

Opportunities and challenges of Open Banking in South Africa

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KEYWORDS

API, Data, Disruptive Innovation, Financial Inclusion, Financial Service Provider, Fintech, Open banking, Regulation, South Africa

Table of Contents

1	INTRODUCTION.....	1
1.1	Purpose of the study.....	1
1.2	Background of the Study	1
1.3	Research problem	3
1.4	Research Questions	6
1.5	Significance of the study.....	6
1.6	Delimitations of the study.....	6
1.7	Definition of Terms.....	7
1.7.1	Application Program Interface (API)	7
1.7.2	Disruptive Innovation	7
1.7.3	Financial Services Provider	7
1.7.4	Fintech.....	7
1.7.5	Open banking	8
1.7.6	Screen Scraping.....	8
1.7.7	Third Party Payment Provider.....	8
1.7.8	Theory of Disruptive Innovation	8
1.8	Assumptions	9
1.9	Chapter Summary.....	9
2	LITERATURE REVIEW	11
2.1	Introduction.....	11
2.2	Background discussion.....	11

2.3	What is open banking?	13
2.4	Opportunities for open banking in South Africa	14
2.5	Challenges of open banking in South Africa	16
2.5.1	Research Proposition 1:	18
2.6	Global Perspectives on open Banking	18
2.6.1	Review of the United Kingdom	18
2.6.2	Review of Brazil.....	19
2.6.3	Review of Singapore	21
2.6.4	Review of the USA	21
2.7	South African regulatory perspectives on open banking.....	22
2.7.1	Research Proposition 2:	23
2.8	Theory relevant to this study.....	23
2.8.1	Research Proposition 3:	27
2.9	Theoretical Framework	27
2.10	Conceptual Framework	28
2.11	Conclusion of the Literature Review	29
3	Research Methodology	30
3.1	Research Approach.....	30
3.2	Research design.....	30
3.3	Data collection methods	31
3.4	Population and sample	33

3.4.1	Population	33
3.4.2	Sample and sampling method	33
3.5	The research instrument.....	34
3.6	Data analysis and interpretation	35
3.7	Limitations of the study	36
3.8	Transferability and credibility	36
3.8.1	Transferability	37
3.8.2	Credibility.....	37
3.9	Ethical considerations.....	37
3.9.1	Voluntary informed consent.....	37
3.9.2	Protection of individual/organization confidentiality	38
4	RESULTS.....	39
4.1	Introduction.....	39
4.2	Proposition 1: Opportunities and Challenges of Open Banking in South Africa	40
4.2.1	Question 1: Benefits of implementing Open Banking in South Africa	41
4.2.2	Question 2: Challenges to Open Banking implementation	54
4.3	Proposition 2: Implementation Frameworks.....	72
4.3.1	Question 1.1 Implementation frameworks for open banking.....	73
4.3.2	Question 1.2: Timelines to open banking	75
4.3.3	Question 2: Funding for open banking.....	76
4.4	Proposition 3: Open banking as disruptive innovation in financial services ..	78

4.4.1	Question 1: Open banking as a disruptive innovation.....	78
4.4.2	Question 2: Outcomes for the South African financial market	80
4.5	Summary of the findings.....	82
5	Discussion.....	85
5.1	Introduction.....	85
5.2	Discussion of findings related to Proposition 1	85
5.3	Discussion of findings related to Proposition 2	90
5.4	Discussion of findings related to Proposition 3	94
5.5	Initial conclusions.....	97
6	Conclusions.....	99
6.1	Introduction.....	99
6.2	Conclusions regarding research question 1.....	99
6.3	Conclusions regarding research question 2.....	100
6.4	Conclusions regarding research question 3.....	101
6.5	Conclusions of the study.....	102
6.6	Recommendations.....	103
6.7	Suggestions for further research	104
	References	106
	Appendix A	111
	Appendix B	113

LIST OF FIGURES

Figure 1: The Disruptive Innovation Model	24
Figure 2: Outcomes of open-source disruption	26
Figure 3: Conceptual Framework for the study	28
Figure 4: Wordcloud: Opportunities in open banking	42
Figure 5: Wordcloud: Challenges in open banking.....	55

LIST OF TABLES

Table 1: Summary of regulator perspectives on open banking in South Africa	15
Table 2: Consistency Table	32
Table 3: Stakeholders represented in the study	35
Table 4: Analysis of code groups to identify themes	40
Table 5: Opportunities of open banking for consumers	43
Table 6: Opportunities of open banking for the unbanked/underserved	45
Table 7: Opportunities of open banking for the banking sector	47
Table 8: Opportunities of open banking for non-bank FSPs	49
Table 9: Opportunities of open banking for the financial services regulators	51
Table 10: Opportunities of open banking for the financial market	53
Table 11: Challenges of open banking for consumers	56
Table 12: Challenges of open banking for the unbanked/underserved	58
Table 13: Challenges of open banking for the banking sector	60
Table 14: Challenges of open banking for non-bank FSPs	62
Table 15: Challenges of open banking for financial services regulators	64
Table 16: Challenges of open banking for the financial market	67
Table 17: Summary of the challenges and opportunities of open banking	72
Table 18: Implementation frameworks for open banking in South Africa	73
Table 19: Timelines to open banking in South Africa	76
Table 20: Funding for open banking	77
Table 21: Participant responses to open banking as a disruptive innovation	79
Table 22: Participant responses to co-existence as a market outcome of open banking in South Africa	81
Table 23: Conclusions of the study	98

LIST OF ACRONYMS

API	Application Programme Interface
FSCA	Financial Services Conduct Authority
FSP	Financial Services Provider
IFWG	Intergovernmental Fintech Working Group
NPSD	National Payments Services Department
OBIE	Open Banking Implementation Entity
TPPP	Third Party Payment Provider

1 INTRODUCTION

1.1 Purpose of the study

There is much hype and speculation around the potential of open banking to increase financial inclusion and competition among incumbent banks in developed and developing economies (Plaitakis & Staschen, 2020 and Zeller & Dahdal, 2021). Mastercard has gone so far as to call it “the most transformational trend in banking since digitization” (Mastercard, 2020). The purpose of this study is therefore to assess the challenges and opportunities of implementing open banking in South Africa as well as potential frameworks for implementation. Further as the existing knowledge base for open banking is globally limited and predominantly focussed on developed economies, it is vital to publish information from the perspective of an emerging economy that is also one of the largest economies in Africa.

1.2 Background of the Study

It is estimated that 95 million people in Sub-Saharan Africa do not have access to financial services (World Bank Group, 2018). Collectively they are referred to as the ‘unbanked’ and in general represent the poorest parts of the population (World Bank Group, 2018). South Africa is, however, unique in Sub-Saharan Africa as it has a highly banked population and a high rate of financial inclusion, around 80% (Deloitte, 2019; Genesis Analytics, 2019). Excluding government social security grants, however, reduces this figure sharply to 58% with 90% of grant receivers withdrawing all their funds in cash as soon as it becomes available (Deloitte, 2019; Genesis Analytics, 2019). This trend is also seen in the mass market and in particular the informal sector where the utilisation of cash is increasing (Deloitte, 2019). The quality of financial

inclusion and the use of financial services products especially digital financial services is therefore low (Deloitte, 2019; Genesis Analytics, 2019).

The digitalisation of payments in South Africa is a key pillar of the South African Reserve Bank's (SARB) Vision 2025 strategy. (South African Reserve Bank, 2018). Fintechs, technology companies that apply advanced data analysis techniques to create innovative products in financial services, are playing a key role in enabling the SARB to achieve that vision. By facilitating digital payments for online transactions and enabling cross-border payments, South African fintechs are providing innovative, digital solutions that improve the customer experience for consumers and merchants, while also disrupting core banking services, thereby increasing competition in the financial market (Genesis Analytics, 2019).

This has forced incumbent banks to re-evaluate their business models in order to stimulate innovation and improve customer experience to keep pace with the technological advancements of fintechs both locally and abroad (Genesis Analytics, 2019; Zachariadis & Ozcan, 2017). Additionally, the banking industry globally has been under pressure to increase transparency in financial reporting and to 'open-up' the market to new entrants especially those seeking access to customer financial data, post the Global Financial Crisis of 2008 (Giya, Kagee & Thibane, 2021; Zeller & Dahdal, 2021).

One of the preferred mechanisms for accessing bank data in a secure manner is by using Application Programming Interfaces (APIs). Open banking is a system that allows fintechs and other approved third-party providers access to consumer data held by banks via APIs, with the consumer's consent (Giya, Kagee, & Thibane, 2021; IFWG, 2021). By allowing third parties access to customer-consented data it is envisioned that consumers will benefit from more tailored financial services and

decreased costs while the market will benefit from increased competition and digitalisation (IFWG, 2021). The implementation of open banking however, is not globally standardised as banking infrastructure varies across countries/regions in alignment with the banking rules and regulations of that country/region. In general though, there have been two over-arching implementation strategies: market-led (i.e. voluntary) or regulation-led (i.e. mandatory) (Mothibi, Lazaridis, & Rahulani, 2020). The implications of which will be discussed for the South African market as part of this study.

1.3 Research problem

The Financial Services industry in South Africa is well established, sophisticated and well resourced (Beck & Cull, 2013). At the same time individual bank account ownership is high, banking networks are well developed (even in rural areas) and digital banking channels have already been developed by all major banks (Deloitte, 2019; Mbele, 2016). As a result, attempts to open-up financial services outside of traditional financial services providers have not been successful, for example the failure of Vodacom's mobile money offering, M-Pesa, in South Africa between 2010-2016 (Mbele, 2016).

The economic influence of South Africa's incumbent banks cannot be understated. A study in 2017 highlighted that the five largest banks held more than 90% of total banking assets (Genesis Analytics, 2019). Their market dominance, vast financial resources and domestic assets has resulted in extremely high barriers to entry for new entrants and a monopoly in the market of financial services commonly referred to as "the Big Five" (BusinessTech, 2021). While South Africa has a high rate of financial inclusion (77% of the adult population), the quality of inclusion is low

(Genesis Analytics, 2019). This is reflected as high bank account ownership but poor usage, a low variety of financial services products and a preference for cash as a payment method (Genesis Analytics, 2019). The SARB has set strategic objectives to address these issues of financial inclusion and digitalisation as part of its Vision 2025 (South African Reserve Bank, 2018). However, this puts the SARB in the difficult position of balancing the interests of the banks (and the financial stability of the country) with its own strategic objectives that in turn support South Africa's National Development Plan 2030 to eliminate poverty and inequality (South African Reserve Bank, 2018).

In line with the overall objectives of the SARB, several regulatory bodies in South Africa including the Competition Commission, the Financial Services Conduct Authority (FSCA), the National Payments System Department (NPSD) and the Intergovernmental Fintech Working Group (IFWG) have recently published position papers that explore the potential policy and regulatory frameworks required for open banking or open finance (an extension of open banking) in South Africa (Giya, Kagee, & Thibane, 2021; IFWG, 2021; NPSD, 2020). At a high-level, open banking is welcomed by financial services regulators within the financial services sector as a mechanism to deepen financial inclusion and increase competition. It is therefore also viewed as an opportunity for the various financial services regulators to achieve their respective mandates. However, concerns around data security, cost and other structural factors have been raised as factors that would impact a successful implementation in South Africa (Giya, Kagee, & Thibane, 2021; IFWG, 2021; NPSD, 2020). As a result, no regulatory framework has been proposed for open banking in South Africa to date (Giya, Kagee, & Thibane, 2021).

It should also be noted that the opportunities for open banking are not limited only to fintechs and new entrants in the financial services industry. Banks too, as custodians of customer data that fintechs and other third parties require access to, can potentially benefit from this information asymmetry by exploring and implementing new business models in the absence of regulation (Zachariadis & Ozcan, 2016). Indeed, in South Africa some of the largest FSPs and fintechs have already begun offering products and services based on open banking principles. This includes the likes of Old Mutual's 22/7, Nedbank's API Marketplace, Ozow and Spot Money (Mothibi, Lazaridis, & Rahulani, 2020). This suggests that in the absence of regulation, the market may dictate the frameworks for open banking in South Africa.

In the United Kingdom (UK), the first country to implement open banking in 2017, the implementation was regulation-led (Open Banking Implementation Entity, 2020). This was in response to findings by the Consumer Markets Authority (CMA) that the largest banks in the UK had an unfair advantage in acquiring new customers over newer entrants (Open Banking Implementation Entity, 2020). Elsewhere, developed economies including the USA, Australia and Singapore as well as developing economies in Latin America, Brazil and Mexico have varying approaches to implementation which include voluntary and mandatory regimes (Giya, Kagee, & Thibane, 2021; Zeller & Dahdal, 2021).

Given that one of the strategic priorities of the SARB is for South Africa to remain globally competitive in financial services (South African Reserve Bank, 2018), it can be inferred that there is little uncertainty about 'if' open banking will be implemented in South Africa but rather 'when and how' it will be implemented. Will the open banking agenda be driven by the market or the financial services regulators? This research aims to provide some insight into these possibilities.

1.4 Research Questions

The main objectives of this study are to provide an analysis of the potential for open Banking in South Africa. This was investigated through exploration of the following central research questions:

- 1) What are the opportunities available and, challenges faced in implementing open Banking in South Africa?
- 2) What should be the acceptable framework for implementing open banking in South Africa: market-driven or regulation-driven?
- 3) Can open banking enable disruptive innovation in the financial services industry in South Africa?

1.5 Significance of the study

This study is the first outside of a regulatory body to discuss the opportunities and challenges of implementing open banking in South Africa. It is also the first to present a view of the current state of open banking in South Africa. Thus, the study will provide a benchmark for future research as open banking in the South African context develops in the coming years.

1.6 Delimitations of the study

Given that open banking is not well understood by the general public, this study only examined the opportunities and challenges of open banking from the perspective of experts in financial services. These participants represented a range of financial services specialists from: fintech, regulators, retail banks and payment systems. Further, participants were selected because of their knowledge or understanding of

open banking either globally or in the South African context specifically. This was to ensure the responses would provide robust insights for further thematic analysis

1.7 Definition of Terms

1.7.1 Application Program Interface (API)

According to Zachariadis and Ozcan (2017) APIs are “a way for two computer applications to talk to each other over a network using a common language that they both understand” which allows for “interfaces, services, and applications to connect seamlessly with one another”. In the context of this research, APIs are the preferred method to transfer consumer financial data between authorised users in an open banking environment.

1.7.2 Disruptive Innovation

In Business Studies a disruptive innovation is one that initially only creates value for the lower end of a market or a new market entirely. Over time the innovation gains market share in higher-value segments and ultimately displaces the incumbent. This concept was first coined by Professor Clayton Christensen in 1995 and became a core tenet of the Theory of Disruptive Innovation.

1.7.3 Financial Services Provider

A Financial Services Provider (FSP) gives advice or provides an intermediary service to consumers around financial products or services. (Banking Association of South Africa, 2019)

1.7.4 Fintech

A neologism of Finance and Technology, fintech in this study refers to organisations with inherent technology capabilities that aim to transform the financial

services industry through the development of new business models and applications that deliver new OR enhance existing financial products and services (Plaitakis & Staschen, 2020)

1.7.5 Open banking

Is the sharing of a consumer's account and/or transaction information between Financial Service Providers FSPs or other third parties with the consumer's consent with the intent to offer more relevant products and services to the consumer (Plaitakis & Staschen, 2020).

1.7.6 Screen Scraping

Is a technology in which a computer program extracts consumer personal information (e.g. login credentials) and inputs it into another application on behalf of the consumer (e.g. customer's online banking profile) (Mothibi, Lazaridis, & Rahulani, 2020). This process is less secure than using APIs and there are concerns around data privacy and the lack of legal frameworks for sharing information with third parties. However, screen scraping is very prominent in the payments landscape as a cost-effective way for third parties to get information from traditional banks especially where APIs do not exist (Mothibi, Lazaridis, & Rahulani, 2020).

1.7.7 Third Party Payment Provider

A TPPP facilitates the transfer of a payment instruction between a person and a third party e.g. the payment of a utility bill at a shop (Genesis Analytics, 2019)

1.7.8 Theory of Disruptive Innovation

This theory explains how smaller, younger businesses are able to displace larger, better resourced businesses over time (Christensen, Raynor, & Macdonald, 2015). It is understood to occur because the new entrant initially provides a product or

service that is only attractive to a low-end or niche market that is unattractive to the incumbent. However, over time the product benefits (simplicity, affordability, etc.) become attractive to a mass or higher value market and may displace the incumbent entirely.

1.8 Assumptions

This research assumed that there were enough subject matter experts in South Africa who could add value to a discussion on open banking. Further the study assumed that these experts would be willing to share their perspectives about the open banking opportunity in South Africa including any relevant strategies or results to date from any open banking activities that currently exist within their organisations.

1.9 Chapter Summary

Open banking is theorised to hold much potential for improving the financial wellbeing of people in emerging economies like South Africa (Plaitakis & Staschen, 2020). Supported by rapid digitalisation and a booming fintech landscape, it is envisioned that open banking can increase access to financial services for the unbanked while increasing the quality of inclusion for those already in the formal economy (Plaitakis & Staschen, 2020).

As a result, it has gained the attention of financial services regulators and other stakeholders within financial services. From the perspective of fintechs, open banking presents an opportunity to create new, innovative products and services thereby increasing competition in an otherwise concentrated market. For the incumbents/traditional banks open banking is a threat to their market share and market

dominance but may also be an opportunity to explore new business models given that they are the custodians of consumer data currently.

The objectives of this study are therefore three-fold:

- 1) To assess the challenges and opportunities of implementing open banking in an emerging market with high financial inclusion but low quality of inclusion.
- 2) To determine if open banking/open banking-enabled solutions meets the criteria of a disruptive innovation in financial services in South Africa
- 3) To provide a benchmark for future research on the development of open banking frameworks in South Africa.

2 LITERATURE REVIEW

2.1 Introduction

This chapter provides a review of the currently available literature relevant to this study.

The chapter begins with a review of the current state of the financial services industry in South Africa and of open banking. This is followed by an assessment of the opportunities and challenges of implementing open banking in South Africa. The first research proposition is then presented. A review of open banking in four key markets is then discussed and concluded with a discussion on the potential implementation framework for South Africa. The second research proposition is also presented. This chapter explores the theoretical basis for the research, as well as the conceptual framework. The chapter is concluded with a brief review of the literature and research propositions.

2.2 Background discussion

South Africa is recognised worldwide for its sophisticated financial services sector which includes both traditional financial services providers and in the last decade the addition of over 200 Fintechs (Genesis Analytics, 2019). Despite the abundance of active fintechs the market is dominated by traditional financial services providers (“the Big Five”) who enjoy access to vast financial resources, a large customer base and well-established networks (Genesis Analytics, 2019). These factors combined with a complex regulatory environment means that barriers to entry are extremely high for new entrants in the Financial Services Industry. Despite this the

fintech sector is booming in two major areas: Payments and Business-To-Business (B2B) Technical Support (Genesis Analytics, 2019). South African fintechs have been able to disrupt a core banking service in the payments space by acting as Third Party Payment Providers (TPPP) in two areas – retail payments, which allow retailers to offer electronic payment solutions to their customers, and cross-border remittances which enables migrant workers to send money to family members in other countries (Genesis Analytics, 2019). South Africa's fintechs have thus built tremendous capabilities in the digitalisation of payments which is especially promising in the South African context where the use of cash is increasing year on year (Deloitte, 2019).

Developments in the fintech space have not gone unnoticed by the banking sector. All of the incumbents now offer digital channels (e.g. mobile applications and online banking) and have digital transformation projects in place to improve customer experience and increase efficiencies (Genesis Analytics, 2019). However, they are hindered internally by legacy systems and a complex regulatory regime. In the B2B space fintechs have partnered with or bypassed traditional banks to provide near real-time payment solutions to some of South Africa's biggest retailers e.g. Pick and Pay (Genesis Analytics, 2019). Fintechs have also extended their business models outside of traditional financial services by offering their proprietary software as white-labelled technology solutions to their customers (Genesis Analytics, 2019).

From a regulatory and governance perspective, the South African government has implemented several initiatives aimed at increasing digitalisation of the economy as part of its Vision 2025 (South African Reserve Bank, 2018). President of South Africa, Cyril Ramaphosa, commissioned a 4th Industrial Revolution (4IR) working group to assess the 4IR landscape in the country. During the commission, he noted that "South Africa must be a more technologically-driven country that finds solutions

that move us forward, with 4IR as a pivot for economic recovery” (Moyo, 2020). While neither the President of South Africa nor the SARB have directly targeted any interventions at South Africa’s traditional banks, one can infer that failure of the incumbents to make the necessary changes to meet the development agenda of the South African government may see the government push for regulations that will reduce their dominance. As evidenced in the UK, one of the measures that could be taken is to introduce regulatory-led open banking into the market (Open Banking Implementation Entity, 2020).

2.3 What is open banking?

Centred around customer consent, open banking aims to offer customers cheaper, better and more personalised products and services through the innovative use of customer data by fintechs and other third parties (Giya, Kagee, & Thibane, 2021; IFWG, 2021; Plaitakis & Staschen, 2020). By offering customers greater variety and more relevant services, it is envisioned that open banking will increase financial inclusion while also stimulating competition in highly banked markets (Giya, Kagee, & Thibane, 2021).

Open banking is centred on three themes: 1) Data Access, 2) Customer Authentication and 3) Transaction Initiation (Mastercard, 2020). Data access refers to the sharing of consumer payment, account, product or financial information securely between banks and other non-bank third parties (Mastercard, 2020). Data sharing is enabled via Open APIs or screen scraping (NPSD, 2020). Open APIs are publicly available APIs that conform to a set of regulations or standards which allow third parties to access banking systems in a secure and interoperable way (Mothibi, Lazaridis, & Rahulani, 2020). Screen scraping on the other hand allows a fintech/third

party to mimic a consumer's behaviour by accessing the consumer's online banking profile on their behalf and initiating a transaction (IFWG, 2021). Screen scraping has been found to be a less secure method of accessing a customer's financial information over APIs but is often the only way for a fintech or third party to access bank information in the absence of APIs (Mothibi, Lazaridis, & Rahulani, 2020). Customer authentication is used to prevent fraud while Transaction Initiation refers to the ability of a third party to initiate instructions to or from a consumer's bank account on their behalf (Mastercard, 2020).

Much of the regulatory frameworks for open banking in Europe and the UK are built on open-source standards guided by European legislations, such as the General Data Protection Regulations (GDPR), the revised Payment Services Directive (PSD2) and the UK Open Banking Working Group (OBWG) (Zeller & Dahdal, 2021). In South Africa, other than the Protection of Personal Information (POPI) Act of 2013, which governs how personal data is stored, used and destroyed by data holders, there are no other regulatory directives currently that could guide the implementation of open banking (NPSD, 2020).

2.4 Opportunities for open banking in South Africa

Most authors argue that the major benefits of open banking in any market is to give customers control over how their financial information is used and to increase competition and increase innovation in the market (Plaitakis & Staschen, 2020; Zachariadis & Ozcan, 2017; Zeller & Dahdal, 2021). As already highlighted, at the national level, access to innovative financial services through open banking is envisioned to reduce the reliance on cash, support digitisation efforts and deepen financial inclusion (NPSD, 2020).

In South Africa, several regulators namely the Competition Commission, the IFWG, the FSCA and the NPSD have published position papers that outline the opportunities for open banking in South Africa. The key opportunities are summarised in Table 1. It should be noted that only opportunities that were common among at least three regulators are described and outlined in Table 1.

Table 1:

South African regulator perspectives on the opportunities and challenges of implementing open banking in South Africa

	OPPORTUNITIES	RISKS
CONSUMERS	Increased Competition reduces fees	Data Security/ Data Privacy
	Informed Consent	Customer Education
THIRD PARTIES	Levels the playing field and reduces barriers to entry	Operational risk due to system errors or cyberattacks
	Encourage greater use of third-party solutions	
BANKS	Opportunity to innovate to provide new services and enhance existing	Cost of implementation
		Reputation risk

For consumers, the main opportunities identified by the regulators are cost savings and increased variety of products and services, through increased competition (NPSD, 2020). Further, as open banking is based on consumer consent, consumers have better access to their own financial data and therefore have more control over their financial position (Giya, Kagee, & Thibane, 2021). For third parties, access to consumer data effectively lowers barriers to entry into financial services, thereby

levelling the playing field between third party providers and traditional FSPs (Giya, Kagee, & Thibane, 2021). Finally, for the traditional banks, it is an opportunity for them to innovate, to create new products and services or to enhance their current service offerings (Mothibi, Lazaridis, & Rahulani, 2020)

2.5 Challenges of open banking in South Africa

Open banking in its most basic form requires high levels of internet connectivity to enable real-time information flows between banks, non-bank FSPs and consumers. The networks must also be robust enough to support large volumes of data throughput, flexible enough to support the addition and removal of APIs, and above all else must be protected from unauthorised and malicious access (Zachariadis & Ozcan, 2017). A major challenge therefore for implementing open banking in South Africa will be in convincing users (bank, third-party and customers) that the platforms are secure or at the very least that there are mechanisms to address cybersecurity or fraud issues when they happen (IFWG, 2021; Plaitakis & Staschen, 2020).

Secondly, access to reliable, affordable internet access for the majority of South Africans is a challenge (Mzekandaba S. , 2020). At the same time the high cost of mobile data means that many South Africans are automatically excluded from any digitisation efforts (GSMA Intelligence, 2020). Many South Africans access the internet solely via their mobile phones but only half of mobile users are using smartphones (IFWG, 2021; GSMA Intelligence, 2020). Financial literacy is also low especially in the informal sector where attempts to digitise the sector have been met with scepticism around the benefits of storing money digitally and concerns around being tracked for tax purposes (Deloitte, 2019). The social context of South Africa must therefore be addressed in order for open banking to achieve any goals related to financial inclusion.

In addition to these risks, South African regulators have identified additional challenges that will affect third parties and banks in an open banking environment (see Table 1). Third parties need to consider the operational risks associated with cybersecurity attacks or internal misuse of consumer data. These risks undermine the safety of these systems and will impact on consumer trust and willingness to use digital solutions (Mothibi, Lazaridis, & Rahulani, 2020). For retail banks, the cost of upgrading legacy systems to open-system architectures will have a cost implication (IFWG, 2021). How banks recoup this cost needs to be managed to ensure that the cost of access does not become an additional barrier to entry that promotes financial exclusion rather than inclusion (Giya, Kagee, & Thibane, 2021).

Although only highlighted by one regulator, the Competition Commission, one of the regulatory challenges of open banking is moderating the impact of new business models on the traditional banking sector, and by extension any innovations that would impact financial stability. As open banking solutions shift the market to more platform-based models, it may encourage the entrance of platform-based “BigTech” giants like Google and Facebook (Giya, Kagee, & Thibane, 2021). As these firms are particularly good at monetising customer data there is a concern that access to customer financial data will give these firms a significant advantage over incumbent banks and enable them to eventually outcompete traditional banks, as they are also subject to fewer regulations than traditional banks. A disruption of this kind in the financial services sector will have knock-on effects for the financial stability of the country as new kinds of monopolies are created and BigTech firms either become banks or banks partner with them (Giya, Kagee, & Thibane, 2021).

Another threat to South Africa’s incumbents is the competition posed by South African corporates who have a national footprint, access to the mass market and an

interest in financial services (Mzekandaba, 2021). These organisations include South Africa's telecommunications operators and national retailers. Most of these organisations already have a presence in financial services and would benefit from open APIs that allow them to enrich their own data sets with customer transactional information held by banks. It is possible that these organisations may choose to become banks in the future and are hence referred to as 'Challenger banks' in this study.

2.5.1 Research Proposition 1:

Based on the literature review, it can be said that:

Open banking is both an opportunity and a challenge for South Africa, as it is an innovation that will benefit many consumers but also disrupt the status quo of the financial services industry in South Africa.

2.6 Global Perspectives on open Banking

2.6.1 Review of the United Kingdom

In the UK, open banking was recommended by the Competition and Markets Authority (CMA) to address findings that 9 of the oldest and largest UK banks had an unfair competitive advantage in attaining new customers vs. newer, smaller entrants thus stifling competition and growth in the sector (Open Banking Implementation Entity, 2020). As a result, the Open Banking Implementation Entity (OBIE) was formed to implement open banking in the UK (Open Banking Implementation Entity, 2020). As a penalty to the banks, they were required to fund the development of an oversight body, the OBIE, as well as their own costs to create and maintain a set of open API standards to enable data sharing with third parties (Giya, Kagee, & Thibane, 2021;

Open Banking Implementation Entity, 2020). Therefore, the impetus for open banking in the UK was regulation-led with a targeted scope to address shortcomings of the banking sector (Plaitakis & Staschen, 2020)

Open banking was officially launched in the UK in 2018. It currently allows consumers and small businesses to share their account information with third parties who in turn develop apps and other services to meet their needs (Open Banking Implementation Entity, 2020). To date 4.5 million customers are using open banking, 337 regulated third parties are enrolled in the OBIE Directory and the open banking app store has 125 open banking-enabled propositions (Open Banking Implementation Entity, 2021).

The latest study by the OBIE, highlights that adoption of open banking continues to grow in the UK with 8% of digitally banked consumers using at least one open banking service (Open Banking Implementation Entity, 2021). Open banking-enabled payments has seen a massive increase from 700 000 in 2020 to 11 million between February and August 2021 alone. 75% of customers using financial management apps said it is helping them keep on top of expenditure and budgets and 64% claimed their overall savings had increased using savings apps (Open Banking Implementation Entity, 2021). This preliminary data seems to indicate that where open banking has been implemented, and where the approach has been regulatory-led, that it is working and having the intended outcomes (Giya, Kagee, & Thibane, 2021).

2.6.2 Review of Brazil

In May 2020, the Central Bank of Brazil published regulations for the implementation of open banking (Mastercard, 2020). As part of its regulations the Central Reserve Bank took charge of regulating the initial governance of the open

banking implementation as well as determining which institutions could participate (Banco Central do Brasil, n.d.). Brazil set ambitious timelines for their open banking ecosystem to be realised in four phases by the end of 2021. However, largely as a result of the COVID-19 pandemic the deadline was not met. The main aim of implementing open banking in Brazil was to encourage innovation, promote competition, increase efficiency of its national financial systems and promote a new financial services ecosystem (Banco Central do Brasil, n.d.). In November 2020 Brazil implemented its national payments scheme, PIX, that allowed for real-time payments using an open environment (Banco Central do Brasil, 2020). This framework preceded open banking but was updated with open banking rules late in 2021 as part of Phase 3 of Brazil's open banking implementation (Phase 3 enabled payment initiation among registered institutions). In just over one year PIX has registered accounts with more than 50% of Brazil's population and is managing payments equivalent to 80% of current debit and credit card volumes. Phase 4 will seek to expand the range of services available on the platform to investments, savings and other products (Martins, 2020).

Some of the expected benefits of this initiative are to reduce account maintenance costs, processing fees and interest rates by allowing customers to 'shop around' for better rates. In the long-term customers will be able to access a range of financial services from mobile payments to money management tools (Martins, 2020).

In Brazil, the open banking framework is regulation-led through the Central Bank but with a broader scope to include all financial services (Plaitakis & Staschen, 2020).

2.6.3 Review of Singapore

Singapore supports a market-led or voluntary approach to open banking with no timelines or data sharing requirements (Zeller & Dahdal, 2021). Singapore, an early adopter of open banking is viewed as a leader in open banking in the Asia Pacific Region (Fintech news Singapore, 2021). The Monetary Authority of Singapore (MAS) drives Singapore's open banking developments through initiatives like the publication of the Finance-As-A-Service playbook, that was launched in 2013 in collaboration with the Association of Banks. This playbook provided a guideline for financial institutions and other third parties to develop and adopt open API-based infrastructure in their organisations and is viewed as the 'gold standard' for API implementation in the Asia Pacific region (Fintech news Singapore, 2021). Further, in 2018 the MAS with its partners launched the APIX platform which allows banks and fintechs to share information about their APIs. APIX is the world's first cross-border, open architecture platform (Zeller & Dahdal, 2021). As a result, banks in Singapore are embracing open banking and actively building partnerships and APIs with ecosystem partners (IFWG, 2021). The financial services regulators in Singapore therefore provide guidance on open banking and facilitate open banking developments through the development of API standards and platforms for collaboration.

2.6.4 Review of the USA

In the world's largest economy, no official regulations exist for open banking (Zeller & Dahdal, 2021). With around 14 000 banks in the USA that operate under state-based regulations, co-ordinating national regulation is a challenge (Zeller & Dahdal, 2021). As a result, regulation has focussed on non-binding guidelines which has allowed FSPs to create an open banking environment independent of regulation that takes advantage of the commercial potential that exists when data is shared

voluntarily (Pandy, 2020; Zeller & Dahdal, 2021). Several industry groups have already come together to develop common standards for open Banking e.g. The Financial Data Exchange (FDX) API, The API Standardisation Industry Group (ASIG) and other standards to address concerns around data safety and security including cross-border information flows between the US and EU (Pandy, 2020).

However, in recent months efforts have been made by US Authorities to introduce open banking regulation (IFWG, 2021). In 2020 the US Consumer Financial Protection Bureau (CFPB) issued a notice seeking comments from the public on how to implement a section of legislation which requires that FSPs make consumer financial data available to them in a usable format (IFWG, 2021). Further President Joe Biden on 9 July 2021 encouraged the CFPB to issue regulations that would make it easier for consumers to access their bank data and transfer it to other banks and third parties (Weinberger, 2021).

In the USA, open banking initiatives to date have been market-led but most recently appear to be tending toward regulation-led with interest from policy makers at the national level.

2.7 South African regulatory perspectives on open banking

A study released by the Competition Commission of South Africa in 2021, which evaluated the regulatory frameworks of open banking in a number of countries recommended that South Africa take a regulation-led approach to open banking for the following reasons:

- 1) The banking sector in South Africa is highly concentrated. If left to the market, the pace of open banking implementation would be slow.

- 2) At present there is no incentive for banks to freely exchange data at the expense of increasing competition.
- 3) In a market-led approach, further delays to implementation would be expected as banks consider their financial incentives and define API standards favourable to them.
- 4) A regulatory approach would encourage incumbents to innovate faster which would have a positive impact on the overall financial market.

The IFWG in their 2021 paper which highlighted policy and regulatory considerations for implementing open banking in South Africa, also supported a regulation-led approach to open finance which would ensure that banks do not use abuse their market dominance to create barriers to entry for third parties (IFWG, 2021).

2.7.1 Research Proposition 2:

Given the frameworks for open banking adopted by other countries and the recommendations by South African financial services regulators it follows that:

When open banking is implemented in South Africa it will be driven by regulation.

2.8 Theory relevant to this study

The Theory of Disruptive Innovation has been used extensively in the literature since it was first introduced by Bower and Christensen (1995) to explain how younger, smaller businesses disrupt larger, established businesses over time (Bower & Christensen, 1995). The authors proposed two types of innovation: Disruptive or Sustaining. Disruptive innovations were those that displaced established businesses

by initially only catering to the needs of the 'low end' of the market OR those that catered to an entirely new market (Bower & Christensen, 1995).

Those innovations that displaced incumbents by making product/service improvements in established or high value markets were labelled as sustaining. The authors argued that new entrants, by focussing on the lower end of the market but consistently improving their product were able to displace established businesses over time because their product sets could offer more features, at a lower cost to the same market. The theory has been used to explain multiple disruptive phenomena such as Netflix and the iPhone App Store (Christensen, Raynor, & Macdonald, 2015). The model of disruptive innovation of Christensen, Raynor and Macdonald (2015) is illustrated in Figure 1.

Figure 1:

The Disruptive Innovation Model after Christensen, Raynor and MacDonald (2015).



Source: What is Disruptive Innovation? (Christensen, Raynor, & Macdonald, 2015)

It illustrates how incumbents who tend to focus on the product requirements of higher value markets where profitability is higher, create a gap in the market for

mainstream or low-end services, which new entrants are able to seize. By continually improving their product offering over time, new entrants eventually reach a state where they can compete with the incumbents (Bower & Christensen, 1995).

Open banking is a system that is envisioned to address the needs of the traditionally underserved through financial inclusion (Mastercard, 2020). Therefore, open banking and open banking-enabled solutions could be viewed as potential disruptive innovations in the financial services sector as it would deepen financial inclusion for the lower end of the market.

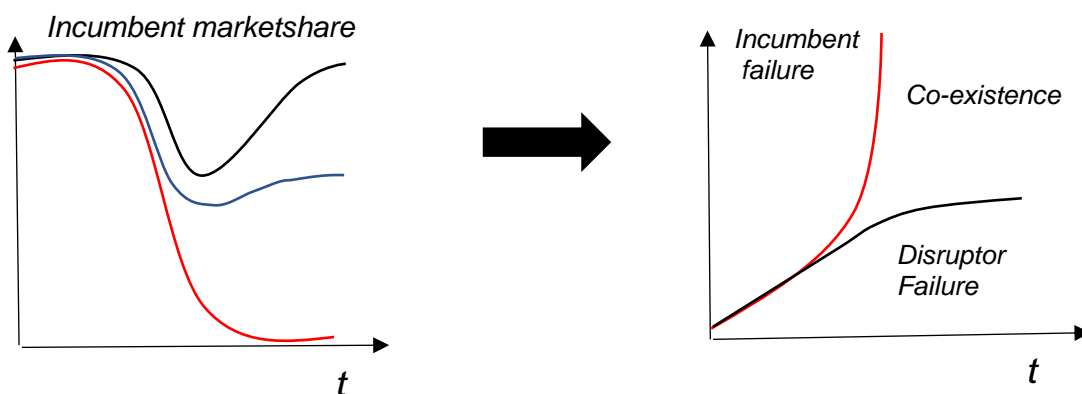
According to the Theory of Disruptive Innovation then, open banking and open banking-enabled solutions could result in a disruptive innovation in financial services if it enables new entrants to displace incumbents i.e. traditional banks over time. It could also be viewed as a disruptive innovation if it displaces traditional banking systems even if it does not displace the incumbents themselves.

A study by Katsamakos and Georgantzas (2010) used Disruption Innovation Theory as a basis to evaluate the factors that would lead to success or failure of open-source software in established markets. Open-source software is relevant to the open banking discussion because open banking standards are designed on the premise of open data and therefore rely on open-source software including open-APIs (Open Banking Implementation Entity, 2020). The authors critique the original work of Bower and Christensen (1995) by noting that not all disruptive innovations lead to incumbent failure. In fact, some organisations have weathered the disruption storm quite well for example Windows against Linux. They propose that the market success or failure of a new open-source software innovation will depend on its strength to outperform the incumbent's product, the internal organisational requirements to sustain the innovation and how well the software can meet higher value users' needs over time.

As time progresses, however, the incumbent also has an opportunity to create its own response to the innovation and may implement a strategy that can compete with the new innovation. In this scenario there are three potential outcomes, extending on the original two of Bowen and Christensen (1995), which includes a state of co-existence of the two entities. These three states are shown in Figure 2.

Figure 2:

The Disruptive Innovation Strategy Model



Left: As a disruptive innovation enters the market, the incumbent will either lose significant market share (red), retain some market share (blue) or regain its market share completely (black) over time. Right: This leads to three outcomes: Incumbent failure (red), Disruptor failure (black) or co-existence with the Disruptive Innovation. Source: Open-source Disruption Innovation Strategy Katsamakos & Georgantzas (2010).

The study by Katsamakos and Georgantzas (2010) suggests that incumbents may be able to survive the threat of disruption posed by new entrants embracing open banking/open banking-enabled solutions if they are able to implement the right response strategy at the right time. One aspect that has not been considered in the study of Katsamakos and Georgantzas (2010) or the original work of Bowen and Christensen (1995) is the impact of regulation in determining whether a product/service will be a disruptive innovation. As already discussed, even in market-

led economies e.g. Singapore there is some guidance/oversight provided by financial services regulators. Therefore, this study aims to include perspectives on regulation as either enhancers or stiflers of disruptive innovation in the South African financial services industry.

2.8.1 Research Proposition 3:

Disruptive Innovation Theory states that disruptive innovations over time can have three outcomes: 1) Incumbents are completely displaced, 2) Disruptors are displaced 3) Incumbents and Disruptors co-exist. In the South African context and building on Research Proposition 1 and 2, this research proposes that:

Open Banking will be an enabler for disruptive innovation in financial services in South Africa.

2.9 Theoretical Framework

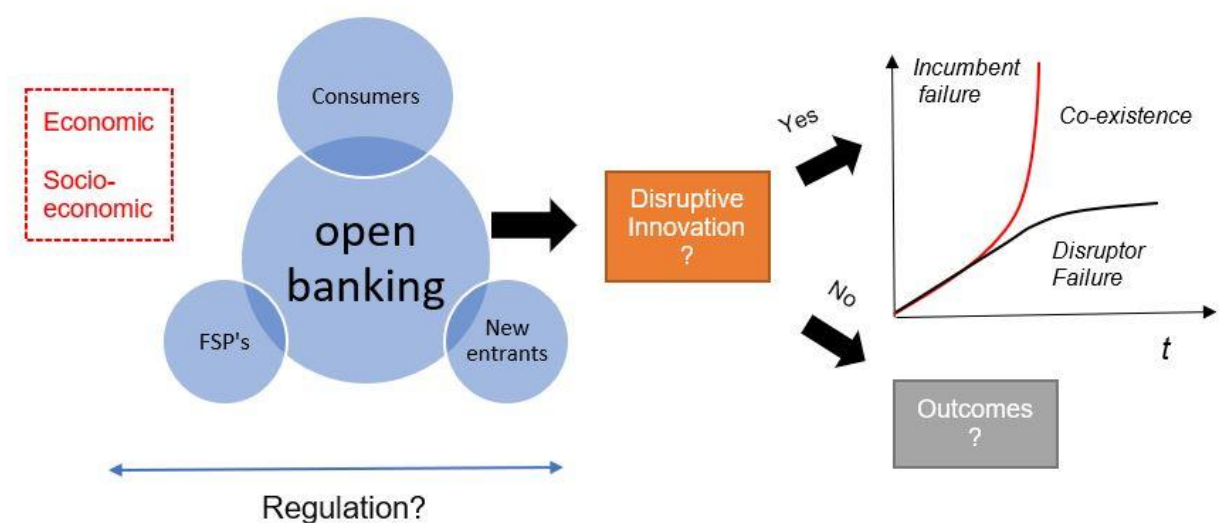
The Theory of Disruptive Innovation (DI) has been proven to explain why new entrants are able to displace larger and well-established organisations over time (Bower & Christensen, 1995). While the original authors propose only a two-state outcome i.e. new entrant or incumbent failure, research focussed on the disruption innovation potential of open-source software on which open banking is based, posits three outcomes (Katsamakos & Georgantzias, 2010). This research will analyse the outcomes of open banking implementation in South African through the lens of the Disruption Innovation Strategy Model of Katsamakos and Georgantzias (2010), the model and explanation of which is shown in Figure 2, and the detail of which is explained in Section 2.8.

2.10 Conceptual Framework

The conceptual framework proposed in Figure 3 of this study is based on the literature review which suggests that although open banking may address South Africa's financial inclusion and market concentration challenges (i.e. economic challenges), it also highlights that there are significant social challenges that need to be overcome i.e. the socio-economic dynamics. These conditions are viewed as precursors that enable a successful open banking environment. The conceptual framework therefore highlights that there are numerous potential outcomes for open banking in South Africa. The outcomes result from the uncertainty that the economic challenges and regulation will have on how open banking is implemented in South Africa. Further, the outcomes will also determine whether open banking is viewed as a disruptive or sustaining innovation when viewed from the lens of Disruptive Innovation Theory.

Figure 3:

Conceptual framework for the study



2.11 Conclusion of the Literature Review

This chapter aimed to present the key issues that support and challenge the implementation of an open banking framework in South Africa. These include the opportunity to increase competition among incumbents, deepen financial inclusion and increase digitalisation. Concerns around the infrastructure required to support open banking, socio-economic factors, data privacy/security risks, operational risks and the threat of BigTech were seen as the major challenges to a successful open banking environment.

An analysis of open banking implementations in four other markets was then presented from which 2 propositions were made. This was followed by outlining the theory of Disruptive Innovation, which forms the theoretical basis for this study. A conceptual framework was developed to guide the research, which aims to generate new knowledge from the lived experiences of leaders in the financial services Industry, challenger industries and financial services regulators within South Africa.

3 Research Methodology

This chapter outlines the research method that was deployed to gain insight into the challenges, opportunities and potential outcomes of open banking in South Africa.

First, the research approach, research design and data collection methods are outlined. This is followed by a motivation for the population and sample strategies that were used as well as the procedures for data collection, analysis and interpretation. In the final section, a discussion outlining the limitations, transferability, dependability and credibility of the research is provided. The chapter closes off with a note on any ethical considerations.

3.1 Research Approach

As outlined in the first chapter, open banking is novel research with very little available in the literature that speaks to the results of implementation in other countries and the potential in an emerging economy like South Africa. Therefore, this research aimed to gain insights into the challenges and opportunities for open banking in South Africa from experts across the financial services industry, which includes challenger industries, retail banks and financial services regulators. The research is thus exploratory in nature, which required the application of a qualitative approach to analyse data collected from the sampled group.

3.2 Research design

This research aimed to analyse the perspectives of a small group of financial services experts on open banking in South Africa. Thus, an appropriate design method

was required that could elicit the personal knowledge and insights of the participants expertise as well as the context in which they have gained those experiences and insights. The design approach best suited to examining lived experiences is phenomenology (Creswell, 2007).

3.3 Data collection methods

As the data sought to understand the common experiences of individuals in relation to the phenomenon of open banking, semi-structured, one-on-one interviews with the participants was selected to capture those insights (Creswell, 2007). This format allows participants to describe their own experiences or views of open banking as it relates to their specific context (Creswell, 2007). The conversation was guided by the research objectives defined in Section 1.4 to ensure that the interviews met the overall research objectives.

The individual interviews were conducted online using online meeting platforms including Microsoft Teams and Zoom. The meetings were audio recorded using the recording software available in these programs and did not last longer than one hour. The interviews were guided by the Interview Guide in Appendix A. The guide contains open-ended questions that related to the research objectives defined earlier. A consolidated view of the research questions, propositions, data collection and data analysis methods is shown in the consistency table, Table 2.

After the interviews, the audio was transcribed and sent back to two participants to validate the information that was captured.

Table 2:

Consistency Table: Objectives, Research Questions, Propositions, Data Collection and Analysis

Challenges and opportunities of open banking in South Africa							
Main Objective: To provide novel research into the challenges and opportunities of open banking from the perspective of leaders in the SA financial services industry, challenger industries and financial services regulators.							
RO #	Objective	RQ #	Research Questions	Prop #	Propositions	Data collection	Data analysis
1	To explore the challenges and opportunities of implementing open banking in South Africa	1	What are the opportunities and challenges in implementing open banking in South Africa?	1	Open banking is both an opportunity and a challenge for South Africa as it is an innovation that will benefit many consumers but also disrupt the status quo of the financial services industry in South Africa	Interview guide questions 3, 4	Thematic Analysis
2	To explore the potential framework for implementation of open banking in South Africa	3	What should be the acceptable framework for open banking in South Africa: market-driven or regulation-driven?	2	When open banking is implemented in South Africa it will be driven by regulation	Interview guide questions 5,6	Thematic Analysis
3	To explore open banking and open banking-enabled solutions as enablers of disruptive innovation		Can open banking be an enabler of disruptive innovation in financial services in South Africa?	3	Open Banking will be an enabler for disruptive innovation in financial services in South Africa	Interview guide questions 7,8	Thematic Analysis

3.4 Population and sample

The justification for the population and sample for the research study is outlined in this section.

3.4.1 Population

The concept of open banking is not well understood by the general South African public. The population of this research is therefore experts in the financial services or challenger industries who understand open banking at a strategic level or are currently working on open banking related initiatives. It was believed that this would provide insights from leaders at the forefront of this innovative technology and add significant value to the research outcomes.

3.4.2 Sample and sampling method

The selected sample consists of financial services experts in retail banking, fintech or payment systems. A few of the participants are also leaders in their organisational context e.g. CEO's of fintechs and executives within larger corporates. They were hence selected based on their position within an industry targeted by this research. This sample was believed to be suitable to provide insights for this research as the concept of open banking is novel and not well understood by the general public. The research objectives are closely linked to the Theory of Disruptive Innovation, which would not be a familiar concept to those outside of management studies. Given this, the sampling methodology used for this research is purposive (Lavrakas, 2008)

Ten participants were interviewed as part of this study. The sample included at least one stakeholder from each of the industries identified as relevant to the study. Table 3 outlines the industries that were targeted in this study. Participants were

selected based on the researcher's understanding of the contribution they could make to a discussion on open banking and the role they hold within the industries identified for the study.

3.5 The research instrument

This research was conducted using semi-structured, online interviews as outlined in Section 3.4.2. The Interview guide is presented in *Appendix A* and comprised of three parts:

1. Introduction, general background, and experience
2. Experiences and insights relevant to the benefits and opportunities for open banking in South Africa
3. Experience and insights on the practical considerations of open Banking in South Africa

Part 1 of the interview was a situational analysis of the participant to understand the context that frames his/her lived experiences. These insights were gained by understanding their professional background as well as how they came to learn about open banking.

Parts 2 and 3 of the interviews aimed to gain insight into the participants' experience of open banking based on their exposure to open banking projects or being involved in open banking research. This part of the interview was also used to elicit the participants' familiarity with the Theory of Disruptive Innovation, which underpins this study. Parts 2 and 3 of the interviews were audio recorded.

Table 3:

Stakeholders represented in the study.

STAKEHOLDER	INDUSTRY	PARTICIPANTS
FINANCIAL SERVICES	Incumbent/retail banks e.g. Absa, FNB, Nedbank, Standard Bank or Capitec	3
NON-BANK FSP: FINTECH	New Entrants B2B Fintechs e.g. Yoco Open Banking Fintechs e.g. 22Seven	2 1
NON-BANK FSP: CHALLENGER BANK	Telecommunications	1
REGULATOR	Financial Services	2
PAYMENTS	Global Payments Services e.g. Visa, Mastercard	1

Participants were approached via LinkedIn. The criterion for the study was discussed with each participant prior to scheduling the formal interview. Only two participants required permission from their organisation to participate in the study. In both cases, the relevant permissions were obtained prior to conducting the interview. The Interviews took place online, in line with COVID-19 recommendations, and recorded. The recorded interviews were transcribed verbatim for further analysis.

3.6 Data analysis and interpretation

One of the aims of phenomenological research is to identify if there is any common understanding among participants on the research questions (Creswell, 2007). The data was therefore analysed to identify commonalities which were later classified as themes of the research. This approach enabled themes to emerge in the absence of a predetermined framework. This assisted to generate new themes in

addition to those already identified in the literature review of Chapter 2. The research followed the generally accepted approach to thematic analysis first proposed by Braun and Clarke (2006):

1. Familiarization – Understanding the transcribed the documents
2. Coding – concepts that emerge from the data
3. Generating themes – pooling codes into themes
4. Reviewing themes – ensuring the themes are consistent and mutually exclusive
5. Defining and naming themes
6. Writing up – Framing how the themes relate to your research question

3.7 Limitations of the study

The limitations of this study are as follows:

- **Sampling Bias**

As the community of open banking researchers is very limited, purposive sampling was selected for this research. However, the sample is reliant on the LinkedIn network only and is therefore biased in how participants were selected.

3.8 Transferability and credibility

This section of the report outlines how the research should be undertaken to ensure overall credibility.

3.8.1 Transferability

All details regarding the research study which includes methods, sampling, data collection from interviews and other relevant processes were documented and included in the final research report. This helps to ensure that the study can be mimicked or transferred to another context.

3.8.2 Credibility

Once the interview data was transcribed, a member-checking process was implemented, where the interview data relevant to a few participants was shared with them. This helps to ensure that all the information that was captured, was transcribed correctly and to add any additional detail that was not captured in the interview. Further, the outcomes of the analysis of the interview data was also shared with the participants to validate that their meanings were captured correctly. This follows the member-checking process of Korstjens and Moser (2018) and is a well-known qualitative research technique used to ensure credibility (Korstjens & Moser, 2018).

3.9 Ethical considerations

This study complied with the ethical requirements of the University of the Witwatersrand. The relevant ethical forms were filed and submitted to the university ethics committee and ethics approval was obtained. The ethics clearance certificate is shown in Appendix B. All participants also participated willingly and voluntarily.

3.9.1 Voluntary informed consent

Informed consent was obtained from all participants either via completion of the consent form or as part of the audio recording prior to the interview. In addition,

participants were made aware that their consent could be withdrawn at any point during the research process.

3.9.2 Protection of individual/organization confidentiality

To protect the confidentiality of the participants and by extension, the organisations they represent, all interview transcripts included in the final report utilise tags. The tags only include the stakeholder group and the participant number in that group e.g. *Fintech1, Fintech 2, etc.*

4 RESULTS

4.1 Introduction

This section presents and interprets the results of this research that provide insight into the research objectives and related propositions for this study as summarised in Table 2. The overall objectives of this study are to:

- 1) Explore the opportunities and challenges of implementing open banking in South Africa.
- 2) To explore the implementation frameworks for open banking in South Africa i.e. regulation-led or market-led.
- 3) Determine if open banking could enable disruptive innovation in financial services in South Africa.

To achieve these objectives, ten subject matter experts from across financial services were selected to participate in this study. A summary of the participant information is shown in Table 3.

The data from the interviews were analysed to identify themes using the process for thematic analysis of Braun and Clarke (2006). After the interviews were transcribed, the data were uploaded into the qualitative analysis software tool (ATLAS.Ti v22) for coding. The data from the participants were coded and further grouped. The coded data were exported to Microsoft Excel so that the participant quotes could be further analysed to identify common themes. An example of the analysis in Microsoft Excel is shown in Table 4. The results of the analysis are presented in accordance with the research proposition they are related to. Summary tables of the results are provided in Tables 5 - 22.

Table 4:

Analysis of code groups to identify common themes.

TAG	STAKEHOLDER	QUOTATION	COMMENT	THEME
PAYMENTS	Payments	the other thing that the banks have is a historical relationship with customers and the inherent trusts that consumers have with banks specifically so even getting them to share the information with other um entities, even though it might benefit them in the long run, I think overcoming that trust hurdle will be quite a challenge	trust consumers have in banks	Trust
FINTECH 2	Fintech	another challenge is I guess is consumer awareness, you know, if people don't know things are available then the demand you know, sort of the pressure on the financial service providers to make services like this available isn't really there, so open banking I guess if you did a survey it's got a very low awareness in South Africa	awareness	Awareness
FINTECH 3	Fintech	because we have such a big non digitally banked economy right, let's say we are engaging with a retailer that retailer's customers are sixty percent um non digitally banked and then forty percent digitally banked, they can't embrace open banking efficiencies if they can only create efficiencies of forty percent of their customer base	low adoption due to low access to tech	Access

Source: Author's own Atlas.Ti

4.2 Proposition 1: Opportunities and Challenges of Open Banking in South Africa

The first proposition of this study is "Open banking is both an opportunity and a challenge for South Africa, as it is an innovation that will benefit many consumers but also disrupt the status quo of the financial services industry in South Africa." The

questions presented to the participants and their responses under this proposition are presented and interpreted in this section.

Themes representing the opportunities and/or challenges were analysed and are summarised in tables for each stakeholder. The stakeholders identified by the participants were the: Consumers, Unbanked/Underserved, Incumbents/traditional banks, non-bank FSPs including Fintechs, the Financial Services Regulators and the overall South African financial market “the market”.

4.2.1 Question 1: Benefits of implementing Open Banking in South Africa

The first question presented to participants under Proposition 1 is “In your opinion, are there any benefits of implementing Open Banking in South Africa?” To analyse and summarise participants’ perceptions to this question, a word cloud is used which represents the words used most often (at least 7 mentions) by the participants (see Figure 4). The most frequently used word was “data”, which relates to the ease of sharing/exchanging data between users in an open banking environment. The next frequently used word is “access”, which relates to access to new sources of data particularly for those outside of traditional banks. “Financial” and “services” were also popular words often appearing together and relating to the opportunity to increase the range and quality of “products” and “services” offered by FSPs to consumers. Access to “credit” for thin-file consumers, increased “innovation” and “competition” were also noted as opportunities by the participants. In addition to the general analysis of the benefits of implementing open banking using word cloud, further analysis was conducted based on each participant’s responses. More so, the benefits of open banking to different stakeholders (consumers, unbanked, banks, non-banks, financial services regulators, and the South African financial market) was analysed.

choice in terms of financial service providers, as well as services being provided. For instance participant Bank 3 said:

“...the obvious benefit is putting the power of data back into the customer’s hands, or the control of data back into the customer’s hands” – Bank 3

Table 5:

Opportunities of open banking for consumers. CX = Customer Experience

	CONTROL	ACCESS	CX
PAYMENTS	✓		
FINTECH 1	✓	✓	
FINTECH 2		✓	
FINTECH 3	✓	✓	✓
REGULATOR 1	✓	✓	
REGULATOR 2		✓	✓
BANK 1			
BANK 2		✓	
BANK 3	✓		✓
TELCO		✓	

Access to new and better products and services due to richer data sets (including alternative data), was cited by participants to be the major benefit to the consumer in an open banking environment. Participant Fintech 2 noted that as data can flow more easily between banks and non-banks, consumers will benefit from greater “Access”.

“The main benefit for me of open banking is the fact that information can flow more freely between, you know, financial service providers, banks, Fintechs, allows for free flow of data which leads to product innovation, um which leads to more products being offered to consumers and, you know, any situation where

you got more products and more competition typically that leads to a better outcome for consumers.”- Fintech 2

Finally, a few participants highlighted that open banking would encourage innovation in the financial services industry, particularly in respect of Customer Experience. Consumers would benefit from more personalised offerings, seamless/frictionless customer journeys and ultimately greater engagement in financial services.

“one of the things we are advocating around open banking is that the consumer experience is going to radically change” – Fintech 3

4.2.1.2 Benefits and Opportunities of Open Banking for the Unbanked/Underserved

Most of the participants made specific reference to the opportunities of open banking for the unbanked/underserved in South Africa. While Access was identified as a key theme, Control was not a theme and Innovation emerged as a new theme over customer experience (see Table 6). Only participant Fintech 3 and participant Bank 2 noted both access and innovation as opportunities for the unbanked. The participant from Payments, participant Fintech 1, participant Fintech 2 and participant Bank 1 noted no opportunities for the unbanked. All other participants only noted one opportunity, either Access or Innovation.

Participants, especially those in fintech felt that open banking would enable innovation in the payments sector which according to these participants, is where the greatest opportunity for the unbanked/underserved lies. Fintech 3 noted how greater financial inclusion would result in greater access to financial services for the unbanked/underserved.

“From a financial inclusivity perspective you’ll start to see payment-enabled solutions enable those previously cash-driven individuals or people living in a cash economy. I think over time those individuals that move into a digital form of making payment then start to build up a record of their behaviour and then that will include them to start participating more in the rest of the formal economy” – Fintech 3

Table 6:

Opportunities of open banking for the unbanked/underserved.

	ACCESS	INNOVATION
PAYMENTS		
FINTECH 1		
FINTECH 2		✓
FINTECH 3	✓	✓
REGULATOR 1	✓	
REGULATOR 2	✓	
BANK 1		
BANK 2	✓	✓
BANK 3		✓
TELCO 1		✓

However, some participants were sceptical that open banking would be the key to driving financial inclusion in this segment and that the key to driving financial inclusion would be to focus on solving the right problem rather than the right technology.

“There are so many friction points in an unbanked segment that you could solve for, if you could find the right thing to solve and find the right way to solve it using open banking I think yeah there is opportunity.” – Bank 3

This Participant Bank 2, noted that open banking would encourage business model innovation that could provide new opportunities for the unbanked/underserved:

*“So you have your retailers, your MNO’s are going to play prominently where that consumer base resonates a lot better with them than traditional banks so *Telco X* big push, *Telco Y* and their Wallet, so I think these type of nonbank providers, to be coupled with open banking services do have a chance to really penetrate the informal sector of the economy, and traditional banks and incumbents would have to partner with providers and more to gain access.” –*

Bank 2

4.2.1.3 Benefits and Opportunities of Open Banking for the banking sector

The opportunities for traditional banks in an open banking environment were broadly classified as either commercial opportunities or opportunities that arise from their market position. All participants mentioned at least one commercial opportunity for banks while only the participant from Payments and participant Fintech 3 mentioned the opportunities related to market position (see Table 7).

The most cited commercial opportunity is the revenue opportunity presented by charging users for access to premium APIs. This includes charging users a fee for processed bank data, while the opportunity for banks to enrich their own data with other banks or FSPs information was noted as additional revenue generating opportunities. Fintech 3 highlighted the overall commercial opportunity that exists for banks in the short term.

Table 7:

Opportunities of open banking in the banking sector

	COMMERCIAL	MARKET POSITION
PAYMENTS	✓	✓
FINTECH 1	✓	
FINTECH 2	✓	
FINTECH 3	✓	✓
REGULATOR 1	✓	
REGULATOR 2	✓	
BANK 1	✓	
BANK 2	✓	
BANK 3	✓	
TELCO 1	✓	

“It would be a lot easier to get off the ground in South Africa if APIs, if banks were allowed to charge for sharing, for processing data, let’s not say sharing data, processing data on behalf of the customer but obviously it doesn’t have to be exorbitant amounts of money” – Fintech 2

Participant Bank 1 identified the opportunity for banks to break down internal silos and drive internal efficiencies through open banking.

“there is huge potential for banks to absolutely disrupt the disruptors because banks have something that the disruptors don’t have, we have generations worth of data that once we’ve figure how to make it open even internally (because our data is closed to us even internally) once we make it open and liberate our data and figure out the power of our data we’re definitely... the potential to disrupt the disruptors is huge.” – Bank 1

Another opportunity that at least one participant from each industry mentioned is the opportunity for partnerships that are created in an open banking environment.

“...there is new commercial models from the business side, we are getting improved access to reach which fintechs have and we don’t.” – Bank 2

Finally, a few participants noted that the role of traditional banks in South Africa might shift completely in an open banking environment to create new business models and other use cases that cannot be conceived of today. The opportunity for business model innovation was highlighted by participant Telco 1.

“I think the goal of open banking is to say ok we’ve got the pipes, we own the rails come build your stuff on top of it” – Telco 1

In addition to the commercial opportunities, it was noted by two participants outside of banking (the participant from Payments and participant Fintech 3) that traditional banks in South Africa have two major advantages in relation to open banking because of their position in the market. The first relates to the first mover advantage that banks would have if they chose to embrace open banking in the short term. Secondly, participants noted that the barriers to entry to becoming a bank in South Africa are so high that the threat of being displaced in the short to medium term by a start-up or even established FSP is unlikely. Participant Fintech 3 noted the following in relation to the bank’s first mover advantage:

“They [banks] know the timeframe to open banking is zero to thirty six months, and they have an opportunity now to make open banking work for them not just from a financial perspective but to actually build out the solutions that make them more competitive than their competitors that are going to be coming in.”-

Fintech 3

4.2.1.4 Benefits and opportunities of open banking for non-bank FSPs

In relation to proposition 1, it was found that fintechs can be viewed as a sub-group of FSPs that do not have a banking licence. The overall themes that emerged under this context are commercial opportunities, as well as opportunities related to access (see Table 8).

Table 8:

Opportunities of open banking for non-bank FSPs

	COMMERCIAL	ACCESS
PAYMENTS		
FINTECH 1		
FINTECH 2	✓	
FINTECH 3	✓	✓
REGULATOR 1	✓	
REGULATOR 2	✓	
BANK 1		
BANK 2	✓	✓
BANK 3		
TELCO 1	✓	✓

Of the ten participants, only six noted opportunities for this stakeholder group of which only three (Fintech 3, Bank 2, Telco 1) noted both themes as opportunities. The stakeholders who did not note any opportunities for this sector were the participant from Payments, participant Fintech 1, participant Bank 1 and participant Bank 3. It is interesting that Fintech 1 did not note any opportunities for open banking in its own industry. Commercial opportunities include reduced barriers to entry for Fintechs, while for non-bank FSPs, it includes the opportunity to on-sell products and services on top of banking services. It is assumed that these opportunities would result in increased competition in the financial services industry. Participants also noted the

opportunity for partnerships to create new products and services for the financial market.

*“...so that fintech may say ok cool I have my wallet but I need a deposit, you know, I need a bank account underpinning my wallet, you know, a regulated bank account so I’m going to use you *SA Bank* for that um capability, and that capability is typically enabled by APIs.” – Bank 2*

The opportunity of access relates to opportunities provided to FSPs to have access to new data sources or data that enriches their own data. This access to data enables innovation and ultimately the potential to create a commercial proposition. Additionally, the opportunity to bypass the regulatory hurdles that banks are subjected to, further increases access for non-bank FSPs and should increase participation in the market. Although only 3 of the 7 participants mentioned access as an opportunity, it can be inferred that without access there is no commercial opportunity for non-bank FSPs.

“For the fintech it allows them to scale a lot quicker, it allows them access to banking services without them necessarily having to go through all the schlep and compliance and everything to get a banking license.” – Bank 2

4.2.1.5 Benefits and Opportunities of Open Banking for the financial services regulators

Of the ten participants, eight noted opportunities for the regulator in relation to open banking (see Table 9). Three themes emerged, which include, collaboration, market support for regulation, and the opportunity for the financial services regulators to fulfil their mandates. Most participants mentioned two or more themes, however no participant mentioned all three. The participant from Payments, participants Fintech 1

and Fintech 2, noted only one theme while participants Bank 1 and Bank 3 did not identify any opportunities for the financial services regulator.

Table 9:

Opportunities of open banking for the financial services regulators

	COLLABORATION	FULFIL MANDATE	SUPPORT
PAYMENTS	✓		
FINTECH 1		✓	
FINTECH 2		✓	
FINTECH 3	✓	✓	
REGULATOR 1	✓		✓
REGULATOR 2	✓	✓	
BANK 1			
BANK 2		✓	✓
BANK 3			
TELCO 1	✓		✓

All the financial services regulators interviewed, along with 3 other participants (participant Fintech 3, participant Telco 1 and the participant from Payments) felt that there was a big opportunity for the financial services regulators in South Africa to collaborate with stakeholders from industry to develop frameworks and standards for open banking system. However, some participants indicated that the financial services regulators were already engaging with industry stakeholders on open banking, as indicated by participant Fintech 3

“I’ve spoken to the one regulator and their approach is if the market can do things amicably, they’re all for it right, it means less work for them it means that everybody is happy but they will create oversight that will insure that there is fairness” – Fintech 3

One opportunity that was inferred from analysing the interviews is that there are stakeholders outside of the financial services regulators who support a regulation-led open banking implementation. Some of the reasons for such support is to increase competition in the market, as well as having an oversight of the open banking standards the financial market should adhere to.

“...why you need regulation is to, again, you need to have mandated, regulated, central open banking entities to facilitate everything. You need regulation specifying, saying it’s mandatory, this is the API standard in the country.”- Bank 2

Finally, open banking is viewed by five participants as an opportunity for the financial services regulators to fulfil their mandate to increase financial inclusion.

“Ja, so the regulators are looking at this, and certainly the sense I get is they quite, pro ensure or ensuring that open banking happens in a country with such a high division of or gap between the wealthy and the not so wealthy”- Fintech

2

4.2.1.6 Opportunities for the South African financial market

In addition to the individual stakeholders, participants identified opportunities that would benefit the South African financial market as a whole. Three themes were identified in this context, which are consumer benefits, the financial services ecosystem and market readiness (see Table 10). Consumer benefits include the opportunities already identified in Section 4.2.1.1 (Control, Access and Customer Experience) and is mentioned as a theme within market benefits because many participants felt that of all the stakeholders involved in open banking, consumers would stand to benefit the most. This point was highlighted in a quote from Fintech 3:

“the winner at the end of the day is the consumer because he benefits from competition he benefits through innovation, he benefits through improved service delivery, he benefits.” – Fintech 3

Table 10:

Opportunities of open banking for the South African financial market. FS= Financial Services

	CONSUMER BENEFITS	FS ECOSYSTEM	MARKET READINESS
PAYMENTS	✓	✓	✓
FINTECH 1		✓	
FINTECH 2	✓	✓	
FINTECH 3			✓
REGULATOR 1	✓	✓	
REGULATOR 2	✓	✓	✓
BANK 1			
BANK 2	✓	✓	✓
BANK 3		✓	
TELCO 1	✓	✓	

The majority of participants (9/10) noted that open banking would have an impact on the financial services system itself. With the exception of Bank 2, every other participant noted at least one market-related opportunity. They believe that the opportunities of increased competition within financial services and the lowering of barriers to entry for new entrants, would lead to reduction in the monopolistic nature of the South African banks. However, two participants, including a regulator, suggested that while the market share of the banks may decrease in an open banking environment, they would not be completely disintermediated by it. There was also the opportunity that the market itself would grow as more people could access financial services.

“So from an incumbent banks perspective there is going to be increased pressure on income and ability to grow because there is more competition, the market is more open and there is more choice for the consumer but our banks, our incumbent banks are not going to go bust. No, um it’s not going to happen”

- Bank 2

Bank 2’s points were supported by Telco 1:

“Open banking depending on the form it takes actually provides like a deterrent to us becoming a bank, because if we can access bank services then do we need to have our own bank?” – Telco 1

At least one participant from each industry acknowledged that products/services built on open banking principles were already active in the South African market. Participant Bank 2 and the participant from Payments also made mention of South African’s positive attitude toward technology. These factors were considered to represent the South African market’s readiness for open banking.

*“the market is already, in the absence of regulation, it’s almost self-organizing um and there are a number of banks that are already playing in this space and I would say in an unregulated type, not in a unregulated way but in the absence of open banking regulation, so a bank like *SA Bank* they already have an offering... they have an API marketplace.” - Bank 2*

4.2.2 Question 2: Challenges to Open Banking implementation

The second question presented to participants under Proposition 1 is “What are the major challenges to implementing Open Banking in South Africa?” To analyse participants’ responses to this question, a word cloud is used which represents the words used most commonly (at least 10 mentions) by the participants (see Figure 5).

institutions and are worried about the risk of data sharing would be less likely to trust open banking and therefore, would be slow to adopt it.

Table 11:

Challenges of open banking for consumers.

	TRUST	AWARENESS	ACCESS	ADOPTION
PAYMENTS	✓			
FINTECH 1				
FINTECH 2		✓	✓	
FINTECH 3	✓		✓	
REGULATOR 1	✓	✓	✓	✓
REGULATOR 2	✓	✓		✓
BANK 1	✓		✓	
BANK 2	✓		✓	✓
BANK 3	✓	✓		
TELCO 1				

“a starting point for value is how you create trust in a customer’s eyes and especially in financial services, if you can’t trust the bank that is accessing your data or providing your data to a third party, you know you are never going to be able to get away from that perception in the market that you can’t be trusted” –

Bank 3

Majority of participants also felt that access to technologies that enable participation in open banking e.g. smartphones and data would be a major challenge in South Africa, unlike in the UK where smartphone penetration is high.

“you can go into this market, get a youngster who is comfortable with technology but listen I mean can he actually afford mobile data?” – Bank 2

Together with the cost of accessing open banking services, this could drive financial exclusion rather than inclusion. Participants also noted challenges around

consumer education. If customers are not aware that open banking exists in South Africa and are not educated on how it works, then they will not be able to use it, which ultimately leads to low adoption. When considering adoption, participants felt that the social context of South Africa (which includes trust, access, education, etc.) will impact negatively on the adoption of open banking, if not addressed properly during implementation.

“...we can have the slickest technology in the form of open banking, the slickest payment wallet; Xpay, the Ypay, if you don't change the social dynamic and behaviour then you are not going to get the adoption.” – Bank 2

4.2.2.2 Challenges for the unbanked/underserved

Under the challenges of open banking to the unbanked, three themes emerged, which include, financial exclusion, consumer behaviour and the business case for open banking. However, no single participant mentioned all three challenges and only participant Fintech 2 mentioned the impact on the business case for open banking (see Table 12). Participants who did not note any challenges to implementing open banking in this group included the participant from Payments, participant Regulator 2 and participant Bank 1.

In relation to the challenge of financial exclusion it was noted by participants that this segment is not necessarily unbanked but rather underserved by traditional FSPs. The quality of the banking relationship was also noted, and its impact on consumer behaviour was highlighted by participant Telco 1:

Table 12:

Challenges of open banking for the unbanked/underserved

	FINANCIAL EXCLUSION	CONSUMER BEHAVIOUR	BUSINESS CASE
PAYMENTS			
FINTECH 1	✓		
FINTECH 2	✓		✓
FINTECH 3	✓		
REGULATOR 1		✓	
REGULATOR 2			
BANK 1			
BANK 2		✓	
BANK 3	✓		
TELCO 1	✓	✓	

“The rate of banking inclusion in South Africa is actually quite high, it’s like in the eighties right amongst adults right mainly because of things like um mainly because of the SASSA grants and the social payments payout programs, the quality of that banking relationship is however questionable right in your emerging markets or market segments” – Telco 1

Finally, only one participant, participant Fintech 2, noted that the unbanked/underserved consumer falls in a lower lifestyle Market (LSM) than the average consumer, therefore it would be difficult to make the business case for any FSP to make this segment a priority when open banking is available.

“But if you look at the products an unbanked person [will use] they not going to be taking more sophisticated products they going to be taking you know a very basic bank account and maybe a loan and maybe a debit card um you know they not going to be needing offshore banking or global payments or insurance or things like that if they’re coming from an unbanked background”. - Fintech 2

4.2.2.3 Challenges in the banking sector

From Table 13, the themes identified from participants' responses in relation to open banking challenges to the banking sector include, competition, system challenges, challenges relating to the incentive to participate in open banking, and other risks. All participants noted at least one challenge that the banking industry would face in implementing open banking, while 8 of the 10 participants mentioned 2 or more. Participant Fintech 1, participant Bank 1 and participant Bank 2 noted all four challenges.

Competition was identified by eight of the ten participants as a challenge to banks in an open banking environment. Only Regulator 2 and Bank 3 did not note this as a challenge for the banking sector. Participant Fintech 1 provided insight into why the banks view competition in open banking as a challenge:

“If you’re one of five banks you don’t want ten banks or twenty banks and if you are the bigger guys you don’t want openness and easy portability of customers.” – Fintech 1

System challenges are related to the time and cost of getting the banking industry ready to operate in an open banking environment. It includes challenges related to upgrading legacy systems, getting internal buy-in, the cost of implementation, and the potential delays in implementation, especially if the change was driven by regulation. Participant Bank 3 provided context as to why system changes are a challenge for banks.

“Every bank is like the Titanic right? It takes a huge amount of effort to change it’s course which something like this requires...there are so many things you need to align in the organisation to be able to do this and still protect the bank

and ultimately protect the customer. It's not something you can go do on your own."- Bank 3

Table 13:

Challenges of open banking for the banking sector

	SYSTEM	BUSINESS CASE	COMPETITION	RISKS
PAYMENTS	✓		✓	
FINTECH 1	✓	✓	✓	✓
FINTECH 2	✓	✓	✓	
FINTECH 3			✓	✓
REGULATOR 1	✓		✓	
REGULATOR 2				✓
BANK 1	✓	✓	✓	✓
BANK 2		✓	✓	✓
BANK 3	✓			✓
TELCO 1			✓	

The cost implication, reduced marketshare and threat of disintermediation by new entrants were noted by participants as reasons dissuading traditional banks from participating in open banking. Lack of international benchmarks for open banking was also highlighted by participant Bank 3 as a challenge to incentivising banks to participate.

"You're cutting your teeth and trying to figure this out in your context right. So even, you can't even compare to another market per se because your customer that sits in your South African context is very different to a British customer."-

Bank 3

Participant Bank 3 highlighted the risk of bad actors using open banking to bypass some of the regulatory frameworks that prevent illegal activities in traditional banking systems.

“What is the balance between the fact that if you are totally open you’re going to get terrorism and crime and all that money flowing through the banks which the regulators and the government for years have tried to put a stop to.”- Bank 1

Another participant noted the potential for reputational damage to banks if and/or when there are issues with transactions, whether it is the banks’ fault or not. A few participants also noted the impact of regulation as a key challenge in the banking industry, as highlighted by participant Bank 3:

“for example you’ve spent a lot of time building strategic relationships with certain third parties that now need to be uh...what can I call it...they need to pivot in a different direction because the regulation doesn’t allow you to do something that you have been doing already.”- Bank 3

4.2.2.4 Challenges for non-bank FSPs

For non-bank FSPs, the main theme identified in this stakeholder group was competition, primarily between non-bank FSPs and traditional banks. Table 14 shows that seven of the ten participants noted competition as a challenge. Those who did not, included participant Fintech 3, participant Bank 1 and participant Bank 2. A quote from the participant from Payments, highlights that while open banking will increase access for non-bank FSPs, it will not enable non-bank FSPs to replace all the functions of a bank.

“they are still using banks for the settlements for all that sort of stuff because it is a regulatory nightmare, you got to have all these ESGRO accounts set up, you’ve got auditors all the time, uh and very often you might just find the Telco’s going “it’s too much of a headache”, so they probably could become a bank, so yes they probably could become a bank if they so choose but I haven’t seen a Telco choose to become a bank yet . They still rely on banks for settlement clearing and everything else.”- Payments 1

Table 14:

Challenges of open banking for non-bank FSPs

	COMPETITION
PAYMENTS	✓
FINTECH 1	✓
FINTECH 2	✓
FINTECH 3	
REGULATOR 1	✓
REGULATOR 2	✓
BANK 1	
BANK 2	
BANK 3	✓
TELCO 1	✓

Banks were perceived by participants as having a competitive advantage because they hold a consumer’s deposits (money) which means that they hold the primary relationship and secondly, banks perform numerous key roles in financial services other than deposit-holding, such as settlements, which makes banks difficult to disintermediate. Participants also agreed that obtaining a banking licence in South Africa is an expensive and time-consuming endeavour. Further, it was highlighted by some participants including participant Fintech 1 that in an open banking environment,

access to APIs and customer data does not change the barriers to entry of becoming a bank,

“you need a banking license to be a bank, and the open API wont, um, change that”

At the same time, participants noted that the banks might not support open banking because they either do not see the value or do not want to increase competition. This is a challenge to any non-bank FSPs who will rely on banking data to create new products and services.

4.2.2.5 Challenges for the financial services regulator/s

The challenges faced by the financial services regulators in implementing open banking were grouped into four themes: frameworks, timelines, outcomes and risks. All ten participants mentioned at least two of these themes during their interview (see Table 15). Both financial services regulators and Bank 3 noted all four challenges in their interviews All participants made reference to the fact that the involvement or lack of involvement of the various regulators in South Africa would have an impact on the implementation of open banking in South Africa.

A number of participants, including participant Telco 1, felt that regulation was required to persuade the traditional banks to participate in open banking.

“so if you leave it to the banks – nothing will happen there will be endless conversations in ten years time, so without a doubt it needs to be regulatory” -

Telco 1

Table 15:

Challenges of open banking for the financial services regulators in South Africa

	FRAMEWORKS	TIMELINES	OUTCOMES	RISKS
PAYMENTS	✓		✓	
FINTECH 1	✓		✓	
FINTECH 2	✓		✓	✓
FINTECH 3	✓	✓		
REGULATOR 1	✓	✓	✓	✓
REGULATOR 2	✓	✓	✓	✓
BANK 1	✓			✓
BANK 2	✓	✓	✓	
BANK 3	✓	✓	✓	✓
TELCO 1	✓		✓	

Those who felt that financial services regulators should be involved in bringing open banking to the market, felt that they should be setting the overall frameworks to ensure fairness among all stakeholders, that they should be involved in setting the API standards and that they should regulate the costs of APIs that could be charged for. The participant from payments noted the success of open banking in the UK, as a reason in support of regulation-led open banking.

“I’m just benchmarking here but the UK they are fully regulated, the adoption is absolutely soaring at the moment. It’s flourishing there and that’s because the regulator was very active from day one setting the standards, setting regulations, to ensure that the market is standardised as much as possible.”-

Bank 2

However, concerns were raised about how long it would take open banking to be implemented in South Africa if it was driven by regulation. Participants mentioned that projects like Debi-Check and Protection of Personal information (POPI) Act, had

taken too long to implement. Factors such as the number of regulators who needed to agree on the frameworks and the fact that the frameworks still needed to be defined, were viewed as reasons why regulation would impact open banking timelines. This was echoed by one of the financial services regulators themselves, Participant Regulator 1, while participant Fintech 3 noted an implication of delayed implementation for the South African financial market.

“so if you think of the National Payment Systems Department, the National Credit Regulator, the Competition commission, the Financial Sector Authority, Credential Authority, the financial surveillance might even pitch up on that, so there is a whole bunch of regulators who we need to align on all of these things so it’s very difficult to move quickly when you have so many regulators” –

Regulator 1

“I think the risk for the regulators is that if they take the first uh road where they regulate it we will see open banking take a long time to materialize in South Africa and obviously that means that the world is moving ahead.”- Fintech 3

Concerns around the barriers to obtaining a banking licence and the cost of compliance were raised as potential challenges that affected the outcomes of open banking in South Africa. If this were the case, there is a concern that fintechs would find other ways to get around these challenges without the oversight of the regulator as seen with technologies like screen scraping. Participants also noted the need for the regulator to manage the impact of new entrants particularly BigTech companies like Whatsapp and Facebook, as highlighted by a quote from Bank 2.

“We have to consider is big tech a big threat? Um Yes, it is, but is any market regulator going to allow for let’s say a platform, a global platform like Facebook

or WhatsApp to come into their market and displace the financial system which is stable, sound, based on sound regulation? No, it's not going to happen.” –

Bank 2

Finally, 50% of participants, identified risks for the financial services regulators in relation to open banking. Participant Regulator 2 identified risks related to open banking technologies already being used in the market, while Bank 3 noted a general concern about how South African financial services regulators interpret their mandate.

“For regulators, and in particular the conduct regulator, we’re...there are very immediate risks that we are seeing with screen scraping and sharing of customers data, or a customer’s log in credentials”- Regulator 2
“I worry sometimes that the regulators that is kind of their starting point it’s like how do we manage risk, when you need to balance that with how do we create innovation in the market”- Bank 3

4.2.2.6 Challenges for the South African financial market

The themes presented in this section are challenges that affect the entire South African financial market and not only a specific stakeholder (see Table 16). The themes identified are related to the need for open banking standards, the infrastructure required for open banking, who needs to participate to make open banking successful, potential outcomes, and some of the risks associated with implementing open banking.

The need for standards, specifically API standards, has already been highlighted but is mentioned again as it impacts the overall financial market. Participants raised concerns around the impact that a lack of standards would have on the growth of open banking in South Africa as highlighted by participant Bank 2

Interestingly none of the Fintechs noted standardisation as a challenge for the overall market.

Table 16:

Challenges of open banking for the South African financial market

	STANDARDS	INFRASTRUCTURE	PARTICIPATION	OUTCOMES	RISKS
PAYMENTS	✓	✓		✓	
FINTECH 1			✓		
FINTECH 2		✓	✓	✓	✓
FINTECH 3				✓	✓
REGULATOR 1	✓	✓		✓	✓
REGULATOR 2		✓		✓	✓
BANK 1	✓		✓		✓
BANK 2	✓		✓		✓
BANK 3					
TELCO 1			✓		

“So in the absence of regulation the market will self-organise which is because the consumers and the economy will benefit but the risk to the speed of adoption and growth is prevalent because of the lack of standardization it will impact and hinder how quickly it grows” – Bank 2

Four participants noted that open banking would require changes to traditional banking infrastructure, to enable open banking features such as real-time payments. However, systems should be interoperable so that everyone can participate, not just banks. Challenges around ensuring data security in open banking, the cost of upgrading and maintaining systems that enable open banking and system challenges were also noted. Some of these challenges were highlighted by participant Bank 2 and Regulator 2

I think the second issue then is our economy is...we are seeing growth this year off a low base but to set up an open banking environment or an open banking model is extremely expensive; it's a multibillion dollar investment for any country over a long period of time. Who is going to have to make this investment? It's the banking industry, it's the reserve bank, it's the government of South Africa um it's uh fin techs, so it's a multibillion-dollar investment. And I think where we find ourselves economically um is there enough cash at the moment to take the plunge? um No, there isn't and no bank is, you know, going to fully roll this out but it's going to be a very staged, staggered deployment just because of the economic climate we find ourselves in – Bank 2

“So when we speak about sharing of data is it interoperable? Can people receiving the data actually use the data or is there a whole bunch of work that needs to be included here? The protection of data and what that looks like and the cost of implementation- so there's actual costs to develop these APIs as well as maintain these APIs because they don't just get developed and everything is fine, there are changes over time.”- Regulator 2

Another challenge inferred from participants' responses is the requirement for traditional banks to participate in open banking, to enable the market to realise the benefits of open banking. Banks not being willing to participate, threatens the success of open banking as participants noted that banks bring security and trust to the ecosystem, as the primary relationship holder with customers.

“so ja I think you've got to have legislation to make it really flourish, there will be pockets of it I mean, as I said the market will always you know do a certain amount but you know there's a point you get to where without the you know,

the proper railway tracks and APIs and instant access to data and free movement of data at low cost, and what the banks actually bring if you do this, they bring the trust and the security to the model you know. You can't, if you try do it without them you end up with a screen scraping model so yes, we need them to participate.”- Fintech 2

However, it was also noted by some participants that open banking requires participation from all the identified stakeholders in order for it to be successful. A few participants noted the challenges of predicting the outcomes of open banking in the South African market given that it has only been implemented in a few developed economies e.g. UK and Australia, therefore no benchmark exists for comparison. Participants also noted challenges related to the entrance of BigTech into the market and how this and/or other new entrants may create new monopolies instead of a more competitive environment. Finally, one of the fintechs noted that in an open banking environment, over time it will become increasingly difficult to differentiate oneself in the market as everyone can offer similar services e.g. insurance, lending, etc.

“ Ja, so it's really something we need to keep a close eye towards and obviously we need to make sure that at the end of the day we don't distort the market by creating you know new monopolies or new winners just because we haven't you know well accounted for some of these dynamics that arise”-

Regulator 1

The risks associated with open banking are also mentioned under previous stakeholders, and as well are presented here as a challenge to the entire financial market. Participants felt that if open banking takes too long to be implemented, South Africa might be left behind the rest of the world. Timelines could be affected either by

the financial services regulators moving too slowly or by the banks pushing back if they do not support open banking.

“So the longer we delay open banking, it has a knock on effect on the customer, the economy, the regulator policy goals and we actually we start falling behind the rest of the world in terms of our competitiveness.” – Bank 2

Participants also noted that the market would move ahead without regulation, as already happening South Africa. There was a concern around ‘how open is open banking’, especially as it relates to Know-Your-Customer (KYC), as well as its potentiality to increase illegal activity e.g. money laundering. Such kind of activities combined with the risk of data breaches compromises security in an open banking environment, and can cause financial loss, reputational damage, and ultimately impact the financial stability of the country.

“Open banking when you start making it freely open like that then I want to look at the other regulatory rules around the privacy, POPIA, compliance, AML, screen scraping all that stuff that a bank is regulated and trusted for how do you incorporate that in open banking because if you make your data freely and readily available to everybody you have to then not do that stuff that the regulators have asked the banks to do and have spent a fortune to do over the life of a bank.”- Bank 1

The adoption of open banking by the unbanked/underserved was already noted as a challenge, however it is also a market challenge as open banking seeks to address issues of financial inclusion. The “adoption levers” required to make open banking in South Africa inclusive, include access to affordable mobile data and devices, education around open banking, financial literacy as well as increasing

access and adoption of cashless services. These challenges are not exclusive to the banking sector, rather are also market-related challenges that need to be solved to enable a successful open banking environment. The need for collaboration was highlighted by a quote from participant Bank 2.

“so there are a number of factors that needs to come together for open banking in South Africa to be successful and it’s not just about the platform and the APIs and the regulation it’s about changing behaviour, it’s about getting MNO’s to drop cost of data, it’s about driving a massive education drive into the market” – Bank 2

4.2.2.7 Summary of the opportunities and challenges of open banking

Table 17 shows a summary of the stakeholders and sub-themes identified from the interview responses. Overall, a greater number of themes were identified for challenges to open banking vs opportunities. On average 3.5 themes vs 2.5 themes, respectively.

Access was a common theme for opportunities between consumers, the unbanked/underserved, and the non-bank FSPs. Interestingly, access was viewed as both an opportunity and challenge for consumers in open banking.

The business case for open banking was a common theme between traditional banks and the unbanked/underserved. Risk management was a common theme between traditional banks, the financial services regulators and the financial market, while competition was identified as a challenge for both banks and non-bank FSPs.

Table 17:

Summary of the opportunities and challenges of implementing open banking in South Africa

STAKEHOLDER	OPPORTUNITIES	CHALLENGES
CONSUMERS	Control Access Customer Experience	Trust Awareness Access Adoption
UNBANKED/UNDERSERVED	Access Innovation	Financial Exclusion Consumer Behaviour Business Case
TRADITIONAL BANKS	Commercial Market position	System Business Case Competition Risks
NON-BANK FSPS	Commercial Access	Competition
FINANCIAL SERVICES REGULATORS	Collaboration Fulfil Mandate Support	Frameworks Timelines Outcomes Risks
FINANCIAL MARKET	Consumer Benefits Financial Services Ecosystem Market Readiness	Standards Infrastructure Participation Outcomes Risks

4.3 Proposition 2: Implementation Frameworks

The second proposition of this study is: “If open banking is implemented in South Africa, it will be driven by regulation”. The questions presented to the participants and their responses under this proposition are presented and interpreted in this section.

4.3.1 Question 1.1 Implementation frameworks for open banking

The first question presented to participants under Proposition 2 is “Based on your understanding of Open banking in other markets, do you think South Africa will take a market-led or regulation-led approach to Open Banking?”

The responses to this question were varied with only half of the participants supporting a regulation-led implementation of open banking in South Africa (see Table 18). Those who supported a regulation-led implementation were Fintech 1 and 2, Bank 2 and 3 and the participant from Telco. Most participants felt the only way to get traditional banks to participate in open banking was through regulation while the participant from banking felt regulation was required in order to establish the guidelines for implementation. It was also noted that globally, open banking has followed a regulatory-led approach.

Table 18:

Implementation frameworks for open banking in South Africa.

	REGULATION	MARKET	BOTH	NOT SURE
PAYMENTS			✓	
FINTECH 1	✓			
FINTECH 2	✓			
FINTECH 3		✓		
REGULATOR 1			✓	
REGULATOR 2				✓
BANK 1				✓
BANK 2	✓			
BANK 3	✓			
TELCO 1	✓			

“So if you leave it to the banks – nothing will happen there will be endless conversations in ten years time, so without a doubt it needs to be regulatory”-

Telco 1

The participant from Payments and participant Regulator 1 suggested a hybrid approach. These participants felt that it would require a collaboration between the financial services regulators and fintechs, whereby the regulators would play an oversight role while the industry determines the actual standards.

“...there might be guidelines from the regulator but I think, like PASA does with so many other aspects not just card, they create those bodies where it can be discussed in a non-competitive manner to create the standard to make it

easier”- Payments 1

Participant Regulator 2 and participant Bank 1 were unsure of which model would be followed. Participant Bank 2 felt that ultimately consumer demand would determine which route would be followed while the regulator noted that while the FSCA policy paper favours a regulation-led approach, this was not an official position.

“Fintechs would want to take a market led and banks want to take a regulation led. It depends on at the end of the day what the customers demand.”- Bank 1

Fintech 3 was the only participant that favoured a market-led approach citing banks would want to start driving these conversations for their own benefit.

“I think the banks are going to try drive open banking sooner rather than later and allow it so I think we will probably see a facilitation of an open banking conversation a facilitation of standards by the regulators, um but then ultimately

I think a lot of it will be input from the market that will ultimately drive that”.-

Fintech 3

From the above it can be seen that there is not much consensus among stakeholders as to which implementation framework will be adopted in South Africa. even among the financial services regulators. However, most participants favour a regulation-led approach to implementation.

It is also relevant to note here that six of the ten participants (all the participants from banking, Fintech 2 and 3 and Regulator 1) acknowledged that open banking already exists in the South African financial market and is therefore currently market-led. However, they felt in the long term it would change to one driven or guided by regulation.

“There is already a number of open bank/ open finance solutions that exists, some of them take place in what we think of our less ideal methods like if you think of things like screen scraping... so these things are already taking place.”

– Regulator 1

4.3.2 Question 1.2: Timelines to open banking

In some interviews the discussion of timelines to open banking implementation arose. Although it was not a specific question in the study, on analysis it was found that one respondent from each stakeholder group (except from Telecommunications) gave their opinion. Thus it was agreed to include these results as shown in Table 19. Participant Regulator 1 was the most optimistic about the timelines to implementing open banking in South Africa, suggesting it could happen in a minimum of 12 months. This is interesting given the earlier findings that the market is concerned that the

involvement of the financial services regulators will slow down the implementation of open banking. However, participant Regulator 1 notes that:

“Hopefully mechanisms like the IFWG will help speed up the process um...in collaboration you know move the dialogue forward a bit quicker than one would expect if a regulator was moving on their own.”- Regulator 1

Fintech 3 felt it could take up to 3 years while two of the participants from banking felt it would take at least 5 years. The Banks felt it would take at least 5 years because of the time it takes to make any large-scale, internal changes in the banking sector. Additionally it was noted that open banking took almost 10 years to get implemented in the UK.

Table 19:

Timelines to open banking in South Africa

TIMELINES	
REGULATOR 1	1 Year
FINTECH 3	0 – 3 Years
BANK 3	5 Years
BANK 2	> 5 Years

4.3.3 Question 2: Funding for open banking

The second question under this proposition is “Who do you think will fund the developments required to enable open banking in South Africa?”

Most participants felt that open banking would be self-funded i.e. those who wanted to participate would need to cover their own development and implementation costs (see Table 20).

“Whoever is offering the service will absorb the cost.”- Fintech 2

Regulator 1 and Bank 3 were the only participants who did not support a self-funded model but were also not sure what the funding model would be. Interestingly, participants did not mention the government or any other stakeholders as a major source of funding for enabling open banking.

Table 20:

Sources of funding for open banking

	SELF-FUNDED	NOT SURE
PAYMENTS	✓	
FINTECH 1	✓	
FINTECH 2	✓	
FINTECH 3	✓	
REGULATOR 1		✓
REGULATOR 2	✓	
BANK 1	✓	
BANK 2	✓	
BANK 3		✓
TELCO 1	✓	✓

Some participants gave their opinions around how it would be funded. Most participants agreed that the majority of the development cost would lay with the banks to ensure interoperability but that there were ways to recoup this cost through new business models that include premium APIs or sorted bank data. For this reason, it was also suggested that if the implementation was regulation-led, the financial services regulators would likely mandate the fees related to API usage. Participant Fintech 2 felt that banks should be able to charge for access to their APIs for the following reasons:

“You could argue “ah ja, but it’s the customers data so why should they charge for it?” You know they’ve got to store the data, they’ve got to look after that

data, they've got to expose the API they've got to contain that API. They've got to have security in place, you know the responsibility that it comes with are expensive people that know what they are doing. I think it's right that they can charge a fee for it as long as it's you know a reasonable amount and I don't know how you work that out but I guess it's up to the regulators to do"- Fintech

2

4.4 Proposition 3: Open banking as disruptive innovation in financial services

The third and final proposition of this study is "Open Banking will be an enabler for disruptive innovation in financial services in South Africa". The questions presented to the participants and their responses under this proposition are presented and interpreted in this section.

4.4.1 Question 1: Open banking as a disruptive innovation

The first question presented to participants under Proposition 3 is "Do you think open banking will be a disruptive innovation in South Africa and in particular in driving financial inclusion?"

To enable participants to answer this question, the Theory of Disruptive Innovation of Bower and Christensen (1995) was explained to all participants. The majority of respondents (6/ 10) felt that open banking would not be a disruptive innovation in financial services, while four of the ten participants were not sure. Those who said "No" included all the participants from Fintech, two participants from banking and the participant from Payments. Those who were "Not Sure" included both financial services regulators, one participant from banking and the participant from Telco. None

of the participants felt that it would be a disruptive innovation. The results are summarised in Table 21.

Table 21:

Participant responses to open banking as a disruptive innovation in South Africa

	YES	NO	NOT SURE
PAYMENTS		✓	
FINTECH 1		✓	
FINTECH 2		✓	
FINTECH 3		✓	
REGULATOR 1			✓
REGULATOR 2			✓
BANK 1		✓	
BANK 2		✓	
BANK 3			✓
TELCO 1			✓

Participants who answered “No”, felt that the core services of a bank would not be replaced by new entrants in the short term and that the high barriers to entry of obtaining a banking licence, would make traditional banks difficult to intermediate.

“So, I don’t think banking will be disrupted by something like open banking because it is within the banking framework. Banking will be disrupted by crypto currencies or by some other um other technologies” – Fintech 1

Additionally, other stakeholders would step in to protect the banks if it was in the interest of the financial stability of the country e.g. the financial services regulators. Participants also viewed open banking as an enabler for driving financial inclusion rather than the solution as shown by a quote from participant Bank 1.

“Open banking could be an enabler if used properly, but it doesn’t actually give you financial inclusion.”- Bank 1

Interestingly neither financial services regulator were certain if open banking would be a disruptive innovation in South Africa citing that it was too early to tell, while the participant from Telco highlighted that open banking would only benefit people who already had bank accounts..

“I really do think it has the potential to be a disruptive innovation in South Africa, we might have to be quite lenient on time to implement but at the end it’s looking into a crystal ball”- Regulator 2

“at one level the answer is I don’t know because if these people don’t have banking services anyway then what good is open banking” – Telco 1

4.4.2 Question 2: Outcomes for the South African financial market

The second question posed to participants in this section was “If Open Banking was a disruptive innovation in financial services in South Africa, do you think traditional financial services providers could co-exist with the new entrants and/or challenger banks?”

From Table 22, nine of the ten participants answered that traditional FSPs would co-exist with the new entrants, if open banking was implemented in South Africa. Only participant Fintech 3 disagreed.

There were two main reasons why participants felt there would be a co-existence:

1) If open banking was driven by the regulator, the regulator would encourage co-existence to increase competition but also to manage the impact of any new entrants e.g. BigTech platforms like Facebook.

2) In the absence of regulation, the market would naturally move to co-existence as the new entrants partner with banks to create new/ enhanced product offerings that leverage the best from each stakeholder.

Table 22:

Participant responses to co-existence as a market outcome of open banking in South Africa

	YES	NO
PAYMENTS	✓	
FINTECH 1	✓	
FINTECH 2	✓	
FINTECH 3		✓
REGULATOR 1	✓	
REGULATOR 2	✓	
BANK 1	✓	
BANK 2	✓	
BANK 3	✓	
TELCO 1	✓	

The participant from Telco also noted that as the open banking environment matures, it is less likely that new entrants will be a threat to banks, as they will no longer need to become a bank in order to access consumer transactional data.

“I think those who don’t, the ones who try and be just a fintech or just a bank will be the ones that fail. The ones that co-exist will be the ones that succeed”-

Fintech 2

“...you going to see cross pollination of services um but it is going to be interesting to see how this happens because not everybody can co-exist, I don’t think in open banking everybody can co-exist”- Fintech 3

From the above there are two observations:

- 1) If open banking was a disruptive innovation in South Africa, it is likely that the regulator would favour co-existence.
- 2) However, in the absence of regulation it is anticipated that the market would naturally move toward co-existence due to the creation of mutually beneficial partnerships.

4.5 Summary of the findings

In this chapter the results of the 10 interviews conducted as part of this study were analysed and presented according to the research propositions they were related to.

A summary of the challenges and opportunities of open banking is presented in Table 17 and relates to Research Proposition 1. As discussed in Section 4.2.3 there were more challenges identified overall than opportunities especially for traditional banks. The implication of this will be discussed in the next chapter.

Proposition 2 seeks to understand participants’ views on the implementation frameworks for open banking in South Africa. As shown in Table 18, 50% of participants favoured a regulation-led approach, 20% felt it would be a hybrid approach

and another 20% were not sure. Only one participant (10%) from fintech felt South Africa would take a market-led approach. Although it was noted that open banking is currently market-driven, participants felt this would change in the short term. Timelines to open banking were discussed by a few participants and the results shown in Table 19. Estimates ranged from 12 months (regulator) to more than 5 years (banking) while fintechs felt it would be somewhere in between (0 – 36 months).

Next, the question of funding was posed to the participants. Most participants acknowledged that the bulk of the development costs would have to be borne by the banks as everyone would require access into their systems. Overall however, participants (70%) felt that it would be self-funded by the stakeholder that wanted access i.e. that whoever wanted to participate in open banking would have to fund their own development costs (see Table 20). 3 of the ten participants (30%) were unsure who would fund it. Some of the ways banks could recoup some of their costs were also discussed, However, participants noted that regulation may be required to ensure that banks do not create artificial barriers to entry.

The final research proposition of this study seeks to understand participants' views of open banking as a disruptive innovation in financial services. As shown in Table 21, 60% of participants felt it would not be a disruptive innovation because although open banking would provide access to more data it would not disrupt other core banking services which require a banking licence. Additionally, it might not be in the interest of the financial stability of the country to displace the traditional banks in the timeframes usually associated with disruptive innovations. Only 40% of participants were unsure if it would be a disruptive innovation given that there is currently no benchmark anywhere else in the world.

Although open banking was not viewed by participants as being a disruptive innovation, the participants were asked to give their opinion on what outcome they would expect to see in South Africa if it were a disruptive innovation. Most participants (90%) felt that ultimately both non-bank FSPs (new entrants/challenger banks) and traditional banks (incumbents) would co-exist in South Africa as shown in Table 22. Participants noted that either the regulator would support co-existence to meet its own objectives OR the market would self-regulate to co-exist as the shared value in partnerships enabled by open banking became apparent.

5 Discussion

5.1 Introduction

In this chapter, a review of the findings related to each of the three propositions put forward for this study will be presented and initial conclusions drawn. The chapter is divided into five sections, an introduction, a section for each of the three research propositions and a conclusion.

5.2 Discussion of findings related to Proposition 1

Proposition 1 states: *“Open banking is both an opportunity and a challenge for South Africa, as it is an innovation that will benefit many consumers but also disrupt the status quo of the financial services industry in South Africa”*

The benefits of open banking in emerging economies are theorised to be increased quality and rate of financial inclusion, increased competition in the financial market thereby reducing the concentration of incumbent banks, increased innovation in products and services, enhanced customer experience and most importantly, giving consumers control over their financial information (Giya, Kagee, & Thibane, 2021; IFWG, 2021; Plaitakis & Staschen, 2020; Zachariadis & Ozcan, 2017). These general benefits of open banking are compared to the benefits identified for the overall financial market in Chapter 4. Except for participant Bank 1, all participants in this study identified at least one opportunity for the financial market. The themes identified are: consumer benefits, benefits to the financial services ecosystem and South Africa's market readiness for new technologies. Benefits to the financial services ecosystem were identified by 80% of participants. These included benefits that arose by virtue of third parties having access to consumer transactional data, traditionally held by banks,

and included increased innovation and variety in financial products and services, and increased competition in the financial market. These findings therefore agree with the benefits identified in the literature review. Consumer benefits in relation to the overall financial market, relates to the general sentiment from participants in this study that in an open banking environment, the consumer is the ultimate winner, benefiting from increased access, choice and decreased costs. This is aligned with the benefits for consumers as identified by the OBIE (Open Banking Implementation Entity, 2020).

The only theme that was not identified as an opportunity for the market, in the author's review of the literature, was 'market readiness'. Several participants in this study highlighted South Africa's history of banking innovation and the fact that many FSPs have already launched marketplaces based on open standards, as evidence of the financial market's readiness to adopt open banking. Further, the young median age of South Africa's population was suggested by participants to be an indicator for their willingness to adopt new technologies. Market readiness, therefore, is a new opportunity that has emerged from this study.

Table 1, which summarised commonalities between the South African regulators on the opportunities and challenges for open banking, had only three stakeholders in common: consumers, third parties and banks. This aligned well with the stakeholders identified by the participants of this study. However, three other stakeholders were identified in this study that were not in common among the regulators. In this study, 'consumers' were sub-divided into average consumers and the unbanked/underserved, given that the latter are generally identified as being financially excluded and therefore have different needs to the 'average' South African consumer (Genesis Analytics, 2019). This study also noted the regulator as a stakeholder, in addition to the overall financial market. It is likely that financial services

regulators were not considered as stakeholders in the papers under review, as they were in fact the authors of these papers, communicating their respective positions on open banking/ open finance (IFWG, 2021; Mothibi, Lazaridis, & Rahulani, 2020). This study therefore, adds insights into the opportunities and challenges for this stakeholder group, which has not been analysed elsewhere, to the author's knowledge.

The next section discusses the findings of the common stakeholders in this study and compares it with the literature, in particular the findings of the South African regulators (see Table 1).

In relation to the opportunities for consumers, the regulators felt that increased competition in the market would result in reduced fees for consumers and a greater variety of products and services (Giya, Kagee, & Thibane, 2021; IFWG, 2021; Mothibi, Lazaridis, & Rahulani, 2020; NPSD, 2020). Consumers would also benefit from being able to exercise informed consent which would give them greater control over who was accessing their account information as well as their financial position (Giya, Kagee, & Thibane, 2021; Mothibi, Lazaridis, & Rahulani, 2020; NPSD, 2020). This aligns well with the themes of Control, Access and Customer Experience identified in this study.

In relation to third parties (i.e. non-bank FSPs), the regulators felt that access to bank data would lower the barriers to entry and 'level the playing field' for third parties wishing to participate in the financial services industry (Giya, Kagee, & Thibane, 2021; IFWG, 2021; Mothibi, Lazaridis, & Rahulani, 2020; NPSD, 2020). Further, they noted the commercial opportunities for third parties that result from greater access to the financial market (Giya, Kagee, & Thibane, 2021; IFWG, 2021; NPSD, 2020). These themes, which relate to access and commercial opportunities, were also identified by participants in this study, in relation to access to additional

sources of customer data and the opportunity for partnerships among non-bank FSPs, and traditional banks. The findings of this study therefore echo the general findings of the regulators.

Some of the opportunities for incumbent banks that were identified by the regulators included, the opportunity to create new products and services, and enhance existing ones (Giya, Kagee, & Thibane, 2021; Mothibi, Lazaridis, & Rahulani, 2020; NPSD, 2020). In this study, commercial opportunities for banks were also identified, in addition to the opportunity that banks have because of their market position. Their market position, if leveraged correctly could be used to steer the implementation of open banking in South Africa, as open banking will never be as efficient or “transformational” without access to their data. While the regulators collectively agree that the participation of banks is a challenge to implementing open banking, this study posits that it is also an opportunity for traditional banks.

From the literature, the major challenges associated with open banking in an emerging market context is access to high-quality, stable internet and secure networks that can support large data flows (Zachariadis & Ozcan, 2017). Challenges resulting from the social context of South Africa were also noted in the literature review as a critical enabler for open banking (IFWG, 2021; NPSD, 2020). These factors included access to reliable, affordable data, digital tools e.g. smartphones, and financial literacy around the benefits of storing money digitally (Deloitte, 2019; IFWG, 2021). These authors argued that without addressing the social issues facing those in the informal economy, that open banking may never truly enable financial inclusion (IFWG, 2021; NPSD, 2020). Another concern for regulators like the NPSD and the FSCA was the lack of standardised API's that could enable secure access to consumer information. These factors represent challenges that are relevant to the overall South African

financial market. The challenges relevant to this stakeholder group were analysed in Section 4.2.2.6 and shown in Table 16. Five themes were identified in this group, the most of any group, and included challenges around: Standards, Infrastructure, Participation, Outcomes and Risks. Risks, in relation to consumer adoption, timelines to open banking, the impact of regulation and concerns around data privacy and security, were the most common theme. This was followed by concerns around the lack of international benchmarks, the requirement for banks to participate in open banking, the cost of upgrading legacy systems and making systems interoperable and the lack of readily available, standardised APIs. These themes support the overall findings in the literature and expands on the challenges relevant to implementing open banking in an emerging market context. Specifically, challenges related to the socio-economic conditions that exist in emerging markets (the “adoption levers”), the costs of implementation and the impact of regulation.

Finally, in relation to the unbanked, it has been highlighted by Plaitakis and Staschen (2020) that in emerging economies open banking may not increase financial inclusion for those who are not already banked, for the structural and socio-economic reasons identified earlier. This was also highlighted in the study, particularly by the participant from Telecommunications. However, it was noted earlier in this study that South Africa is unique in sub-Saharan Africa, as it has a highly banked population but the quality of the banking relationship is poor (Deloitte, 2019). The distinction is made here because this study aims to provide a benchmark for future studies in an emerging market context. However, it can now be inferred that while open banking may increase financial inclusion in South Africa, it may not be able to achieve the same in other emerging economies, including those within sub-Saharan Africa, that have a large of proportion of unbanked consumers.

Given the discussion above, it can be seen that open banking will disrupt the status quo of the financial services sector in South Africa and therefore, the first proposition in this study can be said to be true.

5.3 Discussion of findings related to Proposition 2

The second proposition in this study is “*When open banking is implemented in South Africa it will be driven by regulation.*”

Most authors agree that there are only two implementation frameworks for open banking: market-led i.e. voluntary or regulation-led i.e. mandatory (Brodsky & Oakes, 2017; Giya, Kagee, & Thibane, 2021; Zeller & Dahdal, 2021). However, even in countries that are market-led, there is some regulatory oversight, usually provided in the form of guidelines (Giya, Kagee, & Thibane, 2021). An example of this is the Finance-As-A-Service playbook developed by the Monetary Authority of Singapore which provided guidelines on the creation and implementation of open-APIs in the Asia Pacific Region (Fintech news Singapore, 2021). As each country’s financial system is unique, and because open banking is still in its infancy, each country is taking their own approach to open banking. The implementation frameworks of four countries were reviewed in Section 2.6. The first two, the UK and Brazil, showed how implementation of open banking was achieved through regulation while Singapore and the USA highlighted market-led approaches (Mastercard, 2020; NPSD, 2020). The main difference between a regulation-led approach and a market-led approach is that in the former, open banking activities are legislated and overseen by a central body or regulator linked to the state e.g. the OBIE or the Central Bank of Brazil while in market-led frameworks, the state provides no regulations or timelines determining when or how open banking is implemented, leaving the market to develop at its own pace

(Giya, Kagee, & Thibane, 2021). In South Africa, no implementation framework has yet been proposed (NPSD, 2020) but in the absence of regulation, the market has moved ahead and a number of banks have already launched open banking platforms (Mothibi, Lazaridis, & Rahulani, 2020). However, insights generated in this study suggest that this may be temporary.

In this study, opinions around implementation frameworks varied with only half of participants agreeing that open banking would be regulation-led. This included most of the participants from fintech and banking, and the participant from Telecommunications. Only one participant from a fintech that felt it would be market-led, while the participant from payments and a financial services regulator felt it would be a hybrid approach. A hybrid approach is one where the implementation is predominantly market-led but under the supervision of the state/other state-owned entities. The remainder, a participant from banking and a financial services regulator, were not sure which framework would be implemented in South Africa. The results indicate that there is no consistency in opinions among stakeholders from the same industry or within the sample, which seems to indicate that there is little consensus, in general, around how open banking will be implemented in South Africa.

Given that 50% of participants supported a regulation-led approach, the findings of this study support the proposals put forward by the Competition Commission and the IFWG that South Africa take a regulation-led approach to open banking (Giya, Kagee, & Thibane, 2021; IFWG, 2021). However, given the number of open banking solutions developed by traditional and non-traditional FSP's that are already in market e.g. Old Mutual's 22Seven, Nedbank's API marketplace, Spot Money and TruID, South Africa is currently experiencing a market-led implementation to open banking. This suggests that a hybrid approach is the most likely outcome and

is aligned with the sentiment of one of the financial services regulators, that solutions for open banking will be jointly developed by the financial services industry and financial services regulators. Whether South Africa will move from a hybrid implementation to either a market-led or regulation-led approach in future, could form the basis for future research, using this study as a benchmark.

The timelines to open banking were discussed in four of the interviews. As highlighted in Section 4.3.2 there is misalignment between the various stakeholders as to when open banking could realistically be implemented in South Africa. One of the financial services regulators suggested the shortest timeline of 12 months, while two participants from banking agreed on a minimum of 5 years to implementation and a participant from fintech suggested a timeframe somewhere in the middle, of 0 to 3 years. It is easy to understand why the fintech would have the shorter timeline relative to the banks. Of course, it's part of the reason why fintechs have been so disruptive across the globe, as they are known to be agile and able to do things faster than traditional banks (Genesis Analytics, 2019). This is supported by a participant from banking who referred to traditional banks as being like "the Titanic". It is therefore not surprising, that the participants from banking supported a longer implementation timeline. However, it is the timeline from the financial services regulator that is the most interesting, given that South African financial services regulators have in this study, been criticised for delaying the implementation of financial services projects. The regulator notes however, that due to collaboration with industry stakeholders, the timelines to open banking should be shorter than if the regulators were working on their own.

As a result, it remains unclear what the timelines to open banking in South Africa will be. This has major implications for all industry stakeholders as this directly

impacts their business strategy and budgets in the short and medium term. For fintechs especially, the difference between 3 and 5 years to implementation could mean the difference between a viable and a non-viable business case for open banking.

Most authors agree that the costs associated with implementing open banking are very high, especially for the banking sector which would need to upgrade its systems to make them interoperable with other third parties, while maintaining data security (IFWG, 2021; Mothibi, Lazaridis, & Rahulani, 2020). However, third parties also need to develop systems that can access banking data securely and may also have to pay for access to bank data. In the United Kingdom, as a penalty related to findings by the CMA of anti-competitive behaviour among the 9 largest banks, these 9 banks were forced to fund a central open banking entity (the OBIE) and the creation of a set of interoperable API standards that were freely available to the market. Therefore, an integral part of the open banking discussion is how open banking might be funded in South Africa.

Many authors highlight the cost of implementation as a challenge e.g. Mothibi, Lazaridis, & Rahulani (2020), while others have proposed ways in which banks can recoup some of these costs e.g. Brodsky and Oakes (2017), but to the author's knowledge there is no available literature on who will fund open banking in South Africa, specifically. This study aims to fill that gap. Most of the participants in this study (70%) agree that open banking in South Africa will be self-funded, while the rest (30%), were unsure (see Table 20). Those who were unsure felt that it was too early to tell. All other participants felt that anyone who wanted to participate in open banking would need to fund their own development costs. This outcome is probably largely driven by the current financial market, where banks and fintechs have launched their own

offerings into the market, at their own expense. Some participants in the study speculate that for the incumbent banks, they have launched these propositions to enable a first-mover advantage in anticipation of regulation, in the hope that the regulator will mandate a solution that is already widely used in the market. This would mean much lower development costs for the bank whose APIs are selected as the standard API, and that bank would ultimately steer the open banking implementation for the entire financial market.

It is interesting that none of the participants suggested that majority funding for open banking be provided by the South African government or other state agencies. Either self-funding implies that the government will need to cover the parts relevant to it or participants do not feel that funding from the state is an option.

To conclude, this study proposes that:

- 1) The implementation framework for open banking in South Africa will be hybrid, driven by the financial market and overseen by the regulator.
- 2) Open banking will be self-funded by the stakeholders who wish to benefit from open banking. The state is not viewed as a potential source of funding in South Africa.

5.4 Discussion of findings related to Proposition 3

Finally, proposition 3 states: *“Open banking will be an enabler for disruptive innovation in financial services in South Africa.”*

It is evident from the literature review and the results presented in this study that open banking will shake up many segments of the financial services industry especially those of traditional banks, as incumbents are forced to re-evaluate their

business models and shift toward more customer-centric ways of doing business (IFWG, 2021; Mastercard, 2020). Due to the popularisation of the Theory of Disruptive Innovation of Bower and Christensen (1995), which sought to explain the phenomenon of newer, smaller entrants outcompeting incumbent industries over time, many new technologies, products and services aka 'innovations' that have had unexpected success in the market, have been incorrectly labelled as 'disruptive innovations' (Christensen, Raynor, & Macdonald, 2015). However, for an innovation to be deemed disruptive, it needs to firstly, attract a low-end of the market or a new market that the incumbents are not focussed on (Bower & Christensen, 1995). Innovations that are targeted at improving the service offering of mainstream consumers, like the e-hailing service, Uber, are defined as 'sustaining innovations' (Christensen, Raynor, & Macdonald, 2015). In this study, we noted that one of the perceived benefits of open banking is to improve the financial wellbeing of the unbanked/underserved, who represent the low-end of the consumer market in South Africa (Deloitte, 2019). In the South African context then, open banking/open banking-enabled solutions meets the first criteria of a disruptive innovation. Secondly, an innovation is only truly disruptive when it is able to displace the incumbents over time (Bower & Christensen, 1995). In the original work of Bower and Christensen (1995) they proposed a two-state outcome for disruptive innovation where either the incumbent fails, or the new entrant fails. However, the two-state outcome has been argued by Katsamakos and Georgantzas (2010) to not sufficiently account for all the outcomes that disruptive innovation can have, especially as it relates to innovation in the open-source software industry (Katsamakos & Georgantzas, 2010). They propose a three-state outcome for disruptive innovation (see Figure 2), which includes co-existence of the new entrants and incumbents. Their work forms the theoretical basis for this study as open banking is based on open standards (Zeller & Dahdal, 2021). As open banking has not yet

been implemented in South Africa, there is an opportunity to capture the most current thinking in relation to open banking and its potential to be a disruptive innovation in financial services, and to provide a benchmark for future analysis.

According to the results of the study, none of the participants felt that open banking would be a disruptive innovation in financial services. Of these, only four of the ten participants were 'not sure' while the majority (six) answered 'No'. The reasons why open banking was not viewed as a potential disruptive innovation in financial services are:

1. Participants felt that open banking/open banking-enabled solutions would not be able to increase financial inclusion on its own given the 'adoption levers' that were required to create an enabling environment for open banking.
2. Participants felt it was unlikely that incumbents would be displaced by new entrants because of the high barriers to entry of obtaining a banking licence in South Africa and the fact that there may be market resistance to any innovation that has an impact on the financial stability of the country.

An example of a stakeholder that would be interested in the impact of open banking on the financial stability of the country, includes the financial services regulators. Interestingly, both regulators interviewed in this study, indicated that they were not sure if open banking would be a disruptive innovation, citing that it was too early to tell.

Given the above, this study proposes that open banking will not be a disruptive innovation in financial services in South Africa.

Although the majority of participants did not agree that open banking would be a disruptive innovation in financial services and in driving financial inclusion, they were asked what they thought the market outcome would be if open banking/open banking-enabled solutions were a disruptive innovation. Overwhelmingly, 90% of participants responded that the market outcome would be co-existence because either, the regulators would step in to create a 'level playing field' for new entrants and to ensure financial stability, or the market would naturally steer towards co-existence as the stakeholders in the ecosystem began to realise the value of partnerships. These findings support the work of Katsamakos and Georgantzas (2010) that co-existence is a likely outcome of disruptive innovations that are borne out of open-source software innovation. It further supports the extension of the two-state outcome for disruptive innovation originally proposed by Bower and Christensen (1995) to three as proposed by Katsamakos and Georgantzas (2010). This research also aimed to identify the role, if any, of the regulator in driving any of these outcomes. The results of the study suggest that the regulatory environment is a factor that can influence whether an open-source software innovation co-exists with or outcompetes the incumbents existing technology.

5.5 Initial conclusions

The aim of this study was to provide an analysis of the current state of open banking in South Africa and to provide a benchmark for future studies.

The results of the ten participant interviews were discussed in relation to the available literature to provide insights into the research propositions of this study. Several findings were made that supported and added to the available literature on open banking and included insights related to the benefits and challenges of open

banking in the South African market, potential implementation frameworks, and outcomes of open banking in relation to the Theory of Disruptive Innovation. Other findings were relevant only in the context of emerging markets such as the influence of ‘adoption levers’ in creating an enabling environment for open banking.

The conclusions of the study in relation to each of the research propositions are summarised in Table 23.

Table 23:

Conclusions of the study in relation to the research propositions

	Propositions	
1	Open banking is both an opportunity and a challenge for South Africa as it is an innovation that will benefit many consumers but also disrupt the status quo of the financial services industry in South Africa	True
2	When open banking is implemented in South Africa it will be driven by regulation	False
3	Open Banking will be an enabler for disruptive innovation in financial services in South Africa	False

6 Conclusions

6.1 Introduction

In this chapter the findings of the research are presented in relation to the research questions outlined in Section 1.4. This chapter is divided into six sections, an introduction, conclusions for each of the three research questions, conclusions of the study and recommendations for stakeholders, and suggestions for future research.

6.2 Conclusions regarding research question 1

The first question posed in this study was: “What are the opportunities and challenges in implementing open banking in South Africa?”

An in-depth analysis of the opportunities and challenges for open banking in South Africa, as identified in this study were presented in Section 4.2. The stakeholders identified in this study that were impacted by open banking were: consumers, the unbanked/underserved, traditional banks, non-banks FSP's, the financial services regulators and the overall financial market. The stakeholders identified in the literature by four South African regulators (the Competition Commission, the IFWG, the FSCA and the NPSD) were: consumers, traditional banks and third parties. This study therefore, proposes the addition of two other stakeholders, namely the unbanked/underserved and the financial services regulators themselves.

The opportunities and challenges identified per stakeholder in this study, were grouped into themes and are summarised in Table 17. The themes identified, echoed the findings of similar research undertaken by these regulators (see Table 1).

While the findings of the study generally support the widely accepted notion that consumers will be the biggest winners in open banking environments, it also highlights that in emerging economies, these benefits may be limited to those who are already using financial services and are also digitally enabled, which may result in financial exclusion rather than inclusion. In this study, these socio-economic challenges, are viewed as adoption levers that must be overcome in order for the benefits of open banking to be realised. This study therefore, supports the findings of the NPSD and IFWG that structural and social issues need to be effectively addressed before open banking will benefit all consumers in South Africa, and proposes the same for emerging economies in general.

6.3 Conclusions regarding research question 2

The second question posed in this study was “What should be the acceptable framework for open banking in South Africa: market-led or regulation-led?”

As open banking is still in its nascent stages globally, there exists no framework or benchmark that defines whether a country should take a regulation-led or market-led approach to open banking. However, in South Africa two regulators, namely the Competition Commission and the FSCA, have proposed a regulation-led implementation, to ensure that the incumbent banks participate effectively. Although responses to this question in the study were varied, 50% of participants felt that South Africa would take a regulation-led approach. However, as already noted, in South Africa open banking initiatives are currently being led by the market so a more realistic outcome is that it will become a hybrid implementation.

6.4 Conclusions regarding research question 3

The third and final research question in this study was: “Can open banking be an enabler of disruptive innovation in financial services in South Africa?”

While open banking in an emerging country context like South Africa meets the first criteria for a disruptive innovation i.e. that it is aimed at a low-end consumer, this study highlighted that it does not meet the second criteria of being able to displace the incumbents in the long term. It was highlighted that open banking would not take away the fiduciary requirements of becoming a bank in South Africa which includes acquiring a banking licence. Therefore, this study further concludes that disintermediation of incumbents by new entrants and even BigTech firms in the short-to-medium term, is unlikely.

This study also sought to provide insights into the impact of regulation in driving disruptive innovation outcomes. The study highlighted that regulation can be an enabler in encouraging co-existence of incumbents and new market entrants. However, the study also found that in the absence of regulation, the market may tend to co-existence anyway, as incumbents and new entrants begin to realise the benefits of partnerships. Indeed, in South Africa, the incumbents have already launched their own open banking solutions into the market in the absence of regulation, which suggests that they are already exploring the potential to realise value through partnerships.

This study thus proposes that open banking can be a disruptive innovation in financial services in South Africa if supported by regulation. However, in the absence of regulation, it is unlikely to be a disruptive innovation.

6.5 Conclusions of the study

While the overall aim of this research was to provide insights into the challenges and opportunities of implementing open banking in South Africa, several other findings emerged that were highlighted and discussed in Chapter 5. However, the most significant ones, are highlighted below:

- In emerging market contexts, two additional stakeholders need to be considered: the unbanked/underserved and financial services regulators
- Market readiness as a key opportunity for the financial market
- The market position of banks as a key opportunity for the banking sector
- Distinguishing between the unbanked and the underserved in relation to driving financial inclusion in emerging economies
- Currently there exist more challenges to implementing open banking in South Africa than opportunities
- South Africa will take a hybrid approach to implementing open banking
- Funding for open banking will come from those who want to participate
- Open banking will not be a disruptive innovation in financial services in South Africa

While there are many benefits to implementing a system like open banking in South Africa, this study shows that there are numerous challenges that need to be overcome particularly in relation to implementation frameworks and if the anticipated benefits can be realised in an emerging market context. This study therefore, is a baseline for future research in South Africa in relation to developments in open banking.

6.6 Recommendations

This study has highlighted that there is much uncertainty around the role that financial services regulators will play in the implementation of open banking in South Africa. This needs to be urgently addressed. Currently the approach is market-led by a few banks and fintechs, yet two regulators have proposed a regulation-led approach. The financial services regulators thus need to agree on whether they will drive or guide the implementation in South Africa. However, as highlighted by the regulators themselves and supported by the findings in this study, it is unlikely that South African banks will fully embrace open banking without regulation. Therefore the financial services regulators must, at the very least, provide guidance to the financial market in relation to open banking in the short term.

One of the areas in which the financial services regulators could provide guidance is in the establishment of a standardised framework for open banking APIs for South Africa. Similar to Singapore, where the MAS created a guideline for the development of open APIs, the financial services regulators in South Africa could create a similar playbook or list of requirements that should be adhered to when creating open APIs. As the banks are not currently incentivised to participate in open banking and smaller businesses have limited budgets, the development of open APIs will be severely limited until an overarching framework is developed.

Defining the timelines to open banking, is another area in which the financial services regulators can provide guidance. The findings in this study highlighted the misalignment between the various financial services industries on the timelines to open banking in South Africa. It is therefore recommended, that the regulatory bodies who are currently driving industry discussions such as the IFWG, focus future

discussions on defining these timelines as this will drive the development of the entire ecosystem.

Overall, this study highlighted that at present, there appears to be more challenges to implementing open banking than opportunities for the South African financial market. Additionally, as highlighted by one of the participants from banking, the economic climate that South Africa finds itself in does not lend itself to investment projects of this magnitude. It is therefore recommended that open banking take a phased approach in South Africa which will allow for continuous evaluation and benchmarking with other markets.

Finally, more work needs to be done from a legal and regulatory perspective to support the drive to open data initiatives such as open banking and open finance. Currently the POPI Act is the only legislation governing how personal information is used in South Africa. Therefore additional frameworks are required to govern, for example, how data is shared, how different types of data are defined and who can access these, liability for data breaches/cyberattacks/fraud/systems failures as well as dispute mechanisms for consumers, to retain consumer trust in the system.

6.7 Suggestions for further research

The outcomes of open banking in South Africa were not part of the scope of this study, although it was found that the role of traditional banks might shift fundamentally in an open banking environment. Future research could explore some of these outcomes which includes platform-based business models like Banking-As-A-Service.

Traditional banks, however, are not the only stakeholders who will need to redefine their place in the market. As open banking enables everyone access to the

same information, it may become increasingly difficult for fintech's and other FSP's to differentiate themselves in the market. As open banking is in its nascent stages, the business models that will emerge when the ecosystem reaches saturation of products/services, are yet to be defined and could form the basis for new research in the field of management studies.

Within the realm of open finance, an extension of open banking, there are many opportunities for future research that can build on the work already done by the FSCA. Future research could focus on identifying the key enablers for moving South Africa from open banking to open finance, and whether open banking is a precursor to open finance in the South African context. Open finance for the unbanked/underserved is particularly interesting as it does not rely on consumers having a bank account. They could transact with a mobile wallet from a mobile operator or retailer for example, and bolt on a variety of products like insurance or investments, at the same time building a new kind of 'credit profile' with their data holder. Future research should explore some of these possibilities for the unbanked/underserved, as this may open new business models for this segment.

Finally, future research should focus on defining what 'informed consent' means in the South African context. Given that language is a barrier for many South Africans, ensuring that everyone who has access to open banking, understands how it works and the risks involved, is of utmost importance. Informed consent also needs to be balanced with the impact on customer experience. For example if customers are required to consent to too many requests, they may lose interest in using the service which may drive down usage or adoption. Future research could explore the relationship between these two variables.

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Appendix A

Interview Guide

Objective	Research questions	Interview questions
Introduction	None	<ul style="list-style-type: none"> • Purpose of the study • Confirm consent
Respondent background information	None	<ol style="list-style-type: none"> 1. Current Role 2. Professional experience relevant to Open banking
To explore the challenges and opportunities of implementing Open Banking in South Africa	What are the opportunities and challenges in implementing open Banking in South Africa?	<ol style="list-style-type: none"> 3. In your opinion are there any benefits to implementing Open Banking in South Africa? 4. What do you see as major challenges to implementing Open Banking in South Africa?
To explore open banking and open banking-enabled solutions as enablers of disruptive innovation		<ol style="list-style-type: none"> 5. Do you think open banking will be a disruptive innovation in South Africa and in particular in driving financial inclusion? 6. If Open Banking was a disruptive innovation in financial services, do you

		think traditional financial services providers would co-exist with the new entrants and/or challenger banks
To explore the potential frameworks for implementation of Open Banking in South Africa	What should be the acceptable framework for Open Banking in South Africa: market-driven or regulation-driven?	<p>7. Based on your understanding of Open banking in other markets, do you think South Africa will take a market-led or regulation-led approach to Open Banking</p> <p>8. Who do you think will fund an Open banking platform in South Africa</p>

Appendix B

Ethics Clearance Certificate

Graduate School of Business Administration
University of the Witwatersrand, Johannesburg



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

Ethics Clearance Certificate

Ethics protocol number: WBS/DB2289025/579

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

Project title	Opportunities and challenges of open banking in South Africa
Investigator / Researcher	Ms Tanya Dreyer
Nature of Project	MM (Digital Business)
Decision of the Committee	Approved, provided stakeholders and participants are guaranteed confidentiality.
Issue Date of Certificate	2021-08-18
Expiry date	Date of submission of the project report
Chairperson	Prof Anthony Stacey ☎ +27 11 717 3587 📱 +27 82 880 4531 ✉ anthony.stacey@wits.ac.za

Declaration by Researcher

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

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

Signature

19 August 2021

Date: