or articulate their needs. The participants highlighted the data analytics awareness problem (P4), lack of awareness on data sources (P8), and the theory-practice gap (P6). The participants stated:

“The first problem that I’ve spotted is that the business is not aware of how they can utilize data, analytics, and digital to advance their customer-centric strategy. “(P4)

“…the biggest blockers or biggest hurdles come in the business partners not understanding the data capabilities or not being able to engage with the models and the outputs or comprehend what they mean.”(P13)

"What I notice is that we all get the formal education… But we understand it. From a theoretical perspective, and then when you come into the organization, translating that theory into actual code… I find that data scientists really struggle with that." (P6)

"…if that person is capturing that information, they are thinking about the value chain...that they need to be extra pedantic about how I'm capturing the name, the surname... so that at the end I don't get an 'unknown' or blanks in the data. "(P8)

The transcripts show that data illiteracy and lack of business experience can express themselves as a communications issue, where business people cannot articulate their needs properly, and data scientists struggle to translate theory into practice.

5.6.3 RQ 3: Theme 3 – Cultural and mindset challenges

Cultural and mindset challenges	○ Resistance to change ○ Strategic misalignment

The theme of cultural and mindset challenges was shared by eight participants (P1, P3, P5, P6, P7, P8, P10, P2). They indicated that cultural barriers relate to entrenched mindsets, internal politics, and misaligned incentives that prioritize short-term gains over convenience and customer value. Two sub-themes that were established are: cultural resistance to change, strategic alignment, and competing priorities.

5.6.3.1 Resistance to change

- Cultural resistance to change / outdated mindset
- Resistance from staff to empower juniors
- Fear of customer loss during transitions
- Skepticism from past failed initiatives
- Perception of analytics as a support function
- Internal focus on banker pain points vs. client pain points

Codes

- Technologically hesitant customer base

The introduction of new technologies was seen as a threat to the participants in different ways. This theme highlights that the introduction of data analytics faces resistance, coupled with organizational silos and outdated mindsets, which prevent a customer-centric focus. Participants highlighted different aspects of resistance that include: perception of data analytics as secondary (P1), core mindset problem, impact of siloes KPIs (P6), and staff fearing obsolescence (P7). The following views sum up aspects of resistance to data analytics:

"…in the banking context, it is almost seen as a side support role versus a front pushing role. "(P1)

"Yes, for me, the obstacle would be removing what we know, what we've known has been working, which was us feeding the customer with a product instead of putting the customer in the middle." (P3)

"…we all operate in a siloed manner, and it's because we have very separate KPIs… we're all trying to solve different things, and what ends up happening is that we forget or we leave the customer in the rear view mirror." (P6)

"I got so much resistance from the business because they didn't know what we were solving for. They got intimidated, they thought, because there's this saying that AI is here to take our jobs." (P7)

Based on the participant perceptions presented above, this study establishes that resistance to change stems from a fear of transitioning from a product-centric legacy to a customer-centric system, supported by data analytics.

5.6.3.2 Strategic misalignment

- Siloed organizational structure and misaligned KPIS
- Lack of strategic clarity and prioritization
- Viewing data analytics as a cost center
- Fast-changing customer and market needs
- Inconsistent maturity across a large organization
- Lack of investment in R&D
- Lack of senior leadership support
- Competition from agile fintechs
- Difficulty crossing the "data chasm" (maturity 3 to 4)
- Immature data integration into strategy
- Focus on shareholder value over customer value
- High investment needed for marketing new products

This theme highlighted one of the common challenges faced by the banking sector in implementing data analytics. Six participants (P1, P5, P6, P8, P3, P2) indicated that customer-centric strategies often fail because they are not backed by aligned incentives, clear prioritization, and leadership. Some of the issues that were raised by participants include: misaligned targets, a lack of a clear strategy, and investment in data analytics being seen as costly. The participants highlighted the following issues:

"I do think that where the contradiction comes in is that the targets we set are not based on client-level data, like the targets are still set at the product level data." (P1)

"We don't have a clearly articulated data strategy that says what the things are we're going to focus on. We often want to solve everything, and solving everything is not a priority; it is not a strategy." (P5)

"We also have to understand that data and analytics are almost like a cost center. Unless you can build something that creates revenue… you're just a cost center… Given that it's a cost center, a lot of the time it gets a backseat." (P6)

The evidence provided highlights that strategic misalignment reflects a lack of a clear data strategy and the continued use of legacy approaches. These findings underscore the importance of aligning organizational strategy to ensure that data analytics usage becomes a part of organizational culture.

5.6.4 Conclusion of Research Question 3: What are the key barriers that are preventing South African retail banks from leveraging customer-centric strategies?

The conclusion implies that there is a complex network of barriers that are interrelated, which hinder the implementation of customer-centric strategies through data analysis. These barriers operate at different organizational levels. Traditional banks are grappling with meeting customer expectations in competition with fintech firms. The banks cannot keep pace with fintech, and therefore, the competition becomes difficult.

In addition, the lack of talent and skills turns out to be a major bottleneck, which increases the impact of other barriers within the organization. The banks' ability to create customer value from their data investments is greatly limited by the lack of hybrid professionals who possess both technical analytics skills and business insight. Moreover, the situation is made worse by very tight competition for talent, high salary expectations, and the gap between academic training and actual work. Good data is available for business stakeholders, but they are unable to specify requirements, get insights from analytics results, and find even more data to enhance the business, as they do not possess the data literacy skills required.

Furthermore, nothing is more difficult than changing the organization’s culture and mindset, as this alteration basically defines where and how the organization changes and innovates. Resistance to change is most of the time manifested in very different ways. For instance, staff members are afraid of becoming redundant. Or business units that refuse to accept new processes and measures. When banks treat data analytics as merely a supportive function and not as a strategic enabler, it indicates

that the banking structure still favors traditional methods. Poor alignment of strategies makes these cultural challenges even worse as the organizations become more siloed, KPI's become misaligned, and analytics is seen as a cost rather than a value. A lot of organizations still think in terms of products rather than customer metrics. This indicates that the old legacy is still very much alive in numerous cases.

The findings indicate that the barriers to customer-centric strategies are not only of a methodological nature that can be solved by tech investments and process adjustments. Not just problems of a technical nature, but rather of a systematic nature, with a lot of things needing to be changed, like regulatory engagement, infrastructure modernization, and many more. It follows then that in South African retail banking, holistic transformation strategies must be developed which will at the same time remove structural constraints, build hybrid capability, and foster the required cultural change. Surely customer-centric strategies will only be successful if banks fully deal with the barriers; otherwise, they will suffer the same fate as today's banks, struggling in the sea of pretty shallow data analytics returns and losing customer satisfaction as a result of the digital era they have chosen.

5.7 Findings in relation to Research Question 4

How to encourage adoption of the data and analytics strategy to achieve customer-centricity?

The fourth research question invited recommendations on how the banking sector can encourage the adoption of data analytics. Three major themes emerged from the analysis: upskilling, leadership, communication, and collaboration.

RQ4: How to encourage adoption?	Upskilling	○ Comprehensive learning and development ○ Fostering a data-driven culture
	Leadership and communication	○ Securing top-down support & alignment

		○ Effective communication of benefits
	Collaboration	○ Breaking down silos through collaboration ○ Designing for adoption and ease of use

5.7.1 RQ 4: Theme 1 – Upskilling

This theme was very popular among the solutions offered. All 13 participants mentioned the importance of building a data-driven organization, beginning with investing in people. This involves both formal and informal training to build skills. Linked to the upskilling theme are two sub-themes: comprehensive learning and development, and fostering a data-driven culture.

5.7.1.1 Comprehensive learning and development

- Upskilling, training, and academies
- Cross-skilling and rotational programs
- Data literacy programs for all staff
- Early-stage tech education
- Gamification of learning and maturity assessments
- Building depth of skill before breadth
- Growing talent internally vs. external hiring
- Enhancing structured storytelling in education
- Creating a formal succession pipeline

Codes

This sub-theme was supported by 11 participants. They emphasized the importance of creating structured, accessible learning paths for staff. Their recommended approach to learning and development initiatives is to begin with broad data literacy and deep specializations. Participants came up with varied ideas on how learning and development should be done. For example, P4 suggested a dedicated academy,

P10 advocated for foundational programs, while P3 emphasized leveraging internal talent.

"*So at Capitec, what I did... was to start a Capitec data in the digital academy, whereby we create different learning pathways for different capabilities, to gain certain skill sets."* (P4)

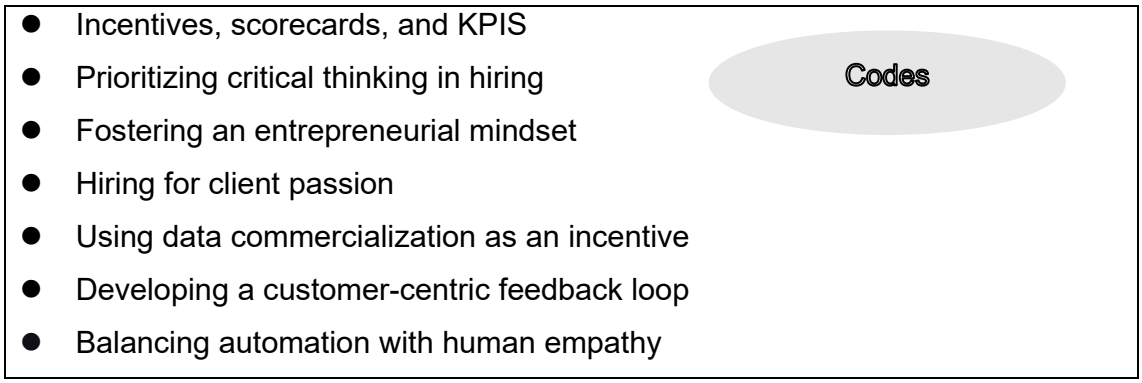
" You need to have good data literacy programs in place to make sure your staff understand the basics about data and how it can improve their lives." (P10)

"I think we should be using our existing people or existing teams, and upskill them" (P3)

"I think succession planning is key. If there are definitely people who have the abilities, you just identify them young and build them up for it." (P1)

The aforementioned solutions highlight the key role of training and functional development in creating a data capability. The diverse proposals together recommend a diverse and graduated approach. The evidence highlights the need for banking organizations to move beyond ad-hoc training to clear, accessible learning and development pathways.

5.7.1.2 Fostering a data-driven culture



A common theme among the four participants is the need to build the right mindset, which promotes an inquisitive nature, critical thinking, and interaction with data. The participants felt there was a need to build a data-driven culture through a deliberate

change in hiring and then improving the interviews to test for these attributes. Also, cross-skilling creates intrinsic motivation to continuously learn more about data. The participants stated:

"…that's something that we have been doing as a team, also shifting to more critical skills... the people can learn the technical skill set. It's those critical thinking, problem-solving pieces that I think people don't necessarily come with." (P12)

"…we are enhancing our interviews, definitely within the data and AI space, to test for critical thinking more and more." (P9)

'You'd be forced to then learn the technical and interact with the technical as well... to get to a level where you are an individual who is leading the business, you needed to be cross-skilled. So everyone was properly motivated to engage with both those topics." (P13)

The evidence highlights that fostering a data-driven culture requires a deliberate and strategic shift from formal training to focusing on cultivating intrinsic motivation. The evidence further highlights that banking organisations fostering a data-driven culture require a deliberate and strategic shift beyond formal training, focusing on cultivating intrinsic motivation and the right mindset.

5.7.2 RQ 4: Theme 2 – Leadership and communication

The theme was proposed by six participants (P1, P4, P5, P2, P13, P3). They indicated that leadership must be the visible face of the data strategy. Participants added that communication is crucial as it translates leadership capabilities into tangible benefits. Two sub-themes emerged: top-down support and effective communications of data analytics benefits.

5.7.2.1 Top-down support

- Leadership buy-in and strategic alignment
- Establishing centers of excellence
- Changing operating models
- Appointing a chief customer officer
- Aligning product sunsetting with new offerings

Seven participants stressed the important role that leadership should play in promoting the use of data analytics and the sustainability of the practice thereof. This is achieved through several strategies proposed by participants. For example, P1 suggested stressed strategic integration, and P5 suggested that support must lead to structural change. The rest of the participants' views are presented below:

“How do you know that you’ve really moved the needle? It's when you start hearing leadership speak about the importance of data and analytics, and digital.” (P4)

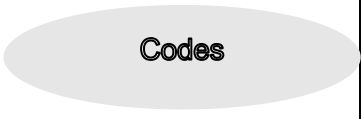
“I’ve had to change how we operate… I had to change their roles to become data practitioners... they needed to understand that we operate as one team.” (P5)

“So somehow, the bigger organization's strategy must include a data and analytics strategy. So it mustn’t be seen as an isolation.” (P1)

The findings highlight that participants unanimously concurred that authentic, top-down leadership support helps to promote a data-driven culture. This support must extend beyond verbal endorsements to genuine strategic commitments for data analytics adoption.

5.7.2.2 Effective communication of benefits

- Improved communication and storytelling
- Demonstrating value through efficiency gains
- Using external "sticks" (fraud, risk) to drive adoption
- Showcasing success stories from early adopters



- Translating solutions into end-user benefits

This theme stresses that the value of data must be communicated in a clear language and supported with evidence of impact. Participants raised various ways they thought communication could be practiced. For example, P8 proposed simple, relevant communication. Another participant, P10, suggested making communication a teachable skill. Participants echoed the following statement:

"…communicating the solution... in the language that makes the most sense to them as opposed to the complexity…."P1

"…we anchor on the stories of the early adopters... bankers that use personalization tools... outperform the bankers that don't." (P8)

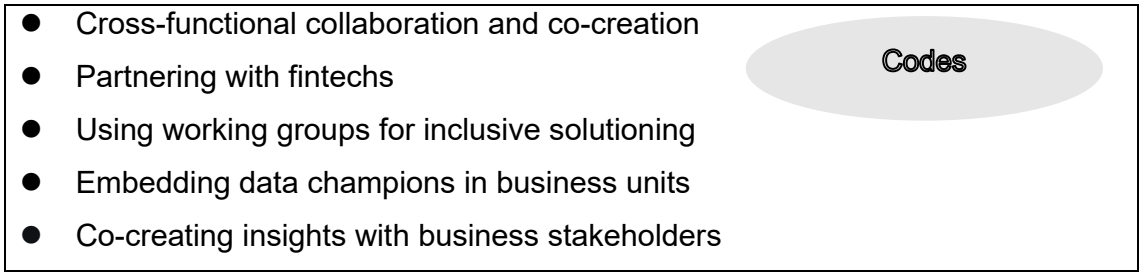
"Communication and collaboration are definitely one of the biggest skill sets that we should teach... We need to build more leaders across teams." (P10)

The perspectives presented above provide the prevailing view that solutions imposed from the top down will fail. Adoption is secured by involving end-users in the design process, ensuring tools are practical, easy to use, and directly address their pain points.

5.7.3 RQ 4: Theme 3 – Collaboration

The theme of collaboration was overwhelmingly raised by all 13 participants. The participants highlighted that collaboration involves creating formal mechanisms for data and business teams to work together as partners. Two themes that emerged are: breaking down silos through collaboration and designing for adoption and ease of use.

5.7.3.1 Designing for adoption and ease of use



Five participants recommended the adoption of data analytics technology. The participants highlighted the importance of user experience. The participants stressed that developed data analytics tools should be directly linked to helping employees achieve their goals. Participants stated:

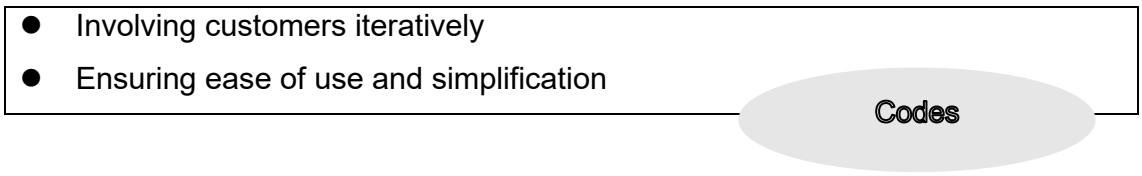
"What they did right is they sat with them and they worked through that tool… it has had multiple iterations of being built… with the frontline staff." (P6)

"…the simplification on the front end for the advisor... should still be easy enough... the front end... needs to be one of the back ends. They can be 10 of them as long as it's a smart way to interact with them." (P13)

"For it to be adopted, it has to be useful... If you build the right tool, and then you also expose it to them in the right way." (P6)

The data presented above highlight that for data analytics technologies to be accepted and adopted, ease of use is key. The ideas raised by participants indicate that it should be easy to use.

5.7.3.2 Cross-functional Collaboration



- Building useful tools with frontline staff
- Linking tools directly to frontline KPIS
- Creating a single view from disparate data sources

The subtheme focuses on establishing both formal and informal mechanisms to enhance collaboration between data and business teams. The collaboration ideas towards the participants differed by the collaboration. For instance, P10 stressed simplicity while P7 recommended embedding experts.

“If you don't have cross-functional collaboration, then you're not going to go further. “(P10)

“Those insights, we do not develop them in isolation... we do it together with business... they are the business experts.” (P5)

“Partner with business. Put one of you at the business… we need to bring together people who understand the business and people who understand the processes.”(P7)

The results paint a picture of effective collaboration as a must-have requirement, not just an optional benefit. Collaboration can be achieved through the embedding of data specialists in the business unit, as indicated by the participants.

5.7.4 Conclusion of Research Question 4: How to encourage adoption of the data and analytics strategy to achieve customer-centricity?

In South Africa, the interaction of employees and leadership is necessary to adopt data and analytics in retail banks appropriately. Training was underscored as a key building block by participants. We have to go beyond once-off training. Evidence points to learning journeys, internal academies, and data-led cultures built on curiosity, critical thinking, and customer-focused experimentation. In the end,

building these skills internally will not only bridge the talent gap but will also help long-term capability building.

Leadership and communication were also recognized as driving adoption. Support from the leadership was found crucial for signaling alignment and backing with resources and actions. Interestingly, the respondents think that endorsement from leadership must also be paired with effective messaging designed to translate analytics into clear, practical benefits for staff on the frontline. In other words, sharing successes, de-technicalizing the jargon, and showcasing numbers must all take place.

Ultimately, the strongest driving force for adoption proved to be collaboration. The respondents very often pointed out that reducing barriers between departments, having data specialists working in business units, and sharing the design process with end-users are the major factors that can make tools both useful and easy to operate. In addition, taking into account the user experience during the designing process is a factor that by no means can be overlooked in the realization of the potential of analytics and in the generation of business value.

The findings imply that the adoption process should not only include the provision of the right skills and mindset but also demand a very strong and visible commitment from the leadership, as well as the fostering of cooperation within and among the organizations. Hence, the understanding of all these points is crucial. Data strategies will continue to be merely technical exercises if there is no such alignment, and they will not lead to the customer-centricity-enhancing activities that have become embedded.

5.8 Conclusion

This chapter has presented the study's results by following the procedures outlined in Chapter 4. The topics were shown in line with the research questions. The chapter featured the presentation of the results as per the voices of the participants about

the current usage of data analytics in supporting customer strategies that include the necessary analytical capabilities for such practices, the barriers limiting the adoption of data analytics in the banking sector, as well as the recommendations for the way the adoption of data analytics could be improved. Consequently, the next chapter elaborates on the findings of this study while comparing them to the literature review in Chapter 2.

6. Discussion of Results

6.1. Introduction

This section builds on the previous chapter, which presented qualitative findings. The chapter discusses the findings by linking them to previous studies. The discussion draws on the Dynamics Capabilities Theory (DCT) to demonstrate the applicability of the findings to the practice of data analytics in the banking sector. To strengthen the discussion, the chapter provides a table that links the findings to the literature and highlights the contributions of this study.

6.2. Discussion of Research Question 1:

How are data and analytics insights currently being used to inform customer-centric strategies?

In addressing this research question, the study found that data analytics helps to deepen customer understanding and personalization. This aligns with previous studies, which find that understanding who a bank customer is is the most valuable element influencing customer centricity (Mach-Król & Hadasik, 2021). The findings suggest that banks are transitioning from theoretical acknowledgment of this principle of personalization to practical application through data analytics. A summary of findings is presented in the table below:

Research Question	Theme	Sub-Themes
RQ1: How are data and analytics insights currently being used?		
	Deepening customer understanding and personalization	○ Behavioral insight and hyper-personalization

		○ Creating a unified customer view
	Proactive engagement and value-added services	○ Proactive outreach and advisory ○ Journey optimization and friction removal
	Strategic and operational decision-making	○ Informing business strategy ○ Performance management and risk control

6.2.1 RQ 1: Theme 1 – Deepening Customer Understanding and Personalization

The ability of data analytics to provide behavioral insights and hyper-personalization represents a significant technological advancement over traditional demographic segmentation. The data highlights that data analytics has revolutionized customer-centric strategies, moving from 'every product' to 'everyone'. This empirical evidence is consistent with previous studies, which highlight that data-driven technologies enable a shift from broad segments to micro-segmentation (Camilleri, 2020). A related study by Holmud et al. (2020) found that data analytics is effective in enabling users to anticipate what customers are likely to need next, representing a significant shift from behavioral customer experience insights. This predictive power is a central aspect of dynamic capability, enabling banks to detect current and future customer needs (Teece et al., 1997).

The second subtheme that emerged from the data indicated that data analytics enables the creation of a unified customer view. The findings revealed that banks are unifying a number of data sources into a summarised view of clients. This capability, facilitated by data analytics, helps banks consolidate data across a fragmented environment (Mikalef et al., 2021). This environment is described by Cele (2023) as both a global barrier and a local challenge. The consolidation of fragmented data enables consultants to access all customer profiles on a single

screen, fundamentally transforming customer interactions from a repetitive information-gathering exercise to an informed, seamless experience (Kristiana et al., 2023). Kristiana et al. (2023) further highlighted that organizations that use fragmented data face significant barriers in converting data into meaningful customer insights. Therefore, data analytics is used to generate a single customer view.

6.2.2 RQ 1: Theme 2 – Proactive Engagement and Value-Added Services

The said theme highlighted that data analytics empowers banks with the capability to proactively engage with customers and provide value-added services. This reveals a shift from reactive to proactive customer engagement. This shift is described by Warner and Wäger (2019) as a crucial dynamic capability that allows banks to enhance customer-centric strategies through decisive resource allocation.

The findings revealed that data analytics allows for the best practice outreach and advisory. This subtheme is illustrated by the capability to calculate life moments and push leads and opportunities to engage the customer. The findings are consistent with Khan et al. (2024)’s study, which highlighted the role of predictive analytics in enabling proactive interventions to increase loyalty. To build on Khan et al.'s (2024) study, the findings of this research added a crucial context layer, emphasizing that proactive approaches are not just a marketing strategy but also a customer retention strategy. The application of data analytics to identify customers switching banks can trigger a retention conversation. This conversation is facilitated by big data analytics. Gupta and Ramachandran (2021) suggest that in the competitive financial sector, big data analytics can empower banks to transition from being a passive service provider to an active, trusted adviser.

Another key subtheme identified by the study is journey optimization and friction removal. The findings highlighted that banks can use big data analytics to partner with customers, customizing their journey map. The findings are consistent wth research conducted by Holmlund et al. (2020), which emphasized the use of big data analytics in capturing consumers’ decisions along the customer journey. One

example from the findings is the use of a big data analytics-driven ticketing system. This system categorizes customer queries based on the customer's intended purpose, thereby informing resource allocation. These findings reconfigure frontline operations based on customer behavioral data, emphasizing the crucial role of big data analytics to bridge the gap between customer experience and operational effectiveness.

6.2.3 RQ 1: Theme 3 – Strategic and Operational Decision-Making

This subtheme established that big data analytics is used in strategic and operational decision-making. The findings show that customer insights are used to inform business strategy and performance management. This subtheme highlights that big data analytics is facilitating banks to discover new market spaces. The findings show that retail banks are leveraging big data analytics to identify customer data and recommend available opportunities, such as merger and acquisition opportunities. These findings align with those of a study conducted by Kristiana et al. (2023), which found that South African retail banks are utilizing big data analytics to facilitate strategic adaptability. Similarly, Stremersch et al. (2024) argued that customer insights provide essential inputs for innovation. This study extends beyond product innovation to core corporate strategy.

Lastly, the findings revealed that data analytics allows for performance management and risk control. The findings highlight that data analytics is used for both value creation and value protection in retail banks. For instance, the use of balanced scorecards for performance measurement aligns with the need for evidence-based management. The findings highlight that data analytics is used to safeguard customers from financial loss, which helps to build trust in the bank. According to Mhlongo (2022), the use of data analytics to gain crucial information, such as using data on a car’s fuel tank to detect fraudulent transactions, is possible. Overall, these findings highlight that personalization and customer-centricity also encompass security and trust, which are key principles of the customer-bank relationship.

6.2.4 RQ 1: Discussion Summary

Research Question 1 examined how data and analytics are currently being used to shape customer-centric plans in South African retail banks. The results show a clear set of uses that build step by step. They begin with a deeper understanding of customers through personalized touches and comprehensive views of their data. Then they move to active outreach and extra services that add value. Ultimately, they inform significant strategic and daily decisions. This path turns Data Analytics Capabilities (DAC) into real actions, not just ideas on paper.

The findings are consistent with international studies on the value of personalization and proactive analytics in the retail banking sector (Casaca & Miguel, 2024; Khan et al., 2024). The findings from this study contribute to existing research by linking them to the Dynamic Capabilities Theory (DCT). Real data proves that South African banks apply DAC to identify customer needs, seize opportunities with timely deals and smoother paths, and initiate changes by incorporating customer information into company plans and merger decisions. One main local issue stands out: the pull between deep personal touches and strict rules under POPIA. This clash limits how well banks can grab those chances in South Africa. Overall, the study offers a tested model based on steps that link DAC to real customer gains in a key growing market for banks.

Table 4: *RQ1 Comparison of findings with literature*

Theme	Supporting Literature (Chapter 2)	Similarities / Contradictions
Deepening Customer Understanding and Personalization	Camilleri (2020), Holmlund et al. (2020), Mach-Król & Hadasik (2021)	**Similarity:** Confirms the central role of deep customer understanding. **Extension:** Empirically shows the unified customer view as a critical prerequisite for personalization, directly addressing silo-related barriers.

Proactive Engagement and Value-Added Services	Khan et al. (2024). Gupta & Ramachandran (2021)	**Similarity:** Aligns with the shift from reactive to proactive service models. **Extension:** Provides specific mechanisms ("life moments," friction removal) and frames it as the *seizing* dynamic capability.
Strategic and Operational Decision-Making	Stremersch et al. (2024). Awan et al. (2021)	**Similarity:** Supports the strategic value of customer data. **Extension:** Shows customer-centricity expanding beyond marketing into core corporate strategy (M&A, new markets), a higher level of strategic integration than typically covered.

Source: Author's own

6.3. Discussion of Research Question 2:

What are the data analytics capabilities needed to effectively implement a customer-centric approach?

This section discusses findings relating to data analytics capabilities for effectively implementing a customer-centric approach. The findings found three themes: foundational technology and data infrastructure, hybrid talent and strategic skills, and organizational structure and data management. These findings validate the multidimensional construct of dynamic analytics capabilities. The table below summarises findings for research question 2.

Research Question	Theme	Sub-Themes
RQ2: What data analytics capabilities are needed?	Foundational technology and data infrastructure	○ Robust and flexible technology stack ○ Advanced analytics and AI capability

	Hybrid talent and strategic skills	○ The "Hybrid" professional ○ Execution and change Management skills
	Organizational structure and data management	○ Effective data governance and sourcing ○ Dedicated data teams and operating models

6.3.1 RQ 2: Theme 1 – Foundational Technology and Data Infrastructure

The study's findings highlight that technological infrastructure is a key success factor for the success of analytics-enabled customer-centricity. The findings show that the technological tools used provide flexibility and integration that is essential in a rapidly evolving market. This theme emphasizes that data analytics facilitates a shift from reliance on single, monolithic systems towards a multi-tool and multi-cloud strategy. The study establishes that data analytics tools, such as Oracle SQL Server, AWS, and GCP technologies, demonstrate a pragmatic approach to addressing the limitations of legacy systems' barriers identified in RQ3. This finding aligns with the findings of a study conducted by Mikalef et al. (2020), which suggests that in a context of rapid technological change and legacy constraints, data analytics tools offer flexibility, such as cloud agnostic and open source as a core capability. These capabilities offer scalability, as described by Elia et al. (2022), as necessary for extracting knowledge from data.

The findings suggest that advanced analytics capabilities and AI suggest that technology is not an end in itself. The findings suggest that AI capabilities are dependent on effective data warehousing, feature stores, and enterprise lakes (Mikalef et al., 2020). These results demonstrate that data analytics is not just about developing models, but also about the capability to operationalize personalized engines and predictive modeling in production systems.

6.3.2 RQ 2: Theme 2 – Hybrid Talent and Strategic Skills

The findings indicate that data analytics facilitates the development of hybrid talent and strategic skills. The findings underline the concept of a hybrid professional as a crucial capability of data analytics. This aligns with previous studies that emphasize the importance of individuals possessing critical thinking and business understanding, complemented by technical skills (Kristiana et al., 2023; Johnson et al., 2021). The results suggest that despite the efficacy of data analysis, it goes beyond the weaknesses of traditional data analytics, which mainly focus on technical skills to understand business. The study found that strategic leadership, solutions capability, and stakeholder management are key skills that banks use to drive change. The findings are consistent with Johnson et al. (2021)'s study, which emphasizes the need for cultural buy-in and leadership support.

6.3.3 RQ 2: Theme 3 – Organizational Structure and Data Management

The findings highlight the role of data analytics in supporting organizational structure and data management. Effective data governance and sourcing are crucial elements of data analytics capabilities. The findings support the findings of Mikalef et al. (2020), who argued that data governance and sourcing are crucial for reliable business insights. This governance is seen as an active, ongoing capability that is foundational to all other analytics activities.

The findings revealed that data analytics provide a capability to facilitate dedicated data teams and operating models. The evidence of an entire data science team and data committees shows that retail banks are consciously designing organizational structures to support analytics. This finding confirms the argument of Mikalef et al. (2021), who highlighted that organizational inertia can be addressed through structural change. Overall, the findings suggest that several models, such as centralized teams and federated teams, indicate the capability of data analytics to promote ownership and accountability.

6.3.4 RQ 2: Discussion Summary

Research Question 2 identified the specific data analytics capabilities needed to implement a customer-centric approach effectively. The findings delineate a tripartite framework of interdependent capabilities: foundational technology, hybrid talent, and supportive organizational structures. The findings align with previous studies, highlighting the importance of technology, talent, and governance. A crucial contribution of the findings to the body of knowledge is defining the specific archetype of the "hybrid professional" and emphasizing that technological capability is defined by flexibility and cloud-agnosticism, not just the possession of advanced tools. The study contextualizes these capabilities within the DCT framework, positioning them as the essential resources that enable the sensing, seizing, and reconfiguring processes identified in RQ1.

Table 5*: RQ2 Comparison of findings with literature*

Theme	Supporting Literature (Chapter 2)	Similarities / Contradictions
Foundational Technology and Data Infrastructure	Mikalef et al. (2020) Kristiana et al. (2023).	**Similarity:** Confirms technology as a core pillar of DAC. **Extension:** Emphasizes *flexibility* and *cloud-agnosticism* as key capabilities in a modern context, and highlights the need to operationalize AI, not just experiment with it.
Hybrid Talent and Strategic Skills	Johnson et al. (2021). Kristiana et al. (2023).	**Similarity:** Acknowledges the critical human element and skills gap. **Extension:** Defines the specific archetype of the "hybrid professional" and explicitly links these skills to executing dynamic capabilities such as seizing and reconfiguring.
Organizational Structure and Data Management	Mikalef et al. (2020). Mikalef et al. (2021).	**Similarity:** Reinforces governance and structure as enablers. **Extension:** Provides empirical examples of operating models and directly links strong governance to reliable *sensing* and effective *reconfiguring*.

Source: Author's own

6.4. Discussion of Research Question 3:

What are the key barriers that are preventing South African retail banks from leveraging customer-centric strategies?

The study identified key factors that are preventing South African retail banks from leveraging customer-centric strategies. These barriers, presented as subthemes, include (1) Structural and systemic barriers, (2) Talent and capability gaps, and (3) Cultural and mindset challenges. The findings suggest that these barriers are not isolated obstacles, but rather a deeply interconnected ecosystem that actively inhibits the sensing, seizing, and reconfiguring processes essential for customer-centric transformation. The findings relating to research question 3 are summarised below:

RQ3: What are the key barriers?	Structural and systemic hurdles	○ Regulatory constraints ○ Legacy systems as a barrier
	Talent and capability gaps	○ Acute scarcity of skilled talent ○ Lack of data literacy and business understanding
	Cultural and mindset challenges	○ Resistance to change and internal focus ○ strategic misalignment and competing priorities

6.4.1 RQ 3: Theme 1 – Structural and Systematic Hurdles

The findings reveal that banks are operating within a structural context that systematically constrains their agility and innovative capacity. These hurdles represent the antithesis of the flexible, responsive environment required for dynamic capabilities to flourish. The sub-theme of Regulatory Constraints**,** particularly the pervasive impact of the Protection of Personal Information Act (POPIA), presents a

uniquely potent barrier in the South African context. The study found that regulations such as POPIA take away the essence of personalization, highlighting the paradox between compliance and innovation. These findings are consistent with findings from studies conducted by Anning-Dorson et al. (2025) and Alonge et al. (2025), which identified regulatory frameworks as daily operational barriers. This barrier directly inhibits the capability because of long, bureaucratic implementation processes.

The study's findings established that legacy systems are a barrier to data analytics adoption. The findings concur with the findings of Jimenez et al. (2025), which highlight the negative effect of aging technological infrastructure as a significant limitation to the utilization of data analytics.

6.4.2 RQ 3: Theme 2 – Talent and Capability Gaps

The study found talent and capability gaps to be significant barriers to achieving customer-centricity through data analytics. One of the key challenges is the acute scarcity of skilled talent. The severe shortage of critical skills was identified as a barrier, with a shortage of key skills, such as strong translators, to bridge the customer, business, and data domains. This finding is consistent with findings from previous studies (Perçin, 2023; Zhao et al., 2024), which highlight that gaps in information architecture, data engineering, and data modeling are the foundational roles that build and maintain the data infrastructure upon which everything else depends. The study further established that the general silo problem is a key mechanism behind information architecture gaps.

Another barrier identified by the study relates to the lack of data literacy and business understanding. The findings revealed that retail banks are not aware of how they can utilize data analytics. In addition, the study found that business partners struggle to comprehend the meaning of some data analytics features, creating a communication barrier. The findings concur with Kar & Kushwaha's (2023) identification of resistance to upskilling, but frame it as a fundamental literacy issue. When business stakeholders cannot articulate their needs in data-informed terms or interpret

analytical outputs, the feedback loop between business strategy and data capability is broken. The study's findings highlight that the theory-practice gap further exacerbates challenges faced in translating academic knowledge into production code.

6.4.3 RQ 3: Theme 3 – Cultural and Mindset Challenges

Beliefs, attitudes, and ingrained routines that perpetuate a status quo were identified as significant barriers to transformation towards a customer-centric organization. The findings reveal that resistance to change shows the human and cultural barriers limiting customer-centric utilization of data analytics. As Justy et al. (2023) stated, resistance from staff and the challenges of unlearning traditional habits demonstrate that the shift to customer-centricity is not just a procedural change, but a deeply ingrained cultural one. It requires unlearning a product-centric legacy and embracing a new, uncertain model.

Strategic misalignment was identified as a significant barrier to customer-centric approaches in retail banking. One significant challenge that emerged from the data relates to cultural challenges that become codified in strategy and performance metrics. One example that illustrates the gap between rhetoric and reality in changing is the continuation of targets. However, this finding directly contradicts the principles of customer-centricity outlined by Gupta & Ramachandran (2021) and Dalsace et al. (2025), who argued for leadership commitment to putting the customer first. Previous studies highlight that when KPISs are siloed and product-focused, they actively incentivize the very behaviors that undermine customer-centricity. Furthermore, the view of data and analytics as a cost center reflects a fundamental failure of strategic vision, prioritizing short-term cost savings over long-term value creation.

6.4.4 RQ 3: Discussion Summary

The findings established an ecosystem of interconnected barriers spanning structural, talent, and cultural domains. The finding further attests to the presence of

global barriers such as legacy systems (Jimenez et al., 2025) and skills shortages (Perçin, 2023). In light of these findings, this study contributes to the field of data analytics by highlighting the negative effect of regulations such as POPIA, creating a paradox by limiting the personalization it aims to protect. In addition, the study found that the most significant barriers are cultural and strategic, a product-centric mindset, and resistance to change. These findings demonstrate that the barriers slow progress, talent gaps impair execution, and cultural challenges prevent the necessary reconfiguration to solve the first two problems.

Table 6: *RQ3 Comparison of findings with literature*

Theme	**Supporting Literature**	**Similarities / Contradictions**
Structural and Systemic Hurdles	Anning-Dorson et al. (2025): Jiménez et al. (2025):	**Similarity:** Confirms legacy systems and compliance as universal challenges. **Extension:** Empirically demonstrates the *intensity* of the regulatory paradox in SA and its direct, stifling effect on customer-centric initiatives.
Talent and Capability Gaps	Perçin (2023) Zhao et al. (2024)	**Similarity:** Strongly aligns with global talent shortage themes. **Extension:** Specifies the scarcity is for *hybrid* skills and highlights the critical, and often overlooked, barrier of *business-side* data illiteracy.
Cultural and Mindset Challenges	Mikalef et al. (2021): Justy et al. (2023).	**Similarity:** Supports the literature on cultural resistance. **Extension:** Provides vivid examples of the "product-centric legacy" mindset and shows how misaligned KPIs actively sabotage customer-centric strategies, making the barrier operational and measurable.

Source: Author's own

6.5. Discussion of Research Question 4:

How to encourage adoption of the data and analytics strategy to achieve customer-centricity

The findings relating to RQ4 provided recommendations, derived from the data, on how to encourage adoption of the data and analytics strategy to achieve customer-centricity. The findings revealed that to encourage adoption of a data analytics strategy in retail banks, there is a need for (1) upskilling, (2) leadership and communication, and (3) collaboration. The study established that the pillars provide a coherent, holistic change management framework designed to address the specific barriers identified in RQ3 and activate the capabilities defined in RQ2. A summary f the findings is presented below:

RQ4: How to encourage adoption?	Upskilling	○ Comprehensive learning and development ○ Fostering a data-driven culture
	Leadership and communication	○ Securing top-down support & alignment ○ Effective communication of benefits
	Collaboration	○ Breaking down silos through collaboration ○ Designing for adoption and ease of use

6.5.1 RQ 4: Theme 1 – Upskilling

The area of full learning and training offers a guide to form the hybrid professional type, seen as vital in RQ2. The findings highlight concur with findings from Johnson et al. (2021), who noted that steps such as cross-skilling, job rotations, and building staff from inside fight the gap between theory and real work and the age group divides found in RQ3. Banks can set up a "clear line for replacements" to grow lasting

talent internally. This cuts the hard fight for skills outside. Such a focus on staff is the first significant step to help the group identify and take risks effectively.

The area of building a data-based culture addresses the hidden culture and attitude issues identified in RQ3. The advice to change hiring to value key thinking skills and a business-startup attitude seeks to alter the makeup of those who shape the group's culture. This is a steady, lasting plan to fight pushback against change and old ways of thinking that harm change efforts. Tools like rewards, score sheets, and key measures that prize data-based actions and customer-focused results fix the plan mismatch, where goals still center on products. This builds the inner drive needed for a culture shift. It moves the group from stillness to ongoing change based on facts. It turns the idea of a data-based culture into real steps for hiring, checks, and rewards.

6.5.2 RQ 4: Theme 2 – Leadership and Communication

The findings position leadership not as a passive sponsor but as the active architect and chief communicator of the data-driven vision. This pillar directly confronts the barriers of "strategic misalignment" and the perception of analytics as a "cost center".

The sub-theme on securing top-down support and alignment adds important views to the known idea that leaders' backing matters. Evidence shows that real support comes through clear, structural shifts. Just hearing leaders talk about data's value is a first step. True commitment appears when they alter operating models, weave data strategy into the wider organization's plans, and even name a chief customer officer. These steps reshape things in ways that prove dedication. This result backs up and builds on Maroufkhani et al. (2023), who noted that top management support shapes organizational readiness. In South African banking, leaders need to break down old setups to clear space for new ones. They must move past words to firm steps.

The sub-theme on effective communication of benefits tackles the key gap in translating data work for business needs. The call for better communication and storytelling answers the lack of data literacy (RQ3). Leaders and data experts can simplify complex analytics into terms that users grasp best. This clears up tech confusion and highlights real benefits. Sharing success tales from early users serves as strong proof to ease doubts and fears of mistakes. Showing gains in efficiency also helps change views of data analytics from a mere expense to a source of value. Such communication fosters the inner support and trust necessary to implement data-driven efforts across the board.

6.5.3 RQ 4: Theme 3 – Collaboration

Collaboration forms the third pillar and drives the adoption process. It serves as the key method to dismantle isolated organizational setups, as noted in RQ3. This approach ensures that skills gained from training find real use in daily work. The sub-theme of cross-functional collaboration and co-creation stands against the isolated, top-down methods that often fall short. Banks embed data experts in business teams, team up with fintech firms, and form working groups for shared problem-solving. These steps link technical developers with business staff. This result aligns with El-Haddadeh et al. (2025), who connect successful adoption to value chain steps. Banks create useful insights alongside business specialists. In this way, analytics tools become relevant and tackle actual issues faced by frontline workers.

The results show that planning for adoption and user-friendliness adds an important focus on users, which tech rollouts often miss. Tools need to prove helpful and get shaped through repeated input from frontline staff. This addresses the pushback from employees, as seen in RQ3. A banker who finds a tool that speeds up tasks or meets key targets shifts from doubt to dependence. Tech must work smoothly for those who deal with customers each day to support business gains. A design that puts people first helps integrate DAC into the organization's routine tasks.

6.5.4 RQ 4: Discussion Summary

Research Question 4 aimed to find suggestions that promote the use of data and analytics strategies to focus on customers. The results shaped a framework for managing change with three main parts: staff training, leadership and open talk, and joint work. This setup offers South African banks a clear and useful guide. It helps them tackle the blocks noted in RQ3 and turn on the skills outlined in RQ2.

The results fit well with studies on how people take up new tools. They back the role of leaders (Maroufkhani et al., 2023), staff training (Johnson et al., 2021), and work across teams (El-Haddadeh et al., 2025). This research adds value by blending these parts into one full model. It also adapts them to the local setting. The work stresses that training needs to cover all areas and fit the culture. Leadership should show up in changes to the structure. Teamwork must be built into daily operations through shared creation and designs that put users first. This study fills the space between what skills are needed and how to bring them in. It gives a hands-on guide to shift data and analytics spending into lasting gains for customers. The view here sees bringing in new tools as more than a last task. It is the steady work of building, matching, and rooting in place. That lets a group show its changing skills in full.

Table 7: *RQ4 Comparison of findings with literature*

Theme	**Supporting Literature**	**Similarities / Contradictions**
Upskilling	Johnson et al. (2021). El-Haddadeh et al. (2025)	**Similarity:** Confirms training and culture as foundational to adoption. **Extension:** Proposes structured, institutionalized learning pathways (academies) and explicitly links hiring practices and incentives to cultural change.
Leadership & Communication	Maroufkhani et al. (2023).	**Similarity:** Reinforces the critical role of leadership and communication.

	Chen et al. (2022):	**Extension:** Specifies that leadership must be proven through *reconfiguring* acts (e.g., model changes, new roles) and highlights the practical tactic of showcasing early adopters.
Collaboration	El-Haddadeh et al. (2025)	**Similarity:** Aligns with the need to break down silos. **Extension:** Provides specific mechanisms for collaboration (co-creation, embedded champions) and introduces the crucial, user-centric principle of "designing for adoption," ensuring tools are useful and easy to use.

Source: Author's own

6.6. Framework for linking data analytics capabilities, dynamic capabilities, and customer-centric outcomes

The framework shown in Figure 4 below is based on the findings discussed in this chapter. It improves upon the framework in Figure 1, which was developed from the literature review in Chapter 2.

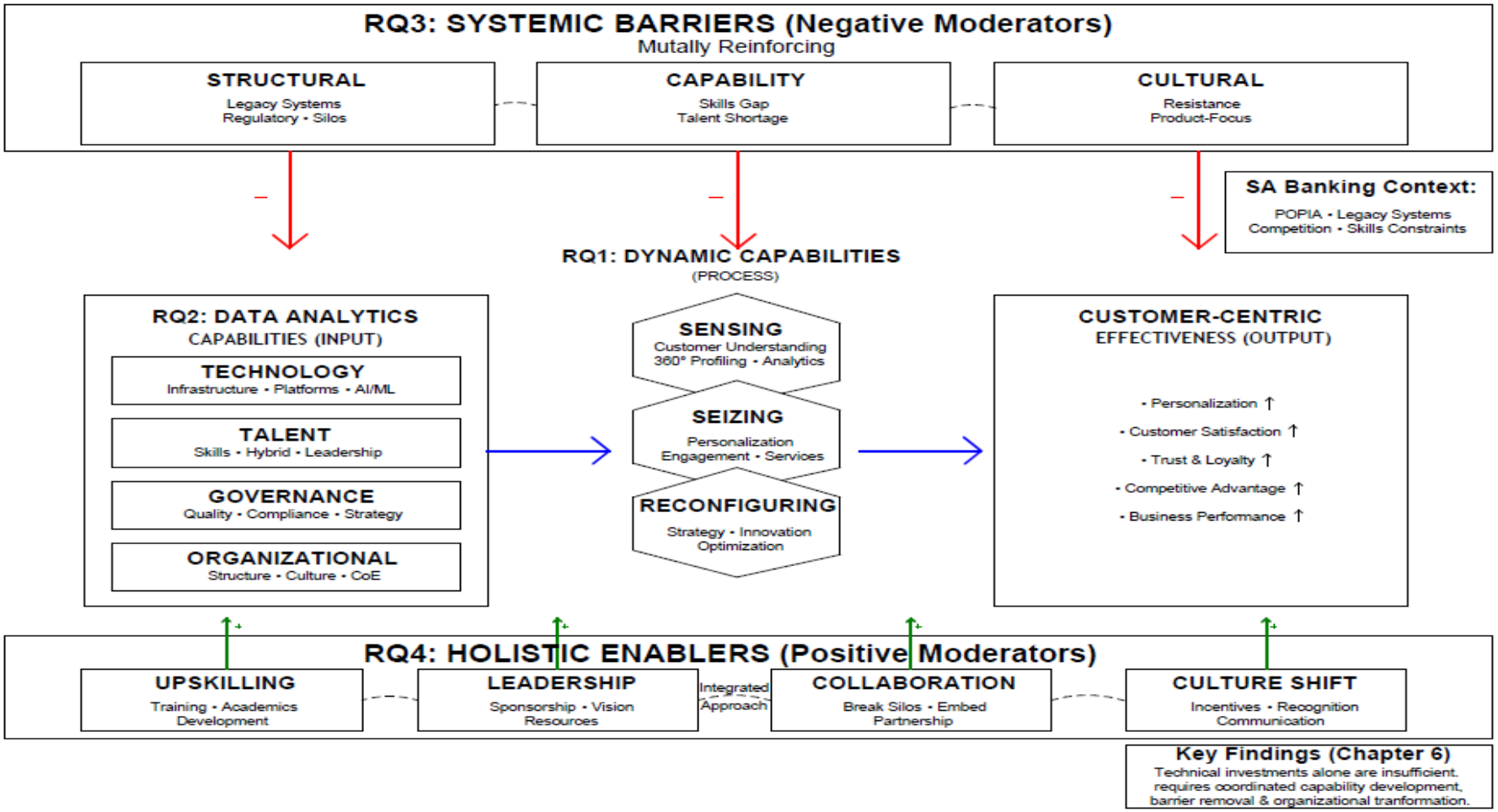


Figure 4: *Framework for linking data analytics capabilities, dynamic capabilities, and customer-centric outcomes*

Source: Author's own

The DAC-Customer Centric Pathway Model shows how the dynamic capabilities mechanisms (RQ1) transform data analytics capabilities (RQ2) into effective outcomes centered on the customer. These effects include better personalization, customer satisfaction, trust and loyalty, competitive advantage, and business performance. In this transformation process, two forces are affecting the pathway. They are systemic barriers (RQ3), which negatively constrain the process, and the holistic enablers (RQ4) that have a positive effect on adoption and effectiveness. The framework indicates that whereas the data analytics capabilities are the building inputs and the dynamic capabilities are the transformer engine, actual customer-oriented effectiveness is a consequence of the organization's capacity to neutralize barriers while activating enablers, thereby creating a conditional, rather than deterministic, path from analytics investment to customer value creation in South African retail banking.

6.7. Conclusion

This chapter was dedicated to a discussion of findings. The discussion offers the findings according to the research questions that guided the study. According to the findings, retail banks in South Africa use data analytics to better understand their customers and offer highly tailored services.

This points out that the banks are aware of the customer usage patterns concerning different banking services and products. They do this by relying on their core strengths in technology, a diverse workforce, and well-defined company policies (Objective 2). However, issues related to structures, skills, and culture (Objective 3) limit these strengths. A comprehensive plan can eliminate them. The plan advocates for directed training, opening up communication from the management side as well as among the cross-functional departments (Objective 4). To sum up, the results indicate that the transition to customer-centric analytics is not only a technological issue. It demands a total rebuilding of the organization. Flexible skills are the ones that facilitate the process. The writer has also set the drama in South Africa. The next chapter summarizes the major takeaways from the study. It also offers practical assistance for everyday use and suggests future research topics.

7. Conclusion and Recommendations

7.1. Introduction

The study aimed to assess the impact of data analytical capabilities on customer-centricity within South African retail banks, thereby addressing both the business gap and academic gap. This study was conducted using qualitative research on 13 senior leaders from South Africa's largest five retail banks to explore how analytics capabilities are being used in the South African banks, the capabilities needed for this transformation, the barriers preventing effective leveraging of data analytics, and the enablers that could facilitate the adoption of customer-centric strategies. The last chapter of the dissertation encapsulated the findings of the research and explained how the study was done to cover the academic and business problems mentioned in Chapter 1. Furthermore, it elaborates on the theoretical and practical contributions. Apart from this, it also highlights the various limitations of the study were also mentioned in this concluding chapter, along with some recommendations for future research.

7.2. Conclusion on Research Question 1

How are data and analytics insights currently being used to inform customer-centric strategies?

Banks are using data analytics to get a deeper understanding of their customers. By using analytics to extract behavior insights, they can create a personalized offering specific to a customer, giving the customer a fully customer-centric experience. This is aligned with Gupta and Ramachandran (2021) and Mach-Król and Hadasik (2021) findings that good use of analytics enables banks to be proactive in solving customers' needs than being reactive.

Findings revealed that banks are now shifting towards proactive engagements with their customers by using predictive modeling to predict customer needs, intervening

early before clients decide to leave the banks. Although the emphasis is more on retaining customers and operational efficiency, as Medeiros and Maçada (2022) caution. In addition, findings show that analytics informs both strategic and operational decisions. This aligns with the Dynamic Capabilities Theory (Teece, 2007), as banks 'sense' opportunities, 'seize' them through personalized propositions, and 'reconfigure' customer processes — even if the reconfiguring dimension remains relatively immature in practice (Akter et al., 2020; Anning-Dorson et al., 2025).

South African banks operate under stringent regulation, which causes conflict between personalization and regulatory expectations under POPIA. Global literature refers to privacy-ethics concern (Johnson et al., 2021), but participants are focusing more on operational value than governance challenges. Overall, the findings reinforce global perspectives on analytics-driven customer centricity (Casaca & Miguel, 2024; Khan et al., 2024), while contributing a tested pathway that demonstrates how Data Analytics Capabilities translate into customer value in an emerging banking market still balancing innovation, compliance, and legacy systems.

7.3. Conclusion on Research Question 2

What are the data analytics capabilities needed to effectively implement customer-centric approaches?

To drive customer-centric transformation in South African retail banks, three clusters of analytics capabilities are essential: modern technology platforms, hybrid talent, and mature governance structure. Likewise, the results disclose three paradoxes concerning capability that hinder the capacity to transform these resources into actual value for the customers.

Despite banks pouring funds into cloud infrastructure and AI tools, there's no evidence that banks are converting these into customer value, as we have been seeing in global research reports. This highlights the technology-use paradox in

organizations: operational processes technology is also used for strategic processes (Kristiana et al., 2023; Mikalef et al., 2020; Johnson et al., 2021; Panday et al., 2024).

The requirement for hybrid talent is accepted, but banks would rather build the best than develop analytics capability internally and at scale. The literature commonly supports and recommends structured approaches to capability building. This includes Cele (2023), Kar & Kushwaha (2023), Jimenez et al. (2025), and Zhao et al. (2024). However, such a view strays towards a “talent development paradox”.

The banking institutions have brought forth governing structures like data councils and stewardship frameworks. However, as these systems basically function in silos, they create a “governance theatre”. Thus, the presence of formal structures does not add up to the execution in a de facto manner. Emerging markets often face the challenge of transitioning from governance design to governance practice (Awan et al., 2021; El-Haddadeh et al., 2025; Mikalef & Gupta, 2021; Chen et al., 2022). In all the above paradoxes, we show how South African banks are not short of resources, but have issues of capability activation where simply having the technology, talent, and structures does not result in customer-centricity.

7.4. Conclusion on Research Question 3

What are the key barriers preventing South African retail banks from leveraging customer-centric strategies?

South African retail banks do not currently possess the capability to be analytics-driven and focused on the customer due to three issues that are interconnected: structural issues, skills issues, and cultural issues. Due to their legacy technology and regulatory constraints, such as POPIA, banks are technology path-dependent, which means past decisions in their systems limit technological innovation choices (Alonge et al., 2025; Kristiana et al., 2023; Panday et al., 2024). The findings do suggest a more fundamental friction between compliance and innovation. This contradicts research, which suggests that governance optimization can resolve regulatory tensions. A system of talent shortages is yet another critical barrier

because the scarcity of hybrid data talent and low organizational data maturity reinforce capability weaknesses. Despite the global evidence showing that training and incentives can reduce skills gaps (Cele, 2023; Zhao et al., 2024), the above holds.

The greatest barrier with the longest legacy is cultural constraints. This is reflected in silos, product-led mindsets, risk-averse behavior, and seeing analytics as a support tool and not a driver (Justy et al., 2023; Perçin, 2023). These insights call into question the conventional change frameworks, for transformation cannot be attained just by communication or skills programs, but by changing an organization's identity and strategic intent and the leadership's mindset. In sum, these barriers are a feedback loop that demonstrates that solutions that just fix things incrementally will not suffice, and a whole system transformation is what is needed.

7.5. Conclusion on Research Question 4

How to encourage adoption of the data and analytics strategy to achieve customer-centricity?

Boosting analytics adoption and customer-centric transformation in South African retail banks requires three strategic levers. It includes holistic upskilling, genuine senior leadership commitment, and structured collaboration amongst stakeholders. Nonetheless, the results indicate that these traditional approaches would not suffice, showing a need for deeper transformation of the organization. Participants stressed the importance of an institution-wide focus on skills that must go beyond technical capability. Critical thinking and data literacy were also mentioned as important at all job levels (Inamdar et al., 2020; Johnson et al., 2021; Zhao et al., 2024). According to the findings, most corporate learning models are insufficient, which extends the existing literature. Furthermore, it suggests that the banks must become continuous learning organizations rather than only offering training programs. Moreover, leadership is another critical factor, where executives need to introduce analytics as part of their strategic direction. Moreover, executives need to communicate the value of analytics without technical jargon (Kar & Kushwaha, 2023; Maroufkhani et al., 2023). The study results reveal something more. Leadership development requires

a change of mindset as legacy management paradigms limit the capacity of leaders to be advocates of data-led change. In conclusion, collaboration between business and technical functions is considered essential to promote co-creation and shared accountability with customers, and customer-focused designs (Kristiana et al. 2023; Lem 2024). This study asserts that sustaining meaningful collaboration necessitates structural modification to overcome silos, embed shared working practices into operating models, unlike other research, which presents collaboration either as a behavioral challenge or a coordination problem. All this implies that the path of incremental change may not suffice. Instead, the adoption of analytics in emerging banking markets may well demand institutional reinvention. This raises the question: can incumbent banks pull off such a feat? Or do digital-native entrants have the better capability to deliver analytics-enabled customer-centricity?

7.6. Conclusion on The Main Research Question

The aim of this study was to examine the impact of data analytics capabilities on customer-centricity in South African retail banking. The results show that analytics plays an important but still developing role in the ability of banks to know, reach, and serve customers. Data analytics allows banks to go from demographic segmentation to behavioral insights and predictive personalization, thus giving them more tailored services and engagement. Even so, analytics enables improved customer experience and targeted service models, but its potential as a strategic weapon remains untapped.

The study findings show banks have begun to link analytics to core customer-focused decisions. This is consistent with the sensing, seizing, and reconfiguring mechanisms in Dynamic Capabilities Theory. However, this capability is strongest in operational use cases and weakest in strategic transformation. In other words, analytics has improved efficiency, insight, and responsiveness, but has not yet transformed organizational strategy, culture, or competitive positioning. The gap is not caused by unawareness or under-investment. It is caused by uneven activation of the capability.

According to the analysis, three capability foundations enable analytics-driven customer centricity. These include flexible and scalable technology platforms, governance structures that embed data use into daily work, and hybrid talent that blends technical and business skills. Banks can convert data into customer value when these capabilities work together. Nonetheless, three paradoxes were identified: the technology is mature but the analytical rigor is not, there is a tendency to hire talent instead of building it, and the governance structures are only on paper. Capability ownership does not necessarily guarantee capability execution, as these tensions indicate.

Structural, cultural, and systemic barriers are slowing down progress at South African banks. Transformation enabled by analytics is affected in both depth and pace by POPIA requirements, legacy systems, scarce hybrid talent, siloed operating models, and entrenched product-led cultures. Overcoming these barriers requires not just investment but organizational reinvention that includes workforce reskilling, leadership transformation, and cross-functional collaboration embedded into how work gets done.

In summary, the findings indicate that analytics capabilities do have a role to play in the customer-centric banking environment in South Africa. However, the impact is currently partial, operational, and incremental, with no evidence of a strategic and transformative impact as yet. To unlock the full value of analytics for customer-centricity, banks must move beyond capability building towards capability activation, from pockets of excellence to institution-wide application. The results of the research also show that data analytics is not just a technology initiative but rather a long-term organizational change journey that will determine whether existing banks can compete with digital natives in the next decade.

7.7. Conclusion of the Research

This study scrutinized the relationship between data analytics capabilities and customer centricity in South African retail banks and found the relationship to be conditional as opposed to deterministic. Although banks have sophisticated analytics infrastructure and have deployed capabilities across the sensing, seizing, and reconfiguring dimensions, three paradoxes hinder the conversion of capability to customer value. The first is how the maturity of infrastructure does not lead to the

maturity of analytics. The second paradox is how the development of talent does not lead to the building of organization-wide capability. The third paradox is that governance by way of structures and processes is only skin-deep and does not percolate down, and is not operational. Research has shown that despite the advanced technology that banks have, they are stuck in ‘analytical incrementalism’; in using transformative technologies to solve operating issues as opposed to strategically evolving and customer-centric transformation. This limitation results from system-related barriers (legacy systems and regulatory rigidity), talent-related barriers (shortage of hybrid skills and limited data literacy), and cultural-related barriers (risk aversion, siloed mindset, and product-centric mindset).

The research demonstrates that having adequate data analytic capabilities can leverage personalization, customer satisfaction, trust, loyalty, and competitive advantage. But making this happen calls for a whole organization transformation. One that banks can harness capabilities, tackle barriers, fine-tune governance, enhance collaboration, plot leadership, and measure outcomes all at once. It focuses on a change in mindset from just investing in analytics systems to a transformation in the way firms operate around analytics to create real customer value.

7.8. Contribution to the study

This study aimed to assess a business problem facing South African retail banking through an analytical lens (business regulation imperatives) as well as academic literature on analytics-enabled customer-centric strategies in emerging markets. This section describes how the research findings addressed the problem and how they contributed to the practical and theoretical study.

7.8.1 Practical Contribution

South African banks are strategically disadvantaged when it comes to deriving true customer value from large amounts of money spent on data analytics. Despite making substantial investments in digital systems and compliance infrastructure, they are focused more on improving operational efficiency and regulatory compliance rather than customer experience transformation. The primary business problem is

not that you lack the analytics capabilities. Rather, it is the failure to use them strategically to enhance true customer centricity and trust and achieve sustainable competitiveness.

This study resolves this problem by providing a comprehensive transformation toolkit to South African retail banks that explains why their analytics investments fail to deliver customer value. Banks are empowered by the research to diagnose their existing gaps in analytics use, receive a capability roadmap to steer spending away from infrastructure expansion and, instead, towards analytical maturity and real governing frameworks, determination of barriers that shifts strategic focus away from “invest more in analytics” to “transform how the organization operates around analytics”, and finally, actionable enablers that specify how to drive change through coordinated interventions across upskilling, leadership commitment and cross-functional collaboration. The DAC-Customer Centricity Pathway Model creates a complete strategic framework that allows C-suite executives to see the complete system of capabilities, mechanisms, barriers, and enablers determining analytics effectiveness. This provides the complete diagnostic, strategic, and implementation advice that will enable companies to make analytics create real customer-centric competitive advantage and reclaim ground from fintech attackers.

7.8.2 Theoretical Contribution

There are not that many empirical studies on data analytics capabilities and their impact on customer-centric strategies, as expected, especially in emerging economies such as South Africa. Although existing literature on analytics and customer-centricity places considerable attention on developed markets, the availability of resources, the sophistication of infrastructure, and characteristics of customers create stark contrasts between these economies and emerging markets.

This study tackles the academic issue by presenting the first comprehensive empirical study of analytics-enabled customer-centricity in an emerging market context, thereby addressing crucial gaps in theory, evidence, and context. This study provides qualitative evidence based on 13 senior managers from the big five

incumbent banks in South Africa. This perspective is missing in the existing literature largely focused on developed markets and the fintech industry.

Through a more explicit integration of data analytics capabilities with the theory of dynamic capabilities, the study theoretically expands existing knowledge. The results demonstrate the dynamic nature of the analytics function. Sensing, seizing, and reconfiguring mechanisms for customer-centric transformation are made possible by analytics functions. The study offers important and practical additions to current theory. First, it highlights how crucial the institution's ethical transparency is to fostering trust. The findings reveal that the obstacles preventing capability building are systemically embedded. A transformative, not an incremental, change is needed for this block. Third are three previously unheard-of paradoxes: talent development, governance theatre, and infrastructure analytical maturity. These contradictions clarify why having a capability does not translate into strategic value.

The study introduces new analytical constructs, triadic categorizations of barriers and enablers, and the DAC-Customer Centricity Pathway Model, a theoretically grounded, empirically validated framework that explicitly integrates contextual moderators (regulatory stringency, skills constraints, legacy systems, and competitive disruption) absent from frameworks in developed markets. This research thus provides scholars with empirical evidence, theoretical extensions, novel constructs, and a testable conceptual framework that lays the foundation for further investigation into analytics-enabled customer-centricity in emerging markets, thereby bridging the critical gap between developed-market theory and emerging-market reality.

7.8.3 Methodological Contribution

Methodologically, this study contributes to analytics and customer-centricity research by using a qualitative, interview-based approach in a South African banking context, which is in previous scholarly work it has focused on quantitative methodology. The study interviewed senior banking professional by a way of semi-structured interviews to capture their lived experiences, decision pathways, and context-specific challenges they face that are often not highlighted in studies driven by surveys. In addition, the study used inductive thematic analysis integrated with dynamic capabilities theory offered a structured analytical lens but also allowed flexibility in

exploring new themes that might emerge. Consequently, this approach highlighted the potential impact and worth of qualitative techniques in understanding the mechanisms that formulate opportunity exploitation amongst firms based in emerging market locations such as South Africa, and assists future researchers with a replicable process to study data analytics capabilities and customer-centricity in a regulated setting.

7.8.4 Contextual Contribution

This study adds to the literature by exploring data analytics capabilities in the South African retail banking context, which is relatively highly regulated, has an advancing digital presence, but is a diverse socio-economic emerging market.

This study highlights the local conditions, such as POPIA, legacy infrastructure, and financial inclusion priorities that enshrine data analytics in customer-centricity, and how these conditions differ from global literature, which often focuses on advanced markets with mature digital environments. The research results show that technological maturity does not automatically mean value for customers. This is due to strict regulations, a lack of hybrid talent, and cultural barriers that are more prevalent than in developed markets. The context of banks in emerging markets has been shown to face capability activation challenges, which differ from the global scaling and optimization challenges documented in studies. Such information informs future researchers studying other such regulated, developing financial systems.

7.9. Recommendations for South African retail banks

All South African retail banks have a sophisticated analytics infrastructure. But they can't convert their investment into customer value. This part of the report presents recommendations, which are high-impact and tackle key capability gaps.

1. Activate capabilities, not just acquire infrastructure.

Retail banks in South Africa must shift their investment priorities from expanding their infrastructure to utilizing what they already have. The audit capability, which examines

discrepancies between a bank's technical infrastructure and analytics maturity, can help achieve this. High-impact customer-focused use cases should take precedence over technological showcases for businesses. To offer a unified customer view, they must integrate previous data silos. Measure customer outcomes as well. This covers loyalty, satisfaction, and personalization.

2. Build organizational capabilities through hybrid upskilling

Retail banks in South Africa should shift their investment priorities from expanding their infrastructure to utilizing what they already have. This can be accomplished by using the audit capability, which examines discrepancies between the technical infrastructure and analytics maturity of a bank. High-impact use cases that are customer-focused should take precedence over technological showpieces for businesses. To provide a single customer view, they must integrate previous data silos. Additionally, track customer results. This covers customization, contentment, and allegiance.

3. **Address barriers holistically through integrated transformation**

Take a comprehensive approach to transformation aimed at removing every obstacle simultaneously. Focus on careful legacy modernization with customer-facing capabilities arising out of necessity. Move the back office from a production stance to a delivery and efficiency stance. Seek ecosystem partnerships with universities and fintechs to widen your talent pool and your approach. Model data-driven decision-making at the executive level. Use visible analytics in decisions made by the executive. Align incentives away from product sales and towards customer and business outcomes. Use KPIs to measure collaborative outcomes, not siloed functional performance.

4. **Enable systematic collaboration and innovation.**

Revamp organizational structures and make use of cross-functional teams that share joint accountability and responsibility for customers' outcomes. Use agile operating models that transform sequential handoffs into iterative co-creation. Further, assign ownership of the customer journey for end-to-end experiences rather than broken touchpoints.

Join forces with Fintechs to use shared strengths. For example, the bank is scalable and trusted, while the Fintech is agile and innovative. Start innovation labs that provide safe experiments outside core banking's structural confines.

5. **Redefine success through customer-centric outcome metrics**

Change the performance measurements from output to outcome orientation by using customer impact metrics instead of technical metrics. The performance measure should also cover some personalization effectiveness, trust metrics (privacy perception, fairness, transparency), friction reduction (fewer complaints, optimizing channels), financial inclusion (growth of underserved segments), and lifetime value-driven loyalty.

7.9.1 Transformation pathway for South African retail banks

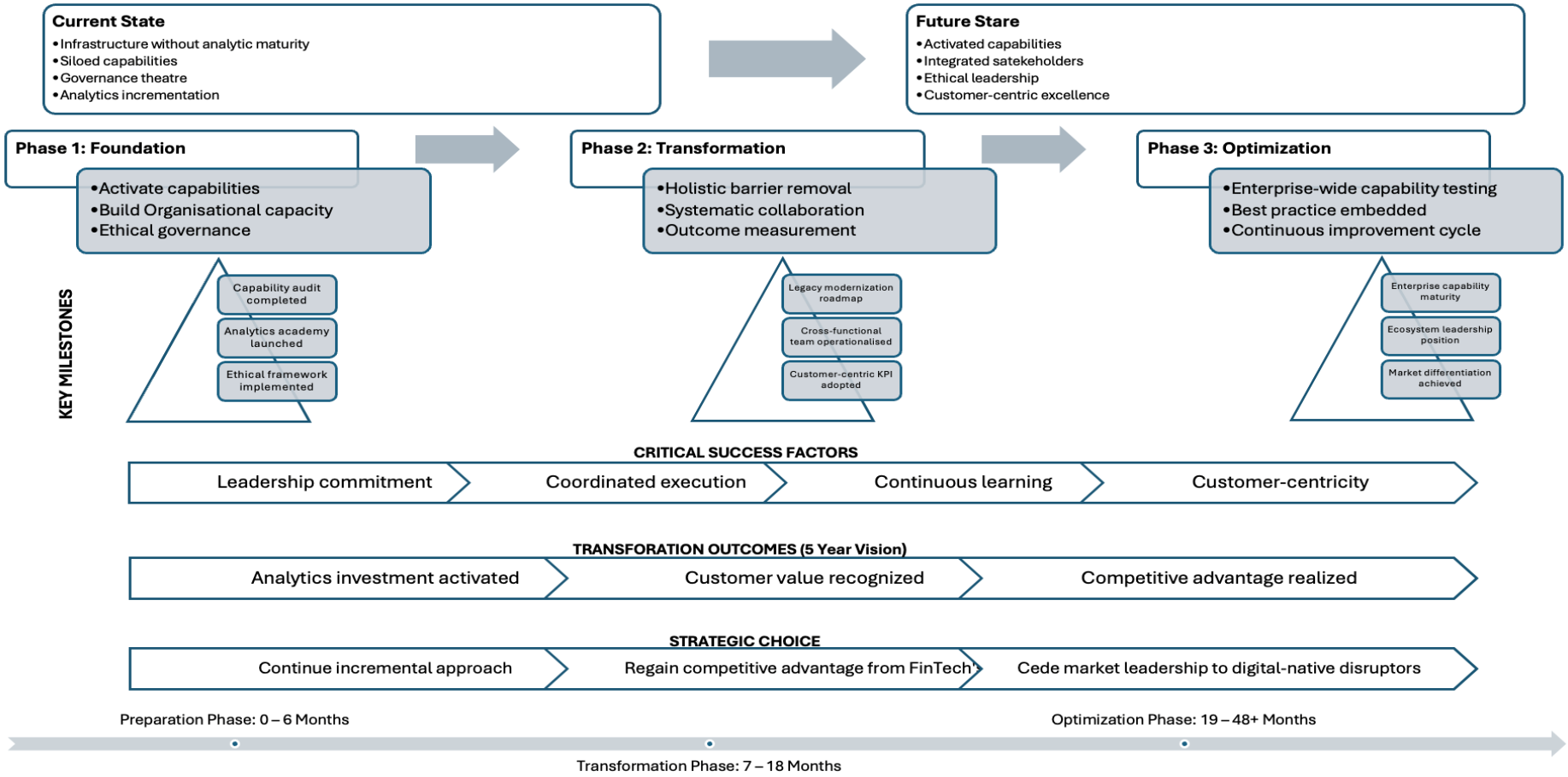


Figure 5: *Transformation pathway for South African banks*

(Source: Author's own)

These five recommendations form an integrated three-phased transformation pathway.

The above represents a 60-month guide for a strategic roadmap on how to transform to a data analytics-enabled customer-centric bank, through progressive phases. Preparation Phase (0 – 6 months) establishes the foundational capabilities through capability audits, talent development, and governance frameworks. Transformational Phase (7 – 18 months): implement the change by upgrading or modernizing the legacy systems, enabling cross-functional collaboration, and deploying advanced analytics. Optimization Phase (19 – 48+ months) embed analytics into organizational processes, scaling successful initiatives, driving innovation, and demonstrating measurable KPI's.

This roadmap recognizes that having only technology is not enough to drive successful analytics-enabled customer initiatives; to be successful, banks need simultaneous transformation of people, culture, governance, and processes, all of which are based on five critical measures of success: leadership commitment, coordinated execution, talent development, upskilling and reskilling, and stakeholder engagement. Throughout the journey, banks always remove barriers while building capabilities in customer-centric measurement. The ultimate goal is achieving the five-year vision where analytics are embedded as the default decision-making choice, customer value is recognized, and competitive advantage is realized. This roadmap is not one size fits all, but it must be adapted to each bank's context.

7.10. Limitations of the research

Below are the research limitations for this qualitative study

1. The qualitative design does not allow statistical generalization and quantitative hypothesis testing, but it provides deep contextual knowledge of the context of a phenomenon.
2. If we limit our research to the big five incumbent banks of South Africa, we may miss findings on smaller banks, fintech challengers or digital-native banks whose constraints differ.

3. The use of cross-sectional data collection only captures capabilities during one transformation phase, rather than the dynamic evolution, implying that longitudinal research would offer a better understanding of organizational learning and capability development issues.
4. Restricting the findings to the organizational perspective would be when only the views of the senior leadership were captured, without the views of the customer, regulator, and frontline staff.
5. Although the research outlined the transformation necessary for the Company's supervision and regulation systems, it did not empirically assess effectiveness. The findings are therefore diagnostic rather than validated intervention strategies.
6. Due to South Africa's particular regulations, socio-economic circumstances, and competitive context, the framework may be transferable to other emerging markets, merits contextual adaptations, and should be applied with caution to institutional contexts that differ substantially.

7.11. Recommendation for future research

Based on this study's findings and limitations, six major directions for future research emerge.

1. **Quantitative validation** of the DAC-Customer Centric Pathway Model through structural equation modeling across larger samples would enable statistical generalization and rigorous hypothesis testing. It would develop measurement scales for the capabilities, mechanisms, barriers, and enablers identified in this study.

2. **Longitudinal research** tracking a bank's transformation journey over multi-year periods would provide insight into how analytics capabilities mature over time, how barriers evolve through interventions, and how organizational learning unfolds, capturing temporal dynamics that cross-sectional designs cannot reveal.

3. **Comparative studies across emerging markets** would test the framework's external validity and distinguish universal elements from context-specific adaptations shaped by different regulatory environments, competitive dynamics, and socio-economic conditions.

4. **Multi-stakeholder research** incorporating customers, regulators, and frontline staff perspectives would provide a more complete understanding by examining how customers experience personalization-privacy trade-offs, how regulators balance innovation with consumer protection, and how frontline staff translate analytics insights into customer interactions.

5. **Fintech-incumbent partnership research** would examine collaboration dynamics, value co-creation mechanisms, capability transfer processes, and cultural integration challenges, providing evidence-based guidance for ecosystem strategies and illuminating whether such partnerships represent viable transformation pathways or superficial competitive responses.

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APPENDIX A: INFORMED CONSENT FORM

Interview Consent Form

Dear [Participant's Name]

My name is Khauhelo Ramatlo, and I am currently a student at the University of Pretoria's Gordon Institute of Business Science and completing my research in partial fulfillment of an MBA. I am conducting research on the Impact of data analytics capabilities on customer-centric approaches in South African retail banks. The study aims to understand how South African banks currently utilize data and analytics insights to inform their strategic decisions and to discover what capabilities are more effective if implemented to drive customer-centric approaches. Please note our interview is expected to last about an hour, and that **your participation in this study is completely voluntary, and you can withdraw at any time without penalty**. Confidentiality is of utmost importance in this research; all information provided by you will remain anonymous, and your name or that of your organisation will not be revealed. Data will be reported without identifiers. There are no monetary or non-monetary rewards attached to your participation in this study. There is no known risk for participating in this study.

Please note that the interview will be conducted using any of the following platforms, such as Microsoft Teams, Google Meet, or Zoom. Data collected during the interview will be recorded for analysis purposes and will be stored in a secure web storage for a period of 10 years, with only the primary researcher having access to it. By signing this letter, you are indicating that you have given permission for:

> Verbatim quotations from the interview may be used in the report, provided they
> are not identified with your name or that of your organization.
> Once completed, the study (including data collected during the interviews) will be

publicly available in various academic publications.

All data to be reported and stored without identifiers.

If you have any concerns, please don't hesitate to contact me or my supervisor. Our
details are provided below.

Thank you for considering participating in this research study. Your willingness to contribute is greatly appreciated.

	Researcher	**Researcher's Supervisor**
Name	Khauhelo Ramatlo	Dr. Lean Makhubele
Email Address	23036223@mygibs.co.za	leanmz@gmail.com
Phone	0718899519	0825523525

Kind Regards,

Signature of participant: _____

Signature of Researcher_____

Date:_____

Date: _____

APPENDIX B: INTERVIEW GUIDE

Screening questions:

1. What is your current role?
2. Have you been in your role for more than three years?
3. Have you ever used data and analytics to make business decisions?
4. Are you involved in the development and or implementations of data and analytics strategies

Introductory questions:

1. How would you describe your knowledge of customer-centric strategy?
2. How do you use and understand data analytics capabilities?
3. What role does data analytics play in shaping customer –centric strategies?

Research Question 1: How are data and analytics insights currently being used to inform customer-centric strategies?

1. What types of customer data do you currently collect and analyze regularly?
2. The data insights that are derived from customer data, how are they being used in shaping customer engagements?
3. Who are the key stakeholders involved in using these insights to drive strategy?
4. What tools are used to extract and analyze customer insights?

Research Question 2: What are data analytics capabilities needed to effectively implement an effective customer- centric approach?

1. What technical capabilities do you consider critical for supporting customer strategies and why?
2. What talent or skills are critical to successfully implement a data driven customer-centric strategy?
3. Are there any challenges in acquiring such talent and skills, if yes, what should be done to address the challenges?

4. How mature is data and analytic capabilities in the retail banking sector in your opinion?

Research question 3: What are the key barriers that are preventing South African retail banks in leveraging customer- centric strategies?

1. What do you see as the biggest internal and external obstacles in implementing customer-centric strategies?
2. What are the main reasons in your opinion that can cause customer-centric initiatives to fail and why?

Research question 4: How to encourage adoption of the data and analytics strategy to achieve customer- centricity?

1. What is the level of adoption for data and analytics strategies?
2. What initiatives and incentives have been put in place to encourage adoption? Is it linked to balance scorecard?
3. How is the impact of data and analytics strategies adoption being measured?

APPENDIX C: LIST OF CODES

Research Question 1: How are data and analytics insights currently being used to inform customer-centric strategies?

Code #	Code Name	Frequency (out of 13)	Participant Distribution (P1 to P13)
1	Proactive Client Engagement / Generating Leads	6	P1, P5, P6, P11, P12
2	Identifying Friction Points & Product Gaps	5	P3, P5, P6, P7, P13
3	Understanding Customer Behaviour	5	P2, P3, P6, P7, P9
4	Hyper-Personalization & Contextual Offers	5	P4, P7, P8, P9, P13
5	Reporting for Performance Management	4	P2, P5, P8, P12
6	Enabling Data-Driven Decisions Across Functions	4	P2, P4, P5, P11
7	Fraud Prevention & Cost Control	3	P2, P3, P8
8	Acquisition & Retention Modelling	2	P1, P2
9	Single Customer View	2	P4, P8
10	Advisory & Value-Added Services	2	P2, P5
11	Multi-channel Integration Challenges	2	P1, P12
12	Aligning Data Strategy with Business Vision	1	P11
13	Centralised Platforms, Decentralised Execution	1	P9
14	Client Experience as a Primary Metric	1	P9
15	Move from Descriptive to Prescriptive	1	P5

16	Using a Phased Approach to Data Usage	1	P10
17	Using External Data Sources	1	P3
18	Automating Processes for Customer Convenience	2	P4, P13
19	Optimising Internal Operations (e.g., Queues)	1	P4
20	Deriving Strategy from Customer Feedback (NPS)	1	P5
21	Using Real-Time Data for Immediate Intervention	1	P3
22	Streamlining Customer Onboarding Journeys	1	P3
23	Predicting Life Events for Proactive Offers	1	P7
24	Channel-Specific Deployment Based on Data Confidence	1	P1
25	Providing Total Cost of Ownership Reports	1	P2
26	Using Data for Comparative Brand Advisory	1	P2
27	Mining Customer Interactions (Calls, Chats) for Sentiment	1	P6
28	Tailoring Communication Based on Customer Risk Profile	1	P6
29	Using Data to Identify New Market Spaces	1	P4
30	Leveraging Partnerships Based on Customer Data	1	P7
31	Using Data to Counter Competitor Offerings	1	P5
32	Informing Merger & Acquisition Opportunities	1	P5
33	Using ESG Data for Customer Funding Decisions	1	P5

34	Dynamic Pricing Based on Customer Data	1	P5

Research Question 2: What are the data analytics capabilities needed to effectively implement an effective customer-centric approach?

Code #	Code Name	Frequency (out of 13)	Participant Distribution (P1 to P13)
35	Technical Skills & Business Understanding (Hybrid Skills)	9	P1, P2, P3, P4, P5, P6, P7, P10, P11
36	Multi-Tool & Multi-Cloud Technology Stack	7	P2, P4, P6, P7, P9, P10, P11
37	Foundational Data Infrastructure & Governance	6	P4, P5, P8, P10
38	Data Science & Advanced Analytics (AI/ML)	5	P1, P2, P5, P10
39	Critical Thinking & Problem-Solving	4	P2, P5, P8, P9
40	Comprehensive & Holistic Data Collection	3	P1, P2, P12
41	Dedicated & Structured Data Teams	3	P1, P4, P5
42	Real-Time Data Processing Capability	2	P1, P3
43	Strategic Leadership & Vision	2	P1, P5
44	Appetite for Learning & Adaptability	1	P8
45	Translation Capability (Model to Insight)	1	P1
46	Behavioural Economics / Training Capability	1	P1

47	Solutions Capability (End-to-End Design)	1	P1
48	Image Recognition & Automation	1	P2
49	Integration of External Data Sources	1	P4
50	Leveraging AI as an Augmenting Tool	1	P6, P9
51	Data Architecture & Modelling Skills	2	P3, P5
52	Hiring for Potential and Attitude	1	P5
53	Stakeholder Management & Persuasion Skills	1	P1
54	Execution Capability (Beyond Analysis)	1	P1
55	API Integration Capabilities	1	P3
56	Decision Engine Platform Capability	1	P6
57	Client Data Platform (CDP) Management	1	P4
58	Data Commercialization / Monetization Skills	1	P5
59	Federated Data Management Model	1	P5
60	Data Quality Analytics (Descriptive/Diagnostic)	1	P5
61	Proficiency in Specific Tools (e.g., SAS, SQL, Power BI)	3	P1, P2, P7
62	Cloud Platform Specialization (AWS, Azure, GCP)	2	P4, P8
63	Data Privacy and Anonymization Skills	1	P6
64	Ability to Work with Legacy and Modern Systems	1	P8

65	Customer Journey Mapping Capability	1	P3
66	Generative AI Prompting and Application	1	P6
67	Building and Configuring ML Platforms	1	P4
68	Data Storytelling and Visualization	1	P4
69	Business Analysis and Requirements Gathering	1	P4

Research Question 3: What are the key barriers that are preventing South African retail banks in leveraging customer-centric strategies?

Code #	Code Name	Frequency (out of 13)	Participant Distribution (P1 to P13)
70	Regulatory and Compliance Constraints (e.g., POPIA)	7	P1, P2, P4, P6, P9, P13
71	Scarcity of Skilled Talent (Especially Hybrid Skills)	6	P1, P2, P3, P6, P10, P11, P12
72	Legacy Systems and Technical Debt	5	P2, P3, P8, P12
73	Siloed Organizational Structure & Misaligned KPIs	4	P3, P6, P8
74	Cultural Resistance to Change / Outdated Mindset	4	P1, P3, P5, P7
75	Lack of Business Understanding of Data Capabilities	4	P4, P6, P12, P13
76	Data Integration and Quality Challenges	3	P1, P8, P12

77	Capacity Constraints & "Run the Bank" Focus	3	P1, P6, P12
78	Lack of Strategic Clarity & Prioritization	2	P5
79	Viewing Data Analytics as a Cost Centre	2	P5, P6
80	Security, Fraud, and Privacy Concerns	2	P1, P8, P9
81	Long, Bureaucratic Implementation Processes	2	P6
82	Fast-Changing Customer & Market Needs	2	P1, P2, P7
83	Inconsistent Maturity Across a Large Organisation	1	P4, P5
84	Lack of Investment in R&D	1	P1
85	Resistance from Staff to Empower Juniors	1	P7
86	Fear of Customer Loss During Transitions	1	P3
87	Lack of Grassroots Tech Education	1	P2
88	Technologically Hesitant Customer Base	1	P2, P5
89	Foreign Solutions Not Fitting Local Context	1	P7
90	Scepticism from Past Failed Initiatives	1	P4
91	Lack of Data Quality Awareness at Source	1	P8
92	Lack of Senior Leadership Support	1	P5
93	Difficulty Translating Theoretical Knowledge to Practice	1	P6

94	Data Collected Not Originally for Personalization	1	P8
95	Disconnect Between Academic and Practical Skills	1	P8
96	Competition from Agile Fintechs	1	P2
97	Difficulty Crossing the "Data Chasm" (Maturity 3 to 4)	1	P5
98	Ineffective Recruitment and Interview Processes	1	P6
99	Dunning-Kruger Effect in Skill Assessment	1	P6
100	AI-Assisted Cheating in Technical Interviews	1	P6
101	Remuneration Pressures for Data Talent	1	P6
102	Perception of Analytics as a Support Function	1	P1
103	Immature Data Integration into Strategy	1	P1
104	Focus on Shareholder Value over Customer Value	1	P1, P2
105	Internal Focus on Banker Pain Points vs. Client Pain Points	1	P1
106	Lack of Explainability in Complex AI Models	1	P6
107	Political Will and Economic Priority Conflicts	1	P5
108	Collecting Data Without a Clear Purpose	1	P5
109	Fragmented Customer Experience Across Product Silos	1	P8

110	Lack of Real-Time Data Matching Capability	1	P1
111	Challenges with Data Sensitivity and Secrecy	1	P1
112	Multi-Stakeholder Complexity Slowing Progress	1	P1
113	High Investment Needed for Marketing New Products	1	P3
114	Balancing Security Risk with Innovation	1	P8

Research Question 4: How to encourage adoption of the data and analytics strategy to achieve customer-centricity?

Code #	Code Name	Frequency (out of 13)	Participant Distribution (P1 to P13)
115	Upskilling, Training, and Academies	6	P1, P3, P4, P6, P7, P9
116	Leadership Buy-in and Strategic Alignment	5	P1, P2, P4, P5, P13
117	Incentives, Scorecards, and KPIs	4	P1, P4, P5, P8
118	Cross-Functional Collaboration & Co-Creation	4	P4, P5, P6, P7, P10
119	Improved Communication & Storytelling	4	P1, P8, P10, P13
120	Cross-Skilling and Rotational Programs	2	P1, P13
121	Data Literacy Programs for All Staff	2	P10
122	Prioritizing Critical Thinking in Hiring	2	P9, P12

123	Involving Customers Iteratively	1	P7
124	Ensuring Ease of Use and Simplification	1	P13
125	Establishing Centres of Excellence	1	P4
126	Changing Operating Models	1	P5
127	Early-Stage Tech Education	1	P2
128	Gamification of Learning and Maturity Assessments	1	P5
129	Demonstrating Value through Efficiency Gains (e.g., Headcount)	1	P2
130	Partnering with FinTech	1	P7
131	Building Useful Tools with Frontline Staff	1	P6
132	Creating a Formal Succession Pipeline	1	P4
133	Using External "Sticks" (Fraud, Risk) to Drive Adoption	1	P5
134	Building Depth of Skill Before Breadth	1	P1
135	Growing Talent Internally vs. External Hiring	1	P1
136	Enhancing Structured Storytelling in Education	1	P1
137	Hiring for Client Passion	1	P1
138	Appointing a Chief Customer Officer	1	P4
139	Linking Tools Directly to Frontline KPIs	1	P6
140	Using Working Groups for Inclusive Solutioning	1	P7
141	Embedding Data Champions in Business Units	1	P7

142	Showcasing Success Stories from Early Adopters	1	P8
143	Translating Solutions into End-User Benefits (e.g., Time Saving)	1	P8
144	Using Data Commercialization as an Incentive	1	P5
145	Co-creating Insights with Business Stakeholders	1	P5
146	Fostering an Entrepreneurial Mindset	1	P1
147	Aligning Product Sunsetting with New Offerings	1	P3
148	Developing a Customer-Centric Feedback Loop	1	P8
149	Creating a Single View from Disparate Data Sources	1	P8
150	Balancing Automation with Human Empathy	1	P6