Financial Technology in the Namibian financial market space: Regulation and supervision

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

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Table of Contents

ABSTRACT

Innovation in financial technology, referred to as “FinTech” is rapidly transforming the global financial sector. In achieving Namibia’s strategy to enhance access to the level of financial inclusion in Namibia, FinTech plays a vital role in achieving financial inclusion because it offers consumers, businesses and governments convenience, efficiency and security to financial products. However, FinTech brings risks to both consumers and the financial system.

This study focuses on the benefits of financial innovations in the Namibian financial sector, the objective of regulation and supervision of FinTech, as well as the best approach to employ to successfully regulate and supervise the institutions and products to achieve consumer protection and financial stability.

Given the novelty of FinTech in academic research and that the research problem has not been sufficiently studied in the Namibian context, a qualitative research design is adopted. In depth, semi-structured interviews were conducted in English with different stakeholders from the financial services industry. The literature review and research questions provided sufficient information to develop appropriate interview questions.

The responses to interview questions were analysed and summarised and it was found that FinTech start-ups are growing at a very slow pace in the Namibian space and that limitations in laws, lack of IT infrastructure and the small population size are some of the factors hindering FinTech start-ups in Namibia. Overall, there is a perception that although FinTech start-ups exist in Namibia, they exist mostly in the banking space and they are highly unlikely to take over financial institutions. It is found that there is likely to be a more collaborative approach between financial institutions and FinTech start-ups.

DECLARATION

I, Valentina Nghipandua, declare that the research work reported in this dissertation is my own, except where otherwise indicated and acknowledged. It is submitted for the degree of Master of Management in Finance and Investment at the University of Witwatersrand, Johannesburg, South Africa. This thesis has not, either in whole or in part, been submitted for a degree or diploma to any other universities.

15 October 2021

Signature of Candidate Date

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1. INTRODUCTION

This section provides an introduction to the study. In the background of the study, Financial Technology is described and the role of financial innovations in the country is introduced. Contextual information to the motivation of the study and the problem statement is provided. This is followed by the research objectives. The significance of the research is reviewed, and the chapter is concluded by introducing and mapping out the chapters in this study.

1.1 Background

The global economy is perhaps experiencing an exciting era in the modern history of financial services. It is explained that the swift acceleration of technology is enabling a redesign of the structure and processes of the financial institutions, while at the same time welcoming the entrance of innovators with the potential to transform the traditional order of the financial services (Arslanian & Fischer, 2019).

Innovation in financial technology, referred to as “FinTech” is rapidly transforming the global financial sector. FinTech is defined as, a financial innovation through the use of technology introducing new products, business models, processes and applications in financial services (Financial Stability Board, 2019). Financial innovations are perceived as key factors of success for modern business entities (Arslanian & Fischer, 2019). In addition, FinTech generates new opportunities, reduces operational costs, provides easy access to capital and provides better and faster services. FinTech therefore, could be argued to have potentials to improve financial inclusion and financial integration.

FinTech is used to describe new technology or new innovation that seeks to automate and improve the delivery and use of financial services. In other words, FinTech explores cheaper and faster ways in financial services. Experts suggest that at its core, FinTech utilises algorithms and software on computers and smartphones to bring solutions to companies and consumers by efficiently managing business processes and operations. FinTech is all about digital innovation, developing new technology strategy to existing business processes, or adopting and implementing new software or platforms.

Similarly, Abel (2019) suggests that financial innovation can advance the financial services industry and accelerate economic growth. Financial innovation has further revealed an increase in the material wellbeing of economic players, an increase in various products available and encourages savings to ensure these resources are channelled to the most productive uses (Abel, 2019). It has also assisted as an alternative credit facility to assist refinance obligations while allowing for better allocation of risk (Abel, 2019). Financial innovation not only promotes greater efficiencies, it minimises the cost of capital, allowing the smoothing of consumption and providing investment decisions with considerate benefits for households and organisations. Abel (2019) concludes that financial innovation introduces new products that deepen the financial markets and successively, fosters economic development and most importantly promotes financial inclusion.

Financial inclusion in Africa is a challenge, as more than 80% of the population is unbanked and a bigger challenge is the lack of last-mile access for financial agencies (Parag, 2018). The absence of enough ATMs and bank branches coupled with limited road connectivity is also an issue to most of the people residing in rural areas. Therefore, trade in most of the remote villages and towns is usually done through mutual understanding or community payment mechanisms. The introduction of mobile money through multiple telecom providers in partnership with FinTech's has therefore revolutionised the entire payment industry in Africa (Parag, 2018). Since mobile money can be delivered and exchanged through a mobile, and Africa having near-complete mobile penetration, it is easy and available to most people with phone devices to carry out transactions using mobile money. This has also helped telecom companies and FinTech start-ups to work together to ensure the credibility of the respective mobile money is maintained (Parag, 2018).

The Financial Stability Board has determined the number of possible benefits as well as risks that the global financial system may face as a result of the digitalisation of finance. In this regard, ongoing monitoring of digitalisation trends is adopted to assist in employing the benefits while mitigating risks. This includes the analysis of the financial stability implications of technological innovation. In this regard, the Financial Stability Board has identified risks that require the authorities' attention, and the following three areas were observed as priorities for global collaboration;

- managing third-party service providers' operational risk
- mitigating cyber risks and
- monitoring macro-financial risks resulted from Fin-Tech activities' (Financial Stability Board, 2019).

Shipalana (2019) explains how the transformation to Digital Financial Services ("DFS") carries new risks for consumers. DFS risks may pose serious threats to the financial well-being of individuals and entrepreneurs if they are not properly addressed. Further, DFS risks can result in a range of adverse outcomes such as;

- Less usage of technological innovation due to lack of trust;
- Exclusion of certain groups or users due to the affordability of smartphones and computers;
- Increased self-exclusion owing to a lack of familiarity with new products as a result of innovation as well as low levels of financial and digital literacy;
- Over subscription of digital credit facilities by consumers as there is no human interface; and
- Consumers are exposed to possible cyber risks such as account hacking and data theft (Shipalana, 2019).

Globally, even with the risks associated with FinTech, financial institutions such as commercial banks, investment firms and insurance firms are substantially investing in FinTech. However, regulatory authorities are actively getting involved, creating a regulatory and supervisory landscape for FinTech.

FinTech products do not necessarily fit the customary regulated financial markets space and regulatory uncertainty of FinTech institutions and products discourages investments from consumers. Investors are hesitant to invest in products operating in an unregulated space, therefore, FinTech companies are more likely to support being regulated. In general, FinTech regulation will touch on consumer protection, financial stability and compliance with anti-money laundering regulations (Association of Supervisors of Banks of the Americas, 2019).

There is a wide range of areas where FinTech is transforming financial services and altering the way financial consumers access and make use of financial products. Such vast areas include mobile payments, blockchain and cryptocurrency, lending, Robo-advising, stock-trading applications, personal finance, international money transfers and equity crowdfunding.

Financial services deals with people's savings and is considered the lifeblood of a modern economy and thus why it is highly regulated. FinTech has, to date, escaped regulation as it is new in markets. Because of the lack of scale, FinTech has thus far mostly escaped regulation. However, this is coming to an end, as regulation on FinTech is slowly being adopted as it is in traditional financial services (Loesch, 2018).

1.2 Motivation for the study and problem statement

In recent years, various FinTech products such as mobile payments, mobile money and equity crowdfunding have been introduced in the Namibian financial services space. It is only a matter of time before more technology-based financial solutions enter the market. However, new financial innovations pose risks to the investors and the financial system such as cyber events, theft of funds and technology failure.

Didenko (2018) argues, similar to any innovation in financial, technological and legal reality, FinTech is fundamentally disruptive to any legal system. Often, the existing regulatory frameworks do not cater for FinTech and as a result, regulators are challenged in producing an appropriate position or response. He further emphasises, for Fintech to contribute to positive social change, there should be adequate and timeliness of legal response to FinTech solutions. He does, however, state that it is relatively common that regulatory feedback to financial innovation is incomprehensible, erratic or overdue (Didenko, 2018).

The financial services sector of which Fintech forms a part is known to have comprehensive regulatory supervision and constantly attracts regulatory attention. Because the business of FinTech is relatively different from the business of the constantly regulated traditional banking system, financial supervisors across the globe are gradually developing new regulatory approaches towards FinTech (Didenko, 2018).

While FinTech will benefit the Namibian financial services and the economy at large, the development of an appropriate regulatory framework within adequate timelines is vital for consumer protection and financial stability.

Didenko (2018) illustrates the reasons that validate the establishment of FinTech-specific rules:

a) Current regulatory frameworks do not support financial innovation products and business models.
b) FinTech solutions are inclusive of unsophisticated consumers therefore requiring additional protection.
c) FinTech introduces rapid developments in the financial services sector requiring Regulators to develop new regulatory approaches to cope.
d) The delivery of financial services may be decentralised, disintermediated and to a certain degree, concealed by FinTech, which may influence some regulators to foster develop new methods of exercising "domestic" control and oversight (Didenko, 2018).

In this paper, we examine the benefits of FinTech influx on the Namibian economy and the feasibility of implementing a successful regulatory and supervisory framework.

1.3 Research Objectives

Due to the identified concerns on FinTech start-ups and the need for regulation, the objectives of this research include, highlighting the benefits of FinTech influx into the Namibian financial market space. Secondly to examine the most appropriate way to successfully regulate and supervise FinTech start-ups and their products. To achieve the above-mentioned objective, this research will address the following questions:

1. What are the benefits of FinTech influx into the Namibian financial market space?
2. What is the overall objective of FinTech Regulation?
3. What are the best possible approaches of regulation and supervision to FinTech start-ups in Namibia?

1.4 Significance of the research

Namibia has a developed financial system that comprises a variety of financial institutions, majority of which are private. The banking sector is well-capitalised, very profitable, and matured. The Nonbank Financial Institutions (NBFI) sector is comparatively large (around 140 percent of Gross Domestic Product (GDP) on net asset basis). Asset Managers play a central role in connecting institutional investors, largely made up of a fully funded government pension fund, to financial markets and banks (International Monetary Fund, 2018).

The “Namibia Financial Sector Strategy 2011-2021: Towards Achieving Vision 2030”, was developed and adopted by the government to address and develop the weaknesses of the Namibian financial sector. The charter sets strategies to be implemented to enhance access to financial products and services to the disadvantaged segment of society to essentially increase the level of financial inclusion in Namibia.

FinTech offers consumers, businesses and governments’ convenience, efficiency and security to financial products. FinTech therefore promotes greater financial inclusion by enabling those without access to the formal banking system or investment firms or the stock market to access financial services. The study focuses on the benefits of allowing financial innovations in the Namibian financial sector and successfully regulating and supervising the institutions and products to achieve consumer protection and financial stability.

This study gives regulatory authorities, banking institutions, non-banking institutions, Fin-Tech start-ups and interested parties an insight in digitisation and innovations in the Namibian financial services industry. The study outlines the perspectives of informed respondents on the following matters;

i) Impact of FinTech start-ups on financial institutions
ii) Factors hindering FinTech start-ups in Namibia
iii) Governments role in the promotion of FinTech
iv) Risks and Benefits associated with FinTech
v) Approach of regulation and supervision of FinTech.

1.5 Paper Outline

This chapter provides an introduction to the study and contextual information to the research problem. The motivation for the study is elaborated and the significance of the study is discussed.

Chapter 2 provides a brief literature review, summarising the drivers of digital transformation, the evolution of FinTech, FinTech regulatory landscape, as well as some available Fintech product and services.

Chapter 3 of the paper highlights the design and methodologies that were used to analyse the data. It includes a description of how the data was collected and the statistical techniques that were used to analyse the data. The nature and form of the data are deliberated. Moreover, the limitations of the study and any ethical considerations that may have arisen are discussed and explained if required.

Chapter 4 highlights and summarises the responses from the interview questions. The responses are analysed according to the themes, namely; 1) Definition of FinTech, 2) Opinion on FinTech Companies in Namibia, 3) FinTech Companies taking over financial institutions and likelihood to fail, 4) Organisational strategies in responding to FinTech influx in Namibia, 5) Benefits of FinTech, 6) Risks associated with FinTech, 7) Factors hindering FinTech start-ups in Namibia, 8) Governments role in the promotion of FinTech in Namibia, 9) Objective of regulation and supervision of FinTech, 10) Approach of regulation and supervision of FinTech, 11) Challenges faced by Regulators and suggestion for Regulators to employ in preparation for FinTech start-ups, 12) FinTech start-ups fined or blacklisted if non-compliant, 13) RegTech as a tool by financial authorities and 14) FinTech companies thriving in Namibia.

Chapter 5 provides a conclusion to the study, including the summary of findings, policy recommendations, and recommendations for future research and limitations to this study.

2. LITERATURE REVIEW

This section aims to provide an enriched understanding of the FinTech concept. It gives insight on the evolution of FinTech. The types of FinTech are described in depth. The section further outlines the benefits of FinTech in an economy and the ways in which FinTech promotes financial inclusion. The regulation and supervision of FintTech is discussed and lessons from other countries are explored.

2.1 Financial Technology

FinTech is used to describe new technology that pursues to automate and improve the delivery and use of financial services. Therefore, FinTech can be broadly defined as technological innovations in the area of financial services. Presently, FinTech has been commonly used to refer to the most advanced or latest digital financial service, automated Robo-advisory in financial services or online peer-to-peer lending platforms (Didenko, 2018).

Information Technology is the enabler for innovative financial solutions in FinTech, and is most likely used by start-up financial services companies, including asset managers, banks and insurance companies. This viewpoint is maintained by recent literature that identified three most discussed topics of FinTech, which include: (1) the application of technology in finance, (2) start-ups, and (3) services (Zavolokina, Dolata, & Schwabe, 2016).

Puschmann (2017) argues that FinTech has a significant impact on the financial services industry as well as financial products. Financial services products are mostly based on information, therefore, FinTech reveals the development of information technology- induced transformation (Puschmann, 2017). Some of the drivers of the technology-induced transformation are;

- *Changing role of IT:* The automation of financial services companies' existing business processes has been enabled by new developments in information technology (IT) in conjunction with big data, the internet of things, cloud and social computing. To this end, financial services business and processes have been entirely remodelled providing new products and services (Puschmann, 2017).

- *Changing consumer behaviour:* Financial service companies' channel management has been reorganised resulting in less client interaction and more customer self-service. This is as a result of an increase in the use of electronic interaction channels by customers leading to various financial service companies resizing branch and agent arrangements (Puschmann, 2017).

- *Changing ecosystems:* Over the past decades, traditional banks and insurance companies have resized their internal operations by outsourcing more leading to a more focused specialisation. The resizing in financial services companies started in their back offices and it has now moved to their front offices too. This has led to a completely new ecosystem for firms comprising FinTech start-ups and Incumbents as well as companies outside of the financial services industry (Puschmann, 2017).

- *Changing regulation:* Countries have launched proposals to be lenient and minimise entry requirements for Fintech start-ups to be more inclusive. This is done having in mind the 2008 financial crisis which led to an increase in regulation across the financial services industry (Puschmann, 2017).

2.2 The Evolution of FinTech

There is a long history in the connection of finance and technology. The interlinkage of finance and technology has evolved together over three distinct eras. The evolution of financial technology can be observed from a series of episode that digitised the finance sector. FinTech developments have been traced back to the 1900s. The chronology of FinTech developments for the last 100 years displaying ongoing innovation and evolution of technology is depicted below (Gergely, 2019);

FinTech 1.0 1866 to 1967: During this era for the first time telegraphs, steamships and railroads enabled the transmission of financial information between countries. This was done through technology and is known as the first period of globalisation in the financial space. During this period, the US Federal Reserve Bank developed the first electronic fund transfer system (Gergely, 2019).

Similarly, in their article on FinTech, (Abad-Segura, Gonzalez-Zamar, Lopez-Meneses, & Vazquez-Cano, 2020) explain the creation of telecommunications systems to process funds by American Banks. The emergence of Fedwire fund service emerged, whereby banks, government agencies and companies made use of electronic fund services. It was also during this period that the IBM 801 Bank Proof machine was introduced, created to execute a set of financial services. The first independent credit card company was formed during this era, giving its clients a Diners Club credit card. It is also during this era that the terms "Machine Learning" and "Artificial Intelligence" were introduced and defined (Abad et al.,2020).

FinTech 2.0 1967 to 2008: During this period, Gergely (2019) further illustrates that it was mostly traditional financial institutions that steered the move from analogue to digital. This era saw the invention and flourishing of the internet, e-commerce business models and online banking. The first mobile payment was realised as well as PayPal. Online banking brought a major shift in the financial services ecosystem mainly between financial institutions as well as consumers. Also, during this era, the first world ATM was opened, electronic trading of stocks was invented and a communication protocol, the Society for Worldwide Interbank Financial Telecommunication (SWIFT), was formed (Gergely, 2019).

FinTech 3.0 2008 to present: A turning point for the financial services industry can be alluded to the 2008 financial crisis, almost collapsing the global financial system. During this period, Gergely (2019) notes, Bitcoin and crowdfunding platforms were released, e-commerce loans from non-banking institutions to small and medium-sized enterprises ("SMEs") were introduced. More so automated software for financial advice and planning tools as well as investment management and advisory services were created. Electronic wallets such as Google Wallet and Apple Pay were also launched (Gergely, 2019).

2.3 Types of FinTech

FinTech is transforming the financial services industry and is applied in various ways. It has changed the way customers interact with products and the business models of financial institutions. Adedamola (2019) has categorised and defined the various types and applications of FinTech as listed below (Adedamola, 2019):

2.3.1 Blockchain and Cryptocurrency

Blockchain technology is a digital ledger distributing numerous financial transactions on a private and secure computer system. A cryptocurrency is a form of digital currency and is powered by blockchain technology (Adedamola, 2019).

2.3.2 Insurance

Insurance solutions introduced using technology and innovations is steadily changing the insurance ecosystem. The adoption of digitized insurance products is enhancing customer experiences, offering convenience to customers and more personalised approaches (Adedamola, 2019).

2.3.3 Lending

In the lending sector, the use of technology such as Artificial Intelligence and Machine Learning algorithms ensures more accurate results and improves streamlined processes. The use of smart systems enhances the assessment of the borrower’s track record and forecasts such as profitability and solvency (Adedamola, 2019).

2.3.4 Mobile Payments

Payment solutions such as digital wallets have been adopted world-wide. Consumers facilitate the payment of products and services on secure and safe online platforms through the use of technology, improving consumer experience. Examples of digital wallets include Google Wallet, PayPal, Apple Pay and many more (Adedamola, 2019).

2.3.5 Trading

In trading, the use of information technology enhances the consumer experience by increasing transparency and reducing information costs of international trade. It also supports cross-border trading for consumers all over the world (Adedamola, 2019).

2.3.6 Robo-Advising and Stock-Trading Apps

The use of information technology makes professional financial advice and trading accessible to consumers. Consumers are likely to build more diversified investment portfolios using advisory and trading applications and platforms. Examples of stock trading platforms include Stash, Charles Schwab, E*TRADE Mobile, TradeStation and many more (Adedamola, 2019).

2.3.7 Personal Finance

Personal Finance technology automates retail investment services and wealth management. The use of technology simplifies investors' investment process allowing for the management of investment portfolios. WealthTech integrates available finance facilities using platforms such as Robo-retirement, portfolio management, micro-investment and others (Adedamola, 2019).

2.3.8 Equity/Crowdfunding Financing

In crowdfunding, capital is raised through the use of technology reaching a wider audience of investors. The capital raised is used to finance business start-ups or existing companies and investors gain equity in the company (Adedamola, 2019).

2.3.9 International Money Transfers

Technology innovation through the use of SWIFT has been adopted in international money transfers to make it easier to send money overseas. The payment platform reduces fees compared to the traditional way of transferring money (Adedamola, 2019).

2.3.10 Consumer Banking

In banking, digital technology is used by banking institutions to streamline services. The use of digitised banking platforms reduces costs, offers a better user experience and convenience (Adedamola, 2019).

2.3.11 Regulatory

The use of technology in the regulation and supervision of financial services firms will be adopted given the advancement of technology in the sector. The use of innovations to automate the compliance system, ensures timeous communication to the sector in a cost-effective manner (Adedamola, 2019).

2.4 Benefits of FinTech in an economy and the promotion of financial inclusion

FinTech brings many benefits to the financial sector such as improved operational efficiencies, reducing costs, provides easy access to capital and most importantly promotes financial inclusion. Karadogan (2017) suggests that financial inclusion ensures access to financial services and products to the underserved. Furthermore, due to the reduction of operating costs and less regulations, FinTech enhances financial inclusion (Karadogan, 2019). FinTech eases accessibility to start-ups for funding capital projects through raising money from collective investors through crowdfunding platforms. In crowdfunding platforms, risks are mitigated among a wide range of customers whereas a traditional bank will undertake the risk solely.

Traditional financial institutions are experiencing challenges of inexpensive services offered by FinTech companies using innovative ways to promote operational efficiencies' thereby reducing costs. Financial innovation assists in standardising and automating processes to process large volumes of transactions at a very low cost.

Karadogan (2017) goes on to explain how the financial industry benefits from big data used in financial innovation for the anticipation of customer behaviour, creation of strategies and protection policies. With the help of big data, FinTech companies can easily observe the behaviour of customers determining customers' needs. This in turn enhances the service quality and assists in launching products tailored to specific customer's needs (Karadogan, 2019).
In addition, big data is used by FinTech companies for monitoring activities of customers requiring crowdfunding services in a cost-effective and efficient manner. However, banks employ a more expensive and time-consuming method by constantly monitoring customers activities and requiring collateral from customers to ensure repayment of loans Furthermore, the help of algorithms make it is possible to pair high profit-seeking investors with high-risk lenders or risk-averse investors and low-risk lenders with a risk-averse investor (Karadogan, 2019).

FinTech improves business and risk management and therefore improve business decisions. FinTech companies' data sets are normally of better quality than those of traditional financial institutions. FinTech data sets are more comprehensive, allowing for quality client relationship as well as customer product preferences., FinTech data sets also provide information on whether the client was contacted, the reasons thereto, any contracts entered into or terminated as well as goods returned and reasons thereof. All of this information, compared to any bank, enables FinTech companies to form a truer picture, of the real financial position of the applicant to which they are considering extending financial services such as credit or insurance. In comparison to traditional financial institutions, Fintech data sets comprise a much larger population size as well as more information on the economy because the data originates from a place unrelated to financial services. FinTech companies' data generation extends to social media platforms and general economic activity into financial services which to an extent may be unavailable to traditional financial institutions (Zetzche, Buckley, Arner, & Barberis, 2017).

FinTech services improves the work of regulators providing greater transparency as a result of a clearer perspective about financial stability. With transparency, regulators are able to monitor activities, by assessing activities of FinTech companies that may pose a risk to the financial system. This induces a regulatory advantage for Fintech companies and minimises regulatory strain on regulators (Karadogan, 2019).

2.5 Regulation and supervision of FinTech

Due to the significance of the financial industry to every economy, it is a highly regulated industry to ensure financial system stability. In this new era, FinTech products and services are developing rapidly, financial regulators are finding ways to keep up with the innovations to successfully regulate and supervise the FinTech start-ups.

Yermack (2018) notes technology, in many cases, is designed to bypass existing regulatory frameworks making the regulation and supervision of FinTech companies difficult even in the most highly developed institutions. An example is blockchains are limited to physical connection and therefore mainly exists in virtual spaces and their users may reside across the globe. This makes it difficult for any regulator to impose sanctions in case of irregularities or to collect taxes. The Regulator will not have supervisory powers in other jurisdictions or a direct method for doing so therefore relying on voluntary compliance by the blockchain promoters (Yermack, 2018).

Didenko (2018) describes how regulatory authorities most likely enhance existing laws to apply in the context of new technologies by adding new definitions, explaining legal status of new concepts or determining if Regulators are authorised to address new innovations

Financial services regulation is usually organised along with the classic industry sectors namely, banking and payments, insurance and asset management and market infrastructure (Loesch, 2018). Within the aforementioned sectors, regulations are classified into the strands below;

- **Prudential regulation:** It aims to ensure that financial institutions and the financial system do not take excessive risks. The regulations deal with the robustness and stability of institutions and the market as a whole.
- **Conduct regulation:** It aims to ensure that the financial system treats its customers (mostly retail) fairly. The regulations address the issue that consumers may not always be aware of the risks and benefits of products they sign-up for. Customers do not have technical knowledge with regards to products and are not able to tell whether providers' will always be ethical.
- **Market structure regulation:** It aims to ensure that markets operate well, as an equal playing field for all participants. The regulations address the issue that markets are operating optimally and encourage product innovation.
- **Public interest regulation:** The regulation for public interest deals with protection of the financial system and ensure financial stability. Money-laundering or terrorist financing are examples of activities that may impact the financial system (Loesch, 2018).

Globally, authorities have implemented different approaches to FinTech regulations. In most cases, adjustments to existing legal frameworks have been adopted by regulatory authorities to address the uniqueness of FinTech.

Authorities across the globe faced challenges to come up with a uniform definition of FinTech. This is a result of the tackling of financial innovations on a case-by-case basis, such as the classification of crowdfunding platforms under lending activities (Didenko, 2018). However, in some cases, a general regulatory approach known as "sandbox" has been adopted for FinTech. The concept of a sandbox can be described as the creation of a supervised environment by regulators that allows innovators to test new products and services before they are released into the market (Didenko, 2018). The specific FinTech products and the regulatory/supervisory practices regarding specific FinTech products will be discussed in the next sections.

2.6 Regulations and Supervision: Lessons from other countries

Regulation of FinTech does not have a universal approach, leaving regulators to adopt different measures unique to the environment they operate in, to address financial innovation. Didenko

(2018) has identified some international trends. One is that national regulators establish dedicated working groups and consultation platforms to adopt assorted methods to expand their knowledge on FinTech developments and their potential implications (Didenko, 2018). Another one is that regulators scope, approach and methods with their engagement of Fintech changes as their familiarity with new technology increases. Regulators have established local hubs to promote FinTech and its rapid developments thereof (Didenko, 2018).

Lastly, regulators subscribe to international and supranational bodies. These bodies are recognising the importance of FinTech regulation and progressively involved in the development. In 2016, the European Commission established the Financial Technology Task Force followed by a public consultation on FinTech in 2017 (Viola & Guersent, 2014).

Didenko (2018) argues how financial services have not established "best practices" as existing regulatory frameworks are still not fully-fledged. This is despite different methods to regulate FinTech has been adopted and identification of leaders in this area has been attempted. To this date, various underlying challenges remain unresolved resulting in careful consideration with any current practices, predominantly in the rule of law dimension (Didenko, 2018).

The Association of Supervisors of Banks of the Americas (2019) outlined the Regulatory frameworks for the specific FinTech services as per below below;

2.6.1 E-Money

- A formal authorisation is required for all service providers engaging in e-money services, imposing less severe requirements on the service providers than those enforced on traditional financial institutions.
- Segregation is imposed where predominantly; customer funds are held by nominee companies or in trusts instead of the provider's account.
- E-money services are covered by the financial services consumer protection framework as well as AML/CFT regulations and surveillance.
- In most cases, E-money services require the use of agents, the regulation allows the use of agents to perform transactions. From a regulatory point, providers are required to have authorization from the supervisor and have the responsibility to accept any

liability suffered by customers caused by the agents (Association of Supervisors of Banks of the Americas, 2019).

Didenko (2018) refers to a Position Paper on Electronic Money NPS 01/2009, formulating the regulatory approach to mobile money in South Africa. Third party payments to which there is an obligation is categorised as a payment service whereas electronic payments to a beneficiary without obligations is classified as "deposit taking" the South African Reserve Bank. The "deposit-taking" activity requires a license under the Banks Act (Bank, 2009)

Didenko (2018) goes further to illustrate Kenya's biggest success stories in the history of FinTech, M-Pesa. M-Pesa is a mobile money platform which commenced operation in 2007 providing financial services access to the majority of the adult population contributing to a significant rise in financial inclusion. When M-Pesa was launched in 2007, the Central Bank of Kenya had no objection with regards to the operation of the platform. It was only later that the Central Bank rolled out regulations dedicated to payments systems. The National Payment System Act was adopted in 2011 followed by the National Payment System Regulations in 2014. Previously, regulations were falling behind with the M-Pesa's development, however, a proactive regulatory approach can be perceived in other areas of FinTech (Didenko, 2018).

2.6.2 Peer-2 Peer, Crowdfunding

- Provided there is no monetary return expected by the person providing the funds, donation and reward crowdfunding are not considered as financial products. Therefore, in most jurisdictions, they are seldom regulated.
- Platform providers of either equity crowdfunding and P2P lending are required to disclose to their customers, investment returns are not guaranteed and at worst capital may be lost if the borrower receiving the investment fails. Platform Providers are also required to disclose that they do not have guarantee schemes in place to protect deposits.
- Additionally, it is common practice that regulations for P2P and equity crowdfunding require clients' money to be held in special trust accounts and payments are handled on behalf of clients by licensed institutions
- Equity crowdfunding can be equated to retail investments as far as regulations are concerned with relaxed requirements on equity crowdfunding to allow for start-ups and

companies that are not listed on stock exchanges to raise capital through these platforms. The securities' firms' rules apply to; firm's financial conditions disclosure, risk management employed, the platform's conflict of interest requirement that investors have investment knowledge and experience and the handling of client money (Association of Supervisors of Banks of the Americas, 2019).

Currently, South Africa does not have customised crowdfunding regulations in place, however, the Financial Services Board has indicated that an analysis of the 2015 IOSCO report titled, "SME Financing through Capital Markets" is in a process to guide with the drafting of the crowdfunding rules. Nonetheless, consultation of the existing legislation which may cover crowdfunding activities is underway (International Organisation of Securities Commissions, 2015)

Didenko (2018) explores how existing legislation may currently provide for crowdfunding. The first to note is that the Banks Act may apply where crowdfunding includes deposit- taking. Similarly, where public offerings are employed, the Companies Act applies, requiring disclosure of the company. The Collective Investments Schemes Control Act would apply if the money pooled together is channelled into securities. Additionally, the Financial Advisory and Intermediary Services Act makes provision for all companies providing intermediary services or advice concerning to financial products (Didenko, 2018).

The online platform involved in the activities of the trade of securities between investors and issuers over the counter requires compliance with the Financial Advisory and Intermediary Services Act. Lastly, the National Credit regulation Act may apply, where the platform matches lenders with borrowers to provide unsecured loans. In this regard, market participants are therefore encouraged to adopt a pro-active approach (Didenko, 2018).

Kenya, similar to South Africa, has no specific regulations in place for crowdfunding. Therefore, the approach of deliberating existing legislation applies. Crowdfunding in Kenya may fall under the authority of the Central Bank of Kenya, the Capital Markets Authority and the Communications Authority of Kenya (Didenko, 2018).

Didenko further refers to a study by the Cambridge Centre for Alternative Finance focused on the identification of a number of laws and regulations that depending on the mode of operation, may apply to crowdfunding platforms. The study identified, “the National Payment Systems Act, Money Remittance Regulations, Kenya Information and Communications Regulations, the Microfinance Act, the Proceeds of Crime and Anti-Money Laundering Act, the Capital Markets Act, the Banking Act, and the Public Offer Regulations. The Public Fundraising Appeals Bill proposes additional licensing requirements in connection with fundraising systems” (University of Cambridge Judge Business School, 2017).

2.6.3 Crypto-Assets

- Until recently, transactions in crypto assets have been restricted to a small group of individuals and therefore remained insignificant. In this regard, crypto assets were a non-factor to regulatory authorities and therefore did not merit their attention.
- However, in 2013, crypto assets began to entice buyers beyond the initial small group as a result of a sustained and accelerated increase in the value of crypto assets. It was in this regard that authorities started to look into this new world.
- Many jurisdictions as a first supervisory action, carry out enforcement actions regarding crypto assets or issue regulations or policy statements. To provide functional resources to identify practices on crypto assets, the US Library of Congress has compiled crypto asset regulations covering 130 jurisdictions.
- Another important action by regulatory authorities is to educate or warn consumers on the highly speculative nature of crypto assets and that they are not backed by regulatory authorities nor financial institutions (Association of Supervisors of Banks of the Americas, 2019).

Didenko (2018), in his paper, argues the risks posed by virtual currencies were not considered significant by the SARB, although the regulator maintained its right to reverse its position in case regulatory intervention was required. The SARB, in March 2016 established a “multi-disciplinary task team” to consider the regulatory, supervisory and technological opportunities offered by blockchain and distributed ledger technologies. Cryptocurrencies new regulatory approach may be developed by this established working group (Didenko, 2018).

The SARB has adopted a more prudent approach towards the issuance of a national digital currency. In the meantime, the SARB has looked at the benefits and this may be considered in the near future (Didenko, 2018). Suggestions for the guidance in the regulation of virtual currencies is likely to come from the South African Reserve Bank despite its likelihood to apply to numerous regulators in South Africa (Didenko, 2018). Hence, it is highly likely that other regulators will implement the regulatory measures adopted by the SARB.

The Central Bank of Kenya on the other hand issued several clarifications on virtual currencies such as Bitcoin in 2015. Part of these were warnings to the general public that "the public should therefore desist from transacting in Bitcoin and similar products" (Didenko, 2018).

In the meantime, the upcoming formation of the sandboxing regime has been confirmed by the Capital Markets Authority. The sandboxing regime ensures a conducive environment where financial innovations can be tested in a lenient regulatory environment before they are released to the industry or market (Didenko, 2018)

2.6.4 Regulatory Sandboxes

The FSB defines regulatory sandboxes as "frameworks for testing new technologies in a controlled environment". A journal by the Association of Supervisors of Banks of America (2019) indicated regulatory sandboxes have been the most exemplary regulatory approach implemented by several authorities globally away from the traditional financial supervisory practices. It further stipulates regulatory sandboxes are being actively promoted by countries such as Singapore and the United Kingdom to name a few making them increasingly popular. This has created a perception, to a certain degree, regulatory sandboxes attract Fintech activity (Association of Supervisors of Banks of the Americas, 2019).

Jenik & Lauer (2017) reveal, regulatory sandboxes are established for various reasons with the main reason being promotion of competition as well as promotion of efficiencies in financial services through innovation. Regulatory sandbox succession depends on market conditions and how it is fundamentally framed. Market conditions are made up of, level of development of the financial market infrastructure, quality of innovations, competition, providers, customer trust and engagement (Jenik & Lauer, 2017).

In Mexico, the law permits a two-year trial period or temporary authorisation to innovative companies. During this period, the companies are allowed to make use of innovative models, services, technological tools or other means of processes to operate (Sy, Maino, Massara, Perez-Saiz, & Sharma, 2018).

Another country using the concept of "regulatory sandbox" in Mauritius. A prescriptive approach to regulation has been avoided and rather adopted a regulatory framework that facilitating "testing grounds" for innovators with digital business models falling outside of the current legal framework. This approach has been adopted to spur innovation in the FinTech industry by accommodating the new entrants in the market. The Regulatory Sandbox License (RSL) was launched by the Mauritian government on 20 October 2016. The objective is to ensure the authority carries out its core business, consumer protection. Sandbox, therefore, enables adapting compliance with strict financial regulations to the growth and pace of innovation without burdening the FinTech sector with rules (Sy, Maino, Massara, Perez-Saiz, & Sharma, 2018).

It should be noted that RSL is meant to cover any innovative industry although, to date, it has mostly been awarded to the FinTech industry. Licenses have been awarded for various innovations such, digital identity wallet services based on Block-Chain, online crowdfunding platforms, a financial provider in the film industry as well as a medical company producing stem cells (Sy, Maino, Massara, Perez-Saiz, & Sharma, 2018).

2.6.5 International Regulatory Bodies

2.6.5.1 The Basel Committee on Banking Supervision

The Banking for International Settlements ("BIS") is an international body created to act as a bank and serve central banks in achieving monetary and financial stability. The BIS has established a Basel Committee on Banking Supervision (BCBS) whose focus is on setting global standards for prudential regulation of banks as well as provide a platform for cooperation on banking supervisory matters (Banking for International Settlements, n.d.).

Mr Fernando Restoy, the Chairman of the Financial Stability Institute ("FSI") at the BIS provided feedback to stakeholders at a banking public-private sector regional policy dialogue on FinTech regulation and the challenges in Washington DC on 16 October 2019. The Chairman stated that a better appreciation of FinTech in the financial markets is underway by the BIS in order to address the related policy challenges. Capacity building is at the forefront before regulatory and supervisory policies are distributed in the new technological environment.

Restoy (2019) classifies FinTech-related policy measures into three groups: (i) direct regulation of fintech activities; (ii) utilisation of new technologies in financial services; and (iii) specific promotion of digital financial services (Restoy, 2019).

Restoy (2019) further lists direct regulation of FinTech activities such as peer-to-peer (P2P) lending or equity raising, robo-advice, digital banking and payment services. The utilisation of new technologies in financial services includes new rules or guidelines on market entrants' use of innovation or technologies such as artificial intelligence, biometrics or computing. The specific promotion of digital financial services covers supporting policy proposals such as those related to the establishment of sandboxes or accelerators and innovation hubs as well as data-sharing and digital identities. Most jurisdictions have, over the last few years, applied policy measures in some or all of these three areas (Restoy, 2019).

Each jurisdiction faces major policy challenges in identifying or combining the different types of regulatory measures that best suits the country. It, therefore, follows that financial authorities need to ensure their actions and those taken in related domains such as data protection or competition are aligned. In addition, cooperation with financial authorities in other countries is required to share information, given the global scope of both innovation and the business models of many new players (Restoy, 2019).

2.6.5.2 International Organisation of Securities Commission

As outlined on their website, "The International Organization of Securities Commissions (IOSCO) is the international body that brings together the world's securities regulators and is recognized as the global standard-setter for the securities sector. IOSCO develops, implements and promotes adherence to internationally recognized standards for securities regulation. It works intensively with the G20 and the Financial Stability Board (FSB) on the global regulatory reform agenda" (International Organisation of Securities Commission, n.d.).

IOSCO has defined regulatory relevance into different business models as outlined below:

<u>Alternative Financing Platforms</u>

The regulations of equity crowdfunding or peer-2-peer lending vary per jurisdiction, falling under existing securities regulations in some and tailored regulatory regimes in other (International Organisations Securities Commission, 2017).

In jurisdictions where capital raising activities fall under existing securities regulations, financial service providers are subject to licensing regimes, a current prospectus as well as applicable exemptions. However, due to the perceived novel and the unique features of capital raising activities, some jurisdictions have opted to implement new or a tailored regulatory regime (International Organisations Securities Commission, 2017).

Regulators aim to balance the benefits of capital formation developments, particularly for SMEs against the risks posed by investors and lenders when developing regulatory responses. An example is the prioritisation of addressing risks considered large enough and on which action is eligible by the Dutch AFM in the context of a study on crowdfunding and its supervision. Moreover, its recommended regulatory response required to "stimulate growth in the crowdfunding sector in a sustainably and responsibly (International Organisations Securities Commission, 2017)."

<u>Retail Trading and Investment Platforms</u>

Relevant regulatory measures have been introduced by more and more jurisdictions on automated digital or financial advice such as Robo-advisers. The measures address the following areas:

- Provided guidance with regards to the growing expectation of the automated advice industry;
- Provided clarifications to the application of the existing regulatory framework to automated advice; and

- Service providers and consumers issued advice and recommendations on best practices of automated advice. (International Organisations Securities Commission, 2017)

The creation of retail trading platforms has forced certain regulators to issue interpretations and warnings that emphasise on social trading risks posed as well as clarify licensing statuses of platforms (International Organisations Securities Commission, 2017).

The Commission further notes that the growth of retail trading and investment platforms in size and numbers results in more complex advice rendered and therefore conventional sample audits may become less sufficient. Financial authorities require specialized staff that can comprehend technology and algorithms driving the trading and advice. In additions, different surveillance approach must be adopted and the increase in the frequency of data requests or more detailed data filings (International Organisations Securities Commission, 2017).

<u>Distributed Ledger Technologies (DLT)</u>

Financial authorities are acquainting themselves with DLT through innovation hubs, labs, research. and proof-of-concept projects. By participating in DLT alongside market participants, gives them access to data and results in Regulators having more complete and more traceable real-time records. Lastly, international organizations such as the IOSCO, the FSB and the BIS are detecting the developments of DLT under their particular objectives (International Organisations Securities Commission, 2017).

2.6.5.3 International Association of Insurance Supervisors

As outlined on their website, “International Association of Insurance Supervisors (“IAIS”) is a voluntary membership organization of insurance supervisors and regulators from more than 200 jurisdictions, constituting 97% of the world's insurance premiums. It is the international standard-setting body responsible for developing and assisting in the implementation of principles, standards and other supporting material for the supervision of the insurance sector” (International Association for Insurance Supervisors, n.d.).

Financial technology and innovations have not only changed and improved the customer experience but have reduced insurers' and intermediaries' operating costs. Nevertheless, digital innovations affect consumer protection and the extent to which customers are treated fairly; from their marketing and distribution, underwriting and pricing of products, design, to claims processing and the ongoing management of customers. Therefore, fair customer treatments need to be achieved in terms of products that meet consumers' needs, the design and use of algorithms and the use of customer data (International Association of Insurance Supervisors, 2018).

Financial authorities need to ensure that financial technology innovation does not compromise the protection of policyholders and the integrity of the insurance sector. Therefore, adjustments towards the digital age must be considered (International Association of Insurance Supervisors, 2018).

Supervisors face key challenges in the facilitation of innovations by insurers, in this regard, a balanced approach must be considered to ensure innovations are enabled while protecting consumers as stipulated in its laws and regulations. A thorough understanding of how innovations work is required to ensure there is between consumer protection and the promotion of innovation. Regarding to innovation, insurers must have in place, a proper assessment of new products and business models, functioning IT architecture, infrastructures and processes and ensure it is catered for in the insurers' risk management framework (International Association of Insurance Supervisors, 2018).

Digital innovation may pose a regulatory arbitrage between Supervisors and Insurers, therefore, there is a need for financial authorities to develop new supervision (International Association of Insurance Supervisors, 2018).

Lastly, to safeguard the fair treatment of customers, Supervisors are encouraged to deliberate establishing guidance for appropriate and responsible use of new technologies (International Association of Insurance Supervisors, 2018).

3. RESEARCH METHODOLOGY

This section highlights the design and methodologies that were used to analyse the data. It includes a description of how the data was collected and the statistical techniques that were used to analyse the data. The nature and form of the data are deliberated. Moreover, the limitations of the study and any ethical considerations that may have arisen are discussed and explained.

3.1 Research Design

Given the novelty of the FinTech in academic research and that the research problem has not been sufficiently studied in the Namibian context, a qualitative research design is adopted. Qualitative research is broadly defined as “an approach that allows you to examine people’s experiences in detail by using a specific set of research methods such as in-depth interviews, focus group discussions, observation, content analysis, visual methods, and life histories or biographies” (Hennink, Hutter, & Bailey, 2020, p. 10). Qualitative research further allows one to identify concerns from the participants’ perspective and understand their interpretations and views as far as their experience provides ((Hennink, Hutter, & Bailey, 2020, p. 10). It is for this reason that the qualitative design is the more appropriate method for the research study as it seeks to obtain a deeper understanding from financial services industry players and experts on FinTech in Namibia.

An exploratory study is defined as a “research that aims to seek new insights into phenomena to ask questions and to assess the phenomena in a new light” (Saunders, Lewis, & Thornhill, 2009) Qualitative research is essentially exploratory, and it was be adopted as there is little to no previous study conducted on FinTech in Namibia. The study is therefore not expected to present conclusive answers to problems but to provide guidance, information and ideas that may be used by future researchers. In depth, semi-structured interviews were conducted in English with different stakeholders from the financial services industry. The literature review and research questions provided sufficient information to develop appropriate interview questions.

3.2 Population and sampling

3.2.1 Population

Population is defined as “all people or variables collectively from whom information can be gathered for a study” (Kumar, 2011). The population of this research is all stakeholders of Namibian financial services industry, including the traditional banking sector, asset management and insurance sector, the FinTech, and the financial regulators. The population of the stakeholders within the Namibian financial services industry is considerably sizable and it would be difficult to collect data from each individual stakeholder in the population.

3.2.2 Sample

Sample is defined as “a subgroup of the population which is the focus of a research enquiry and is selected in such a way that it represents the study population” (Kumar, 2011). In this study, a sample was used to make inferences regarding stakeholders’ perceptions on the regulatory and supervision frameworks in the Namibian FinTech market. The sample is targeted towards individuals that have proposed, approved and/or implemented FinTech products, who are knowledgeable of FinTech developments and have an interest in FinTech innovation. A sample of fourteen participants from the financial services industry was selected. Two participants from the banking sector, four from the non-banking sector and five from financial regulatory sector were selected. In addition, three knowledgeable participants representing the upcoming and potential entrants to the FinTech industry were also be interviewed.

The reason for the afore-mentioned sample is to get perceptions from individuals in the existing banking and non-banking financial services industry. In addition, an insight from regulators is beneficial with regards to their position in the regulatory and supervisory frameworks that may be in the pipeline from industry. Lastly, an insight from potential FinTech innovators that would like to enter the market but are limited due to absence of laws or regulatory prohibitions are beneficial to the study.

The reason for the sample of fourteen participants is because there are currently eight licensed commercial banks in Namibia of which only four are active. Therefore, the selection of two participants adequately covered the banking sector. In the non-banking sector, the study focused on asset management companies and insurance companies. There are currently thirty registered asset management companies of which 22 are active in the management of assets, ten are under insurance business conglomerates, and therefore, four participants adequately covered both the asset management and insurance space. There are two regulatory authorities in the financial sector supervising banking and non-banking, therefore a combination of five participants from both adequately represented regulatory authorities.

The participants were interviewed through virtual platform, each interview was recorded and transcribed. The selection of participants is well diversified and include different age groups to achieve inclusivity. The participants include Chief Executive Officers, Senior Managers, IT Specialists, Strategists, Policy Advisors and Representatives from the potential market players.

3.3 Data collection Instrument

3.3.1 Interview design

An interview is defined as "a method for collecting data in which selected participants are asked questions to find out what they do, think or feel" (Collis & Hussey, 2014). Saunders et al. (2009, p. 320) outlines three types of interviews namely, structured, semi-structured and unstructured or in-depth interviews (Saunders, Lewis, & Thornhill, 2009). Structured interviews are described as highly structured and formalised questions for participants, the questions are standardised and predetermined (Saunders, Lewis, & Thornhill, 2009). Semi-structured interviews are described as a predetermined list of questions for participants but flexible whereby some questions may be omitted, or questions may be added depending on the conversation (Saunders, Lewis, & Thornhill, 2009). Unstructured interviews are described as participants being given the chance to talk freely about the topic without a list of questions and relies on the objectives of the research that a researcher intends to explore (Saunders, Lewis, & Thornhill, 2009).

For the purpose of the study, a semi-structured interview was used, whereby interview questions were predetermined, guided by literature on FinTech and included about 25 questions. The questions were open-ended, meaning the responses required detailed answers and were grouped around five main themes namely, 1) the benefits of FinTech in Namibia; 2) the benefits of Fintech in the promotion of financial inclusion; 3) the risks associated with

FinTech on consumers and the financial system; 4) the objective of FinTech Regulation and 5) the approaches of regulation and supervision of FinTech. The approach assisted in ensuring control of the discussions and ensured all themes were covered. It should be noted that some of the questions were adjusted to the profile of the participant (Chief Executive Officers, Senior Managers, IT Specialists, Strategists, Policy Advisors and Representatives) as some questions for example did not relate to regulatory authorities or start-ups. In addition, additional questions were triggered by responses provided during the interview. The participants were allowed to express freely themselves and provide their opinions and beliefs as far as possible.

3.3.2 Conducting interviews

Participants were identified through contacts to banks, asset management companies, insurance companies, regulatory authorities and start-ups. Participants were contacted via telephone, e-mails and LinkedIn. All participants were interviewed via an online platform, Zoom. The recording option on Zoom was used and recordings were converted to MP3 for records and transcription of meetings. Interviews took about three weeks due to unavailability of some of the participants and difficulties in getting hold of participants and most people were still working from home due to the restrictions introduced as a result of the Covid19 pandemic.

3.4 Data analysis

There are three activities identified to analyse qualitative data, which are: data reduction, data display and conclusion drawing (Miles & Huberman, 1994). Firstly, data reduction "comprises the procedure of selecting, summarising and simplifying the qualitative data, which should be written up" (Miles & Huberman, 1994). Data display means "an organised, compressed assembly of information that permits conclusion drawing and action" (Miles & Huberman, 1994). Conclusion drawing is the final step once the data collection has ended (Miles & Huberman, 1994).

A combination of the three activities was employed whereby all interviews were transcribed. The data was then summarised, and relevant information was used. The responses were then analysed according to correspondences or contradictions. The analysis of the data collected through interview was focused on comparing the participants' responses to identify similarities and differences. Focus was also on identifying the differences between the groups, banking, non-banking, regulators and potential market players.

3.5 Ethical considerations

The research study was conducted in accordance with the ethical guidelines of the University of Witwatersrand. In addition, a clearance certificate was granted by the Graduate School of Business Administration Ethics Committee Constituted Under the University Human Research Ethics Committee (Non- Medical). All reasonable attempts were made to ensure that there was no violation of any ethical standards and no intentions to cause any harm. The nature of the research study posed limited risks to the participants. All participants were asked for permission before they were interviewed. Participants were requested to sign a consent form which also required permission for the interview to be recorded.

Participants were provided with an information sheet, with the description of the problem, and the purpose of the study. The cover page also informed the participants that the interview was strictly voluntary and that participants were at liberty to refuse to participate at any time during the interview. The participants were informed that their responses will remain anonymous and their information will be kept confidential.

4. RESULTS OF THE INTERVIEW STUDY

This section presents the results of this study as gathered from the study participants. It begins with the background of the participants, which includes their experiences and areas of specialty. The results of the interview questions were analysed according to the 14 questions, namely; 1) Definition of FinTech, 2) Opinion on FinTech Companies in Namibia, 3) FinTech Companies taking over financial institutions and likelihood to fail, 4) Organisational strategies in responding to FinTech influx in Namibia, 5) Benefits of FinTech, 6) Risks associated with FinTech, 7) Factors hindering FinTech start-ups in Namibia, 8) Governments role in the promotion of FinTech in Namibia, 9) Objective of regulation and supervision of FinTech, 10) Approach of regulation and supervision of FinTech, 11) Challenges faced by Regulators and suggestion for Regulators to employ in preparation for FinTech start-ups, 12) FinTech start-ups fined or blacklisted if non-compliant, 13) RegTech as a tool by financial authorities and 14) FinTech companies thriving in Namibia. The responses assisted into getting a better understanding and insight from the participants.

4.1 General background of Participants

Table 4.1 summarises the background of the then participants

No.	Participants	Title	Place of work	Qualification	Year of Experience
1	A	Chief Executive Officer & Co-Founder	FinTech Company – Mobile Payments Solutions	Chartered Accountant	13 years
2	B	Chief Operating Officer	Financial Services Group Company: Insurance, Asset Management	Bachelor Computer Science & Master's Degree in Mobile Banking & Delivery Channels	Over 20 years
3	C	Marketing & Communications Manager	Financial Services Group Company: Insurance, Asset Management	Bachelor Commerce & Master's in Business & Administration	Over 15 years
4	D	Team Leader: Information Technology	Bank	Bachelor Information Technology: Networking	10 years
5	E	Business Analyst: IT Digital Channels	Bank	Bachelor Information Technology: Software	10 years

6	F	Financial Analysts	Regulatory Authority	Honours degree in Finance & Investments Master's degree in Data Science and Business Analytics	6 years
7	G	Senior Payments Analyst	Central Bank	Honours degree in Information Technology Master's degree: Inclusive Innovation	9 years
8	H	Managing Director & Co-Founder	FinTech Company	Bachelor Information Technology: Networking Master's in business administration	15 years
9	I	Fixed Income Specialist – Co-Founder of FinTech start-up	Central Bank	Chartered Financial Analyst Honours Degree in Investment Analysis & Portfolio Management	9 years
10	J	Policy Advisor	Regulatory Authority	Master's in financial economics Master's in economics law	Over 20 years
11	K	Group Financial Officer & Head of Vending Business	FinTech Company	Chartered Accountant	10 years
12	L	Policy Analyst	Regulatory Authority	Bachelor's degree: Economics Master's degree: Economic Policy Management	13 years
13	M	Chief Executive Officer	Asset Management, Insurance. Stock Broking, Collective Investment Schemes	Chartered Accountant	Over 10 years
14	N	Senior Policy Analyst	Asset Management. Insurance, Stock Broking, Collective Investment Schemes	Master of Science in Economics	4 years

Table 1: General Background of Participants

4.2 Definition FinTech

Participant A defines FinTech as using any form of technology to better deliver financial services. He adds that using technology to be more agile and to better deliver financial services to consumers to optimise existing process, essentially to take what the existing financial institutions are doing and improving on that using technology specifically. Participant B did not define FinTech, while Participant C defines FinTech as using innovation and technology in the financial services industries.

Participant D defines FinTech as the technology aspect of things and how it interacts with finance. He adds that FinTech makes life easier for people to transact either from digital channels, ATMs, online banking, mobile banking as well as flows of financial transactions. Participant E defines FinTech as innovations currently being developed to aid traditional banking. He adds that there is a perception that FinTech's can sometimes be disruptive.

Participant F defines FinTech as using mobile applications to provide financial services. This is supported at the back end by new technologies such as machine learning AI and it uses data science as well as block chain technology. He adds that technology and innovation is disruptive to traditional business models. Participant G defines FinTech by defining the two words. Finance is the issuance of money from one party to another. Technology is any tool that can be used for easier transfer of money. Therefore, combined, its tools used to transfer money, which makes life easier. Technology enhances the finance process.

Participant H defines FinTech as the introduction of technology to the finance world. He adds that we live in a digital era where we use mobile applications to transact instead of going to banks to transact. Participant I defines FinTech as any use of technology in the financial space that automates processes and makes it easier for the user. Participant J defines FinTech as any kind of technology used to interface with consumers in the market. According to Participant K, FinTech is defined as, the way in which individuals make payments or the way they interact with each other from a finance perspective using technology. FinTech makes it possible to make payments through mobile applications, via a mobile cell phone without the use of cash.

Participant L defines FinTech as technological innovations that are aimed to introduce financial products and services. Participant M defines FinTech as any tool that makes it easy to settle transactions in all sectors of the economy. Tools that enable consumers or buyers or sellers to settle between themselves in a seamless manner. Participant N defines FinTech as technology in automating things.

The participants all define FinTech as a technology or solution in financial services that makes products or services easy and convenient for consumers. FinTech is essentially defined as the automation of financial services and highlights the cost cutting for providers.

4.3 Opinion on FinTech Companies in Namibia

Participant A expresses that FinTech companies are massively needed but it's a difficult market because it is a small market and makes it difficult to make money. There has been a lack of competition for existing financial institutions specifically the banks. The current banks dominate the industry and they have been making money with little innovation and this has contributed to their attitude of "why fix it when it is not broken". Currently what you see is start-ups partnering with banks and they carve out a certain niche where the bank can better serve their customers in a specific product.

Participant B expresses that Namibia is far behind with regards to FinTech. Very little is currently taking place in Namibia with regards to innovations. He explains how other countries are experimenting and a lot around robotic automation and intelligent process automation is taking place. He further explains how in his experience in working in other countries, he was exposed to innovations like blockchain which opened his way of thinking. He was also privileged to spend time at Silicon Valley in San Francisco and was part of the team that set up the Silicon Cape in South Africa. Therefore, compared to the rest of the world, Namibia is far behind.

Participant C indicates that Namibia is currently not where it needs to be with FinTech compared to the rest of the world, she further adds that there has been very few FinTech companies in Namibia and she is not sure if they use FinTech successfully. She gave an example whereby her organisation in South Africa has introduced a product that allows customers to buy insurance products online, however this product has not yet reached Namibia. According to Participant D, there is still a lot to be done as Namibia with regards to FinTech, compared to other countries. He explains that Namibia basically adopts innovations instead of creating our own and learn from our mistakes. In his view, regulations currently in place are not well suited for FinTech start-ups. He adds that there are innovations currently, but we have a lot of work to do.

Participant E states that FinTech in Namibia is quite new and has mostly assisted more in the banking space in financial services. Technology has enhanced some aspects of traditional banking for example payments. Participant F states that currently, there is not a lot of activity in Namibia with the exception of innovations in the payments sector. He adds that currently all most innovations in financial services are extended to banks, this result in Banks purchasing FinTech start-ups.

According to Participant G, Namibian financial institutions are offering solutions. He points out that Namibia is picking up and there is a number of FinTech activities taking place in Namibia. However, compared to the world, Namibia is far behind. He indicates that there exists a gap from regulatory authorities to accommodate FinTech start-ups. Participant H states that Namibia is definitely behind in the FinTech space. He believes all innovations in Namibia are currently implemented form other countries and we have to date not created our own locally. He states that there is a lot of catching up to do. He suggests that we need to build capacity, create innovations, fail and learn from it until we perfect it.

In Participant I's view, to date, Namibia has only managed to implement innovations in the banking space. He states that Namibia is a bit far compared to the rest of the world in the FinTech space. He notes that there are limitations such as prohibitions by law in some spaces. In his view, funding is a problem as well as lack of co-operation from existing industry players. According to Participant J, Namibia is not doing too badly with regard to FinTech as it is still evolving. However, He points out that in advanced economies where information is available, innovation seems to be more advanced than in the third world countries. He adds that Regulators in third world countries are behind the cave and not allowing innovations in some cases. He believes, to an extent that Regulators are the ones holding back innovations in the financial services industry.

Participant K points out that Namibia is way behind compared to the rest of the world. He provides an example of Kenya and the progress they made is far ahead of Namibia. He adds that what is holding Namibia back to push for digitisation is mainly the small population size and lack of IT infrastructure in rural areas preventing access to digitisation. According to Participant L, Namibia is behind when it comes to FinTech. He adds that the pace at which innovation is being implemented is slow and the reason for this is that advanced infrastructure plays a role which is lacking in Namibia. Currently, all innovations implemented are from other countries or replicated and to date, we have not created our own. He also points out that companies in Namibia originating from South Africa will implement an innovation in their country and in Namibia it will be implemented last.

Participant M indicates that Namibia has one of the best financial services in Africa. In this regard, because of the mature financial services, there is a large population that is banked.
Therefore, the success of FinTech start-ups in Namibia will not be as huge because a large number of the population is already banked. He adds that it will take time for any FinTech's to go viral, in his opinion it will take some time for Namibia to be ahead with FinTech because of the mature financial system. In his experience, it will take a while for Namibian consumers to shift their mind-sets from traditional banking to digital banking. Namibia is still far compared to the rest of the world. Participant N states her opinion on FinTech in Namibia by providing an example of M-Pesa in Kenya and that its success was based on their large population. When innovations are rolled out in Namibia, they will not succeed as much as other countries did because of a small population.

There is a harmonious perception by the Participants that FinTech companies are fairly new in Namibia compared to the rest of the world. Currently, FinTech start-ups in the financial services space are only in the banking space and population size and absence of regulation are the major factors hindering FinTech companies from entering the Namibian market.

4.4 FinTech Companies taking over financial institutions and likelihood to fail

Participant A does not foresee Fintech start-ups taking over financial institutions, as these institutions have built massive legacy systems. In addition, he believes FinTech start-ups underestimated the finance, regulation and compliance requirements to play in the financial services industry as well as the type of controls and procedures that need to be in place to be able to work with people's money. The large banks and FinTech start-ups have figured out ways in which they can actually collaborate, whereby banks have the banking license, experience and dashboard compliance and FinTech companies have the innovations and are agile. The size of the market is critical and in Namibia you are looking at a population of 2.5 million people which is small, they learned that the hard way, looking at the number of people that actually have smartphones and have access to internet, the pool kept reducing.

Participant B indicates that FinTech start-ups are definitely not likely to take over traditional financial institutions as Namibia does not have enough volumes. Start-ups have to compete with banks that are also employ innovations in some of their products. He further indicates that he does not at all see FinTech start-ups in insurance and asset management space taking over. He further states that he does not see start-ups failing as he does not see them start. Fintech start-ups currently in Namibia can be counted. According to Participant C, FinTech companies will not take over financial institutions but rather sees them linking up or collaborating with financial institutions as she has seen in South Africa. In her opinion, FinTech start-ups are likely to fail as the environment they operate in requires a whole different mindset change. She added that in her experience, rolling out a new product requires a lot of communicating with to clients requiring a huge marketing budget which will eat from the Start-up's resources.

Participant D is of the view that FinTech start-ups may take over financial institutions because innovations enhance a customer's experience, for example transacting without leaving the comfort of your own home. He points out that once an innovation is created and a proper feasibility plan is in place, FinTech's are likely to thrive. Further, he points out that innovations in the market benefit industry as it forces traditional financial institutions to innovate and keep up with market developments. In his view, FinTech start-ups fail because of poor planning and lack of feasibility plans. Also, being agile to change plans if things fail. He notes that currently though, FinTech start-ups are likely to collaborate because of a lack of strong financial support which is provided by existing financial institutions.

According to Participant E, FinTech start-ups will not take over traditional financial institutions but he sees more of a collaborative way between traditional financial institutions and FinTech start-ups that create banking applications. He adds that traditional banks in the near future will have no choice but to collaborate or innovate to keep up with FinTech developments. He adds that currently, FinTech start-ups are more likely to fail as they do not receive incubations and a roll out of consumer awareness to encourage usage of FinTech products. FinTech start-ups currently even if success may not generate enough revenue to that can take care of all the running costs. What he has observed is that traditional banks are likely to buy FinTech start-ups as soon as they see their innovation can benefit their processes and ultimately consumer experience.

Participant F does not see FinTech start-ups taking over traditional financial institutions. He explains that traditional financial institutions must be seen as rails, whereby they have the railway and have old trains running on it. He describes FinTech's as an upgrade to electric trains. Therefore, financial institutions currently have the expertise to run for example banks and they require innovations to improve customer experience. Thus, in his opinion, any company that has direct competition with the traditional financial institutions will end up collaborating or being bought over. On whether FinTech start-ups are likely to fail, Participant F asserts that most of them cannot even start because legislation does not allow for it.

According to Participant G, does not necessarily foresee FinTech start-ups taking over traditional financial institutions. In fact, FinTech start-ups have a high chance of failing. He explains that the business environment in Namibia is not yet conducive to cater for start-ups in general. In his experience, even bigger financial institutions struggle in the implementation of innovations. He adds that in order to build a FinTech successfully, one needs a lot of information; our laws currently do not allow sharing of information amongst financial institutions like in the United Kingdom for example. He therefore sees start-ups collaborating with financial institutions as competition is unavoidable.

According to Participant H, states that it is possible for FinTech companies to take over financial institutions but not in Namibia. He states reasons namely, Namibia's population size is small and if one takes our tech savvy people it even becomes smaller. Another reason, he states is lack of consumer education that prevents customers from taking on products they do not understand. He believes FinTech start-ups currently are more likely to fail, as these initiatives require all stakeholders to pull to the same direction, and currently this is not the case. According to Participant I, does not see FinTech start-ups taking over traditional financial institutions as those institutions are at an advantage, they have the resources and client base. He adds that if a FinTech start-up has technology that the traditional institutions find useful in their company, they are most likely to buy it. Currently, FinTech start-ups are likely to fail then make it as consumers in the Namibian space are not embracing technology and innovations.

Participant J explains that any financial institution that is not embracing technology will not survive in the next ten years. He therefore does not necessarily see FinTech start-ups taking over traditional financial institutions as they will implement innovations in their organisations. He further points out that FinTech start-ups are at this stage likely to fail because in order to make it, there needs to be a demand for your product which currently is not the case in Namibia. Most consumers are comfortable with the technologies they have from banks. Participant K does not foresee FinTech start-ups taking over financial institutions, in his experience, FinTech start-ups with good innovations are more likely to collaborate with the bigger financial institutions. He explains that not all clientele is ready to move to digitisations as yet, because of lack of IT infrastructure in all areas of Namibia. At this stage, he explains, FinTech start-ups without collaborative effort, are most likely to fail.

Participant L does not foresee FinTech start-ups taking over traditional financial institutions. He does however add that if we create our own Namibian companies in financial services spearheading its own innovation as far as FinTech is concerned, then perhaps these institutions may take over traditional financial institutions. Participant M does not foresee FinTech start-ups taking over traditional financial institutions. He adds that start-ups may take a share in the market, but at an insignificant level. Namibian consumers are reluctant to away their hard-earned funds from banks to start-ups that they do not even trust. He adds that if Fintech's are to take over financial institutions it may not be in our lifetime. Therefore, FinTech start-ups are likely to fail and he used an example of E-Bank.

Participant N foresees FinTech start-ups taking over traditional financial institutions. It will take a while therefore in her opinion, this is likely to happen. She indicates she has seen Fintech start-ups that are competitive, and she sees more and more people are starting to use. In her opinion, FinTech start-ups are not likely to fail if they join arms with established financial institutions.

The majority of the participants concur that FinTech start-ups are likely to fail and not take over traditional financial institutions in Namibia. The reasons indicated are of a lack of IT infrastructure in Namibia, lack of financial literacy and the population size. The participants believe FinTech companies are highly likely to survive only if they take a collaborative approach. Two of the participants are of the view that FinTech start-ups may take over traditional financial institutions if there is proper planning and innovations enhance customer experience, therefore they are most likely to make use of the products or services.

4.5 Organisational strategies in responding to FinTech influx in Namibia

Participant A indicates that good customer service has always been extremely important, even with innovation, things do not always go right. He further states that if a payment fails, fixing this is prioritised by being available to ensure customer excellence. The better the customer experience, the more people decide to download the application, and this leads to a positive reinforcing cycle of network effects and it is one of the most powerful business tools. Participant B states that their company does not include FinTech as part of strategy and that he had to create it himself. Although there is knowledge around digitalisation, disruption is limited in the group company as Insurers, in his view are more boring and prefer the traditional way of doing business. For now, he is holding networks and having the necessary conversations with leadership until networking becomes a yeast in the organisation and creates a culture of innovation.

Participant C states that FinTech does not form part of her organisation's strategy. In addition, there has not been a section or department set up for innovation which in her view, she sees as a necessity. She indicates that they will deal with any innovation disruptions that may come about of which to date, there has been none in their space. Participant D mentions that his organisation does have FinTech as part of their strategy. Therefore, within his organisation, they are always looking for ways to innovate and look for ways in collaborating where possible to implement innovations. He provides an example of how their organisation has collaborated with a FinTech start-up which has to date benefited the clients.

Participant E indicates that his organisation has implemented FinTech into their strategy as banks are using innovation for payments transactions. In addition, a directive from regulatory authorities encouraged banks to make use of innovations. Participant F did not respond to the question on strategies.

Participant G and I indicate that their organisation has recently rolled out a digital transformation strategy for both support functions of the banks as well as regulatory regimes. Specific initiatives and projects will be rolled out allowing for contributions to the digital transformation strategy of the bank and explore financial innovation offices. The bank is in the process of setting up a regulatory sandbox, which will allow Innovators to test their products and services with limited supervision.

Participant H states that FinTech is certainly part of their strategy. They are constantly finding ways to improve their systems and services in order to stay relevant as an ICT company and come up with as many innovations as possible to ensure minimum wages. Participant J and L indicate that they are not aware of the inclusion of FinTech in the strategy in their organisations.

Participant K points out that competition is good, and it keeps companies on their toes, so he welcomes it. He adds that working with technology requires continuously improving it to ensure you provide the most advanced experience to your clients. Therefore, FinTech is top of the list in the company's strategy. Further, he points out that his company needs to ensure compliance at all times and avoid going on the other side of the law.

Participant M indicates that they do have a strategy with regards to FinTech. This includes financial literacy and educational programmes. They also have market conduct committee that ensures financial inclusion is part of their programmes. The programmes will focus on educational initiatives for products such as unit trusts, insurance, pension funds and so forth.
Participant N indicates that their strategy is basically to educate customers so that they understand products, trust the products and essentially embrace innovations.

A number of the participants indicate that digitalisation and innovation does not form part of their organisational strategy. This was observed mainly from the non-banking financial institutions as they do not see the need for one as yet and will be dealt with as they enter the market. Participants from the banking industry and FinTech start-ups have strategies in place responding to FinTech influx in Namibia. They indicate that in order to survive in the digital world, they have to remain competitive.

4.6 Benefits of FinTech

Participant A outlined the benefits of FinTech being, an easier way to pay friends or service providers through applications, less costs in making these payments, using your phone to pay restaurants. Lastly, he touches on its convenience and competitive prices brought to consumers. Participant B states benefits to FinTech vary and he emphasises on convenience. Participant C mentions that benefits include one having control over the products you purchase. The instant access customers have to platforms, convenience as well as speed it takes to conclude a transaction.

Participant D points out that the benefits of FinTech is security, ease of use, going towards a paperless world. Consumers do not need to carry cash to transact. Innovation reduces long queues. He added the convenience for customers and well as eliminates the risk of some stealing cash from you if you keep cash on you. According to Participant E, the benefits of FinTech is convenience, efficiency and speed that consumers experience when using financial technology.

Participant F states that FinTech start-ups contribute to the economy at large and their existence may create jobs. FinTech increase financial inclusion, deepen financial markets and add more liquidity. Investors have more options concerning where they can invest. Another benefit he provides is convenience. Participant G, H and I state that the benefit of FinTech is definitely convenience. Participant J indicates the benefits of FinTech is reduced operational costs which essentially reduces service fees.

According to Participant K, the biggest benefit to digitisation is convenience. Consumers can practically do anything in the comfort of their home. He indicates a reduction of compliance burden as another benefit. According to Participant L, the benefits of FinTech are, the experience of enhanced services, improvement of service delivery, cost effective, convenience and transparency. According to Participant M and N, the benefits of FinTech are, convenience, no long queues and reduced costs.

There is a consensus across all sectors with regards to the benefits of FinTech being convenience, competitive prices, speed, reduced operational costs, reduction in compliance cost and contribution to the economy.

4.7 Risks associated with FinTech

Participant A states FinTech poses risks to both customers and financial institutions as products are new to customers. In addition, the risk of customers losing their funds to these innovations. Participant B in his opinion does not see major risks posed in the FinTech industry currently as yet except for risks such as cybersecurity. Participant C starts that risks posed to consumers are fraud, information security, and data theft and data privacy. She explains how valuable data is and that Hackers are after data most times.

Participant D explains that risks posed to consumers associated with FinTech may be dishonesty from service or product providers, a lack of understanding of product and lack of financial literacy before taking on a product. Information security risk was another risk identified by Participant D. Participant E and F indicates that risks posed to consumers is information security, cybersecurity and fraud.

According to Participant G, there are risks such as uncertainty, this is because with FinTech, one does not know what to expect. He adds investment risk may also prevail with investment related FinTech products. Credit risk may also be one to FinTech companies in lending. He added that FinTech products are advertised on platforms like Social Media and if people on these platforms are not well informed, they may sign-up for products they do not understand. Participant H highlights security risk, privacy risks and customer identity theft as some of the prevalent risks posed to consumers. Consumers' information must be protected as far as possible. He further adds risks posed to institutions can be reputational risks.

Participant I states the risks posed to consumers is coding risk, for example if a Robo Advice is not properly coded, it may give the user inaccurate or incorrect information. He adds information risk, cyber security is another risk and confidentiality risk. Participant J indicates that risks posed to consumers is consumers being exposed to Fraudsters or chance takers in the industry. He adds that products must be in plain language and understandable to the user. In addition, he states that data security is fundamental, and consumers will be exposed to data security risk.

According to Participant K, identity risk is the biggest risk posed to consumers through FinTech. As clients use your platform, their information may be stolen and used for ill purposes. FinTech companies must therefore ensure security of client information. According to Participant L, the risks posed to consumers as far as FinTech is concerned are, money laundering risks and cybersecurity. According to Participant M, the risks posed to consumers are, Fraud, confidential information. According to Participant N, the risks posed to consumers are, data security, digital identity theft, money laundering and cybersecurity risk.

The participants all agree that major risks exist in the use of FinTech products and services. The risks posed to consumers, to mention a few, are fraud, access to confidential information, digital identity, security risk, credit risk and a lack of understanding of products by consumers.

4.8 Factors hindering FinTech Starts-ups in Namibia

Participant A believes it is firstly a lack of reasonably FinTech friendly environment. He further states that attitude towards FinTech is another whereby some organisations would rather do things themselves instead of collaborating. Some organisations are focused on compliance and making money rather than enhancing customer experience. There is also lack of support from government in Namibia whereby there are no subsidies or tax breaks provided nor funding programs by government compared to countries like Singapore where government has initiatives in place to encourage innovation.

Participant B believes no opportunities are created and that is where Namibia lacks dramatically. He also adds that less regulation is required. Another factor he added is that at universities, students are educated in the technology related field but are not provided with a platform or an environment to create. He further argued that there is no thought leadership in the industry and explains why Namibia is always last in line when it comes to technology. Another factor he mentioned was not having enough skilled people in the diaspora to bring back knowledge and skills to Namibia. Regulatory authorities also do not implement the programs of having Namibians work at other Regulators or companies in the first world. In addition, Participant B acknowledges that Namibia is still seen as a province to South Africa and therefore all technologies are shipped from South Africa and organisations make it difficult for us to create our own.

Participant C states that in her experience, financial resources are one of the factors as new products require a large marketing budget. In addition, she adds that consumers do not yet trust innovations, they prefer a face-to-face interaction when taking on new products. The products offered in insurance companies for example a life cover policy will require a lot of explanation to the consumer due to low financial literacy, therefore the complexity of some products can be hindering innovations. Another factor, she added was that FinTech start-ups require patience as consumers take a while to study a product, get reference from successful users before making use of them. She added that financial institutions that have products where intermediaries are part of the channel hinder innovations as intermediaries fear or feel threatened that their process or business will be eliminated.

Participant D indicates that the factors hindering FinTech start-ups in Namibia is lack of financial resources, over regulation in the financial services industry, the way organisations are managed, small population size, technical skills in creating these innovations and lack of trust from customers in keeping their money. Lastly, he adds, there is a large population that lives in rural areas with no smartphones or internet to make use of innovations. He also stresses that the current educational system and curriculum does not cover extensive financial literacy.

According to Participant E, factors hindering FinTech start-ups in Namibia are, our small market. In addition, he points out the rules and regulations in place that prohibit technology to be fully operational. The understanding of FinTech products may also be hindering FinTech start-ups in Namibia.

According to Participant F, the factors hindering Fin-Tech start-ups in Namibia are the absence of regulation as well as old regulation that may prohibit certain activities of FinTech start-ups. He added that general capital requirements pertaining to traditional financial institutions are high and may not always pertain to FinTech start-ups. He further added that there is no law allowing for E-signatures in some industries. A lack of capital investment may be the most prevalent factor in his experience. The fact that Namibia does not have an innovation hub for example Silicon Valley in the United States may be hindering FinTech start-ups. Lastly, he points out that Namibia may not have the required skill set for FinTech, for example blockchain technology, so this may hinder start-ups in finding skills that are required to build the product from them at a reasonable price.

Participant G indicates that factors hindering FinTech start-ups in Namibia is that there is no conducive environment, lack of capital requirements as well as skills to come up with innovations. Participant H indicates that the factors hindering FinTech start-ups are financial literacy and lack of trust from customers. Participant I explains factors hindering FinTech start-ups in Namibia are, limitations in the laws, the embracement of technology by consumers, limited skills from an application developer perspective and some institutions are reluctant to collaborate just with anyone.

Participant J lists the factors hindering FinTech start-ups as follows, financial resources, IT infrastructure, legislation, government policies, and consumers' embracement of technology. A high unemployment rate is another factor, in the sense that, high unemployment slows down growth in the economy, this means a low demand for financial services. He adds that the Namibian ecosystem is not conducive for FinTech start-ups. The absence of an innovation space is a major factor to FinTech start-ups.

Participant K indicates the factors hindering FinTech start-ups in Namibia are IT infrastructure, there is a lot the country needs to do to set up IT infrastructure to ensure all people have access to internet required to make use of innovations. Another factor, he added is capital, he explains that it is costly to set up FinTech companies. Further, lack of skills within Namibia is another, not that there are not qualified people in the field, but the small number available would rather work for established institutions than FinTech start-ups for job security. He concludes that the last factor is little buy in and support from government and no innovation hub set up by the financial sector.

According to Participant L, outdated laws are one of the factors hindering FinTech start-ups in Namibia. He adds that capacity is also another factor, Namibia currently lacks capacity in both implementing and regulating FinTech start-ups in Namibia. He adds that there are graduates with the skills and willpower to innovate, however, the graduates do not receive the support required and therefore their innovations do not materialise. Government has also failed to be at the forefront of promotion of FinTech start-ups as well as create a space for testing and support should an innovation require further development or funding. Once government is on board, it can then request for the private sector to step in and assist where possible.

According to Participant M and N, the factors hindering FinTech start-ups are, scalability. Business models can be good however, scalability may hinder FinTech start-ups. The fact that innovations are centred on existing products also determines whether they will make it. The unbanked population that may possibly take up these products are uneducated, so this makes scalability an obstacle to FinTech start-ups. In non-bank sectors such as investments and insurance products, consumers still prefer in person interaction with providers or advisors. Consumers prefer being able to ask questions as far as possible for their understanding. Another major factor is lack of trust.

The participants all identified various factors hindering FinTech start-ups in Namibia, these were similar across namely, a lack of support from government, financial illiterate consumers, lack of financial resources, outdated laws, lack of trust in the products due to fraud cases and many more.

4.9 Governments role in the promotion of FinTech in Namibia

Participant A agrees that government must support the FinTech start-ups. An example, he indicated would be to make it mandatory to allocate some of their budget to supporting FinTech's, provide mentorship programs and relax regulatory requirements to FinTech companies. Participant B does not believe government should do anything to support the influx of FinTech companies. In his view, no government has supported FinTech start-ups and was ever successful.

Participant C agrees that government should promote FinTech growth in Namibia and she referred to how the Ivory Coast government highly supports innovation by creating a conducive environment supporting initiatives and they have started their own Silicon Valley. She adds that in addition to tech hubs, government must consider incorporating programming and innovation in the school syllabus. She stressed that government should come up with an innovation hub and get the private sector to buy in as innovation hubs can be very valuable to any country.

Participant D agrees that government should play a role in supporting FinTech influx in Namibia. He provided an example of putting an association in place that would oversee and control the influx of FinTech in the financial services space to avoid disruption. He further adds that government's national agenda must focus on financial literacy of consumers. He further suggests that financial institutions with a certain market capitalisation must be directed to contribute financially to set up innovation hubs. He adds that Regulators have a vital role to play in the promotion of FinTech start-ups by allowing for FinTech start-ups to operate instead of prohibiting them.

Participant E agrees government should be involved promote the growth of FinTech start-ups. He states that if government supports FinTech, it will encourage local innovations and avoid us implementing foreign innovations. Government cab support FinTech start-ups by financing them and encourage university students to partake in information technology courses as well as create partnerships with international universities that are more advanced for skills transfer. He notes that this will empower locals. According to Participant F, government's role in the promotion of FinTech's start from rolling out education at a lower level in this area. In addition, government should focus on technical skills from an early age. Government can also assist through favourable policy setting as well as rolling our funding programs for start-ups.

According to Participant G, government's role in the promotion of FinTech start-ups is to create a conducive environment and financing for start-ups. The creation of the Namibia Investment Promotion Development Board may help us achieve these objectives. In his opinion, the universities are doing okay as they are producing graduates in the various fields centred on information technology. He does however point out that curriculums can still be enhanced to ensure the production of skills required.

Participant H agrees that government does have a role to play in the promotion of FinTech start-ups. Government can come up with investment vehicles to assist with funding FinTech start-ups. He further added that with national systems being rolled out, for example the tax system, local companies should be given a chance as this builds skill instead of transferring money and skills outside of Namibia. Further, he adds that innovation hubs or innovation labs must be created; this in his view is one-way innovations can materialise and benefit the country.

According to Participant I, government should promote FinTech start-ups through their many agencies. One example he provided, is through the Minister of Finance through to the financial authorities. Another is through the Minister of Education by encouraging skills and knowledge in the FinTech space as well as setting up innovation hubs and acquiring ownership in successful FinTech start-ups. Government can also put in place mandatory transfer of skills policies for foreign companies coming to set-up in Namibia.

Participant J agrees that government must play a role in the promotion of FinTech in Namibia. FinTech promotion must be a national agenda. He adds that politicians must also be involved and make a contribution where they can. He states, development of a country cannot take place without the advancement of technology. In attaining their mandate of economic growth, the use of technology must be employed.

Participant K agrees that government must play a role in the promotion of FinTech. Government can do this by ensuring that IT Infrastructure is implemented to ensure most of the population has access to internet services. He adds that government should make use of successful innovations, this would assist them extensively. Government must be the ultimate driver and promoter of FinTech. Participant L agrees that government must play a role in the promotion of FinTech start-ups. Government can use an institution for example that promotes FinTech start-ups and ideas. Graduates with potential must also be identified and mentored and trained further to promote domestic innovations.

Participant M and N agree that government should promote FinTech initiatives as technology is the future, but they are not. In Participant N's experience initiatives are coming more from the private sector. Participant M indicates that government's role should be to create a conducive environment.

The participants agree that government must be the driver and promoter of FinTech in Namibia. The participants stress the importance of an innovation hub as well as inclusion of innovation or programming modules in the school curriculum. They indicate that government must also fast track policies and laws that prohibit FinTech products and create a conducive environment.

4.10 Objective of Regulation and Supervision of FinTech

Participant A agrees that FinTech must be regulated because this creates trust with customers and provides a sense of legitimacy. He further emphasises that regulation is important and if FinTech companies are releasing the same product other companies are doing, why should they not play by the same rules? He states that FinTech's should however, not be over regulated.

Participant B's view is that FinTech start-ups must not be regulated. In his view, some FinTech products for example mobile payments are already regulated and therefore do not need to be regulated. He further stipulated that even if FinTech's are regulated, digitisation is borderless, and we may still see international entrants playing in the Namibian space.

Participant C agrees that FinTech start-ups must be regulated as existing financial institutions are regulated. She adds that it is going to be unfair to not regulate a service provide playing in the same field but is not subject to regulation. Participant D agrees that FinTech start-ups must be regulated as regulation in the banking industry is very important. It prevents different people from doing what they want. Regulation controls things like interest rates charged to clients. In his view, regulation is important for the economy and society as a whole.

According to Participant E, FinTech start-ups must be regulated and supervised because of the confidential information and data they carry. The information harvested through transactions passing through the technology can be used for ill purposes and therefore FinTech start-ups must be regulated. He does however indicate that FinTech start-ups must not be over regulated, as this will kill their purpose. Participant F agrees that FinTech start-ups must be regulated as they deal with consumers and consumers must be protected. Consumers even when dealing with FinTech's still want their money to be safe.

Participant G, in his view, believes that FinTech start-ups must be regulated. He highlights the main objective of Regulators, being financial stability, financial inclusion and financial integrity. Therefore, any FinTech company affecting these objectives must be regulated. Participant H agrees that FinTech start-ups must be regulated as they are dealing with people's money. In addition, regulation must be rolled out to ensure a fair playing field to providers of the same product. He adds that regulation also creates trust from consumers.

According to Participant I, FinTech start-ups should be regulated as they pose a risk to consumers in the market. Participant J believes FinTech start-ups should be regulated as they may have implications to Consumers. Regulation and Supervision will enhance consumer protection. Participant K and L agree that FinTech start-ups must be regulated as they are dealing with consumers. Participant L adds that not all products and services created in the market are intended to benefit the consumer. Participant M and N agree that any FinTech start-up dealing with the public's money must be regulated. This is to ensure the protection of the consumer and the financial system.

Most of the Participants are of the view FinTech companies must be regulated to protect the consumers. However, a suggestion on relaxing regulations or having fewer requirements compared to the requirements in place for the traditional financial institutions. One of the participants does not believe FinTech companies must not be regulated as digitisation is borderless and there may be international market players operating in Namibia.

4.11 Approach of regulation and supervision of FinTech

Participant A confirms that he is not a regulation expert, however, he suggests research on what Singapore is doing in the Fintech industry. He, however, encourages for an open platform and regular meetings where new Fintech's are allowed to engage with government so that they can express their ideas, plans and products to be released. The platform can allow for Regulators to create new regulations or exemptions instead of applying broad laws to a FinTech company focused on a specific activity or niche product. He further suggests the creation of incubators that may potentially take care of red tape in the regulation.

Participant B expresses that the Regulator must give guidance to FinTech start-ups instead to encourage the influx of FinTech start-ups. In his opinion, stipulating regulations will increase resistance from FinTech start-ups. In conclusion, a highly regulated industry discourages innovations and therefore guidance notes must be issued instead of regulation. Participant C has no suggestion on which type of regulation as she does not have regulatory knowledge, however she did indicate that regulations must be stricter with FinTech start-ups as they are inexperienced and perhaps lack industry experience.

Participant D suggests that regulation must be drafted to cater for both traditional and FinTech start-ups. FinTech start-ups basically need to be isolated when it comes to regulation. Participant E suggests regulations in place must ensure information and data safety, how it should be stored and for how long. Fintech start-ups should demonstrate operational aspects such as a recovery plan as well as a business continuity plan.

Participant F suggests that in regulating FinTech start-ups, focus must be on conduct issues as well as technology. Regulators must pay attention to risks such as cybersecurity and information security and create standards that govern these risks. Prudential requirements must also be added, FinTech start-ups must be subjected to capital requirements, although at a reduced scale depending on factors such a profitability and liquidity. Regulations that speak to governance and operational risks are quite important. He concludes that a sandbox approach would be a good way to start with regulation and supervision of FinTech start-ups.

Participant G suggests the approach of regulation is vital, as there are consequences. A guidance approach or moral insinuation does not have consequences and therefore industry tends to take regulations more seriously. Participant H states that Regulators must avoid "red tape" meaning, regulations employed must make sense to products and innovations at hand. He gave an example of how in his experience, a bank could not accept an electronic signature for his online banking, and he was at a remote area therefore his payments had to come to a standstill until he could go to the bank physically. Regulation of FinTech should therefore not hamper convenience for customers.

Participant I states that Regulators must not impose the same regulation requirements to FinTech start-ups. Regulators should be flexible to relaxing to being stringent with rules and regulations depending on the growth of the FinTech start up. He suggests FinTech start-ups can be placed in a sandbox and have continuous engagements with them.

Participant J states that the regulation and supervision for FinTech start-ups must be more relaxed compared to traditional institutions. The business models must be assessed, and risks must be identified and measures for those risks must be in place. The relaxation of regulations will therefore be determined by risks carried by FinTech products and services. Capital requirements should also be low and increased as customer base increases. In conclusion, he states a well worked out testing concept such a sandbox is a good approach.

Participant K suggests that the regulation deployed to FinTech start-ups must depend on service offered. The Regulator must be flexible to draft different requirements for different FinTech's as it may apply. The Regulator must avoid having a disconnect in rules and regulations deployed. A practical approach must be employed. Participant L suggests the creation of a sandbox by the Regulator. The testing phase then determines whether a product or service should be regulated and the extent to which they should be regulated. Once a product has been tested and is ready to enter the market, minimum standards can be imposed on FinTech products and services.

Participant M states that regulation must not inhibit business. The extent to which regulation is rolled out. Conduct issues play a role and intermediaries must satisfy some sort of requirements and be vetted before dealing with the public. He does mention that Regulators must be careful not to overregulate. Regulators must create a conducive environment for FinTech's to set up. Once a potential for regulating a product is established, policies can thus be drafted and rolled out. A blanket approach must be avoided at all costs and each FinTech start-up must be looked at individually. He suggests the employed of risk-based approach. Participant N indicates that the regulatory and supervisory approach should be for us to learn as we go. Ground rules such as conduct may apply but in drafting policy, we regulate the FinTech start-ups on a case-by-case basis.

On the question of the best approach to implement to successfully regulate and supervise FinTech companies, some of the participants the implementation of the regulatory sandbox. Another group of the participants suggest regulation should be drafted in accordance with the risk posed to specific products offered by that company. Other participants suggest research be done on how other countries have done so and another suggest ground rules be identified based on market conduct issues and lastly other participants suggest regulators be flexible and be proactive in coming up with guidelines as new products are released in the market.

4.12 Challenges faced by Regulators and suggestions for Regulators to employ in preparation for FinTech start-ups

Participant A states that Regulators may struggle with ever changing innovations and how the Regulator will ensure fair competition between existing incumbents and new Fintech start-ups. He further added the difficulties in managing risks and ensure that "fly by nights" do not take advantage of customers. In answering as to what Regulators can employ to prepare for Fintech influx in Namibia, Participant A indicated that the drive for Fintech needs to be there. In addition, elimination of paper-based systems as FinTech is digital. Participant B states that Regulators may struggle with the skills to regulate FinTech as well as systems.

Participant C states that Regulators may struggle with being flexible and being able to keep up with times and timeously responding to FinTech developments. She states that Regulators must acquire the skills and financial resources to prepare for the influx of FinTech. Participant D believes Regulators have the skills, financial resources as well as the technology to regulate FinTech. He adds that Regulators must create a specific group or function that focuses on regulation of FinTech. He indicates that he has engaged with staff members from the Regulator that demonstrate knowledge and skills in innovation. He encourages that Regulators ensure they understand innovations in the financial services industry and start creation regulations for FinTech companies.

Participant E indicates that Regulators may struggle with the adequate skills set and understanding of what they are regulating. Therefore, Regulators must fully acquaint themselves with financial technology and its developments, only then they can come up with appropriate regulations. According to Participant F, the Regulator has the resources available for FinTech regulation and supervision. Participant F stresses that FinTech is happening and is inevitable therefore, the Regulator must prepare for the influx of these innovations. He adds that Regulators need skills and understanding of the environment they operate in and how technologies can disrupt these. He notes that Regulator need people with information technology skills and not necessarily people with data science or computer science skills. He suggests that Regulators can do this by setting up a function that is responsible for FinTech and come up with a structure like the sandbox. Regulators must also engage industry frequently to discuss FinTech developments and concerns that industry is facing.

According to Participant G, Regulators may have challenges with regard to the technology or systems in regulating FinTech companies. He provides that in terms of skills, Regulators have the skills as they are continuously improving with the assistance of fellow Regulators. One other challenge he indicates, is that Regulators are a bit conservative in terms of the people they employ. He suggests Regulators adjust the recruit process to suit the strategy of implementing FinTech. Regulators should understand the underlying technologies used by FinTech products such as distributed ledger technology and see how these technologies can be regulated.

Participant H states that Regulators may face challenges with regard to FinTech specifically concerning the technology that FinTech start-ups may use. He gave an example for a FinTech start-up that may be using a cloud to store information. If an international company hosts the cloud, it would be challenging to the Regulator, to access this information if say the hosts have their own rules with regard to allowing access to this information. He suggests Regulators should implement good systems to prevent risks such as cybercrimes. He adds a huge investment in systems may be required and the hiring of skilled people in this regard. Regulators must also keep up with market developments in order to successfully regulate FinTechs.

Participants I points out that challenges to be faced by Regulators is definitely lack of skills and understanding of FinTech start-ups. According to Participants J and K, the challenges the Regulator may face is having the same understanding as what is really on the ground. The slow pace at which Regulators roll out new legislation and policies is also a challenge. Participant J adds that in a way, Regulators have not prioritised FinTech as they should be. He adds that Regulators do have the resources and can acquire the technology to roll out FinTech. He explains that in regulating FinTech, one does not need a complicated software but rather people that understand the market and how innovation can affect their space. Regulators must be keen to have continuous engagements with industry where necessary to understand their products and services, this will assist in putting in place, the appropriate rules. The Regulator must ensure at all times that the consumer is protected and ensure FinTech start-ups abide to market conduct standards.

Participant L points out that Regulators currently do not have the capacity and understanding to Regulate FinTech start-ups. In addition, the outdated laws and lack of flexibility to amend or enhance laws to accommodate FinTech start-ups is a challenge in regulating FinTech start-ups. He also adds that the Regulator may not have the infrastructure in place to accommodate FinTech. Low level of financial literacy may also prove as a challenge to the Regulator. He suggests that the Regulator can request technical support from the International Monetary Fund and the World Bank as they have the capacity and are far ahead.

Participant M and N indicates that challenges Regulators may face is capacity and expertise in regulating FinTech start-ups. He adds that Regulators may not necessarily have the systems in place to regulate FinTech. Relationships with other relevant stakeholders may also be a challenge, for example collaboration with the Ministry of Information and Communications Technology.

The participants all agree that challenges exist to the Regulators in employing regulation and supervision of FinTech companies. The challenges include, lack of skills, lack of IT infrastructure or systems, slow pace of legislation roll out and lack of regular engagement with industry.

4.13 FinTech start-ups fined or blacklisted if non-compliant

Participant A explains punishment to Fintech start-ups depend on the crime committed. He further explains some non-compliance matters may be an innocent mistake. However, some may be chance takers that take advantage of consumers and for those a precedence must be set. Participant B did not comment on non-compliance as he does not agree that FinTech Companies must be regulated.

Participant C suggests non-compliant FinTech start-ups must be fined a not blacklisted, the fines can be based on turnover but definitely not to kill the start-ups or push them out. The reason for this is that start-ups don't always have all the resources or expertise in place to flag non-compliance matters. According to Participant D, non-complaint FinTech companies must be penalised depending in the severity of the non-compliance. The Regulator must come up with realistic ways to penalise FinTech start-ups without pushing them out completely.

Participant E and F do not agree with blacklisting non-complaint Fin-Tech start-ups, as the role they play is important. They however suggest fining in line with risks posed on their non-compliance and then implementing measures to closely monitor them and have regular engagements to ensure non-repetition of non-compliance. According to Participant G, any FinTech start-up that have the potential to affect regulatory objectives must be fined or penalised and not blacklisted. If regulations and rules have been clearly communicated, FinTech start-ups will be liable for fines if they break the rules.

Participant H did not provide a comment on the above-mentioned question. Participant I agrees that non-complaint FinTech start-ups must be fined. In his view, if they are not fined, they will take advantage of this and be deliberate in ill treatments to their clients. Participant J points out that non-compliant FinTech start-ups must be punished the same way as current institutions.

The Regulator must employ the same approach. First penalise them depending on the non-compliance and essentially blacklist them if non-compliance persists.

Participants K and L suggests that non-compliant companies must be treated on a case-by-case basis. If non-compliance has less impact, than a fine may apply. Participant K, however, adds, companies with severe non-compliance must be blacklisted. Participant M and N suggests that non-compliant FinTech companies must be penalised through a risk-based approach and not necessarily blacklist them. Fly by Nights that set up with no basics like bank accounts, company registration documents, those can be blacklisted.
The participants agreed to a punishment for non-compliant companies through fines or penalties instead of blacklisting FinTech companies. Some of the participants further add that a risk-based approach be employed and that if the non-compliance is severe, the company can be blacklisted.

4.14 RegTech as a tool by financial authorities

Participant A believes RegTech would be welcomed by financial institutions, in fact, his company has been trying to engage authorities and ministries in using one of their innovations that is a component of RegTech. Participant B did not provide a comment on the question regarding RegTech. Participant C is not familiar with the concept of RegTech therefore she was not able to comment on it.

Participant D agrees that financial institutions will welcome the usage of RegTech as a regulatory tool. He adds that the use of RegTech will save financial institutions time. According to Participant E, financial institutions would welcome RegTech as a regulatory tool. However, he indicated Regulators must ensure security of information to be used on this tool because of the extent to which the information Regulators collect are confidential and pose major risks for example to competitors.

Participant F, G and H agree that RegTech would be welcomed by financial institutions as makes it easier and reduces the burden on their side, saves time, costs and may solve some compliance matters. Participants I, J, K and L agree that financial institutions would welcome RegTech. They added that this will take away the manual process of regulatory work, is cost effective and Regulators can focus on analytical work and research. In addition, financial institutions are evolving and improving their processes on a daily, therefore Reg Tech would highly be welcomed. Participants M and N agree that financial institutions will welcome RegTech as a regulatory tool. Technology will be welcomed as this is where the world is heading to. Regulators need to be steps ahead.

The Participants all agreed to RegTech to be employed by financial authorities, RegTech as it makes it easier and reduces burden saving companies time and money. The participants however stress the importance of systems to ensure confidentiality as this may pose information security to competitors.

4.15 FinTech companies thriving in Namibia

Participant A states that he does not know of a thriving company in Namibia as yet, in the sense that they are not making profits. He mentioned PayToday and PayPulse that are doing quite well but are currently not making profits. Participant B indicates that a thriving FinTech company in Namibia would be MobiPay.

Participant C does not know of any thriving FinTech companies in Namibia; however, she is aware that financial institutions have started to invest more in innovation and technology. She adds that financial institutions are in the process of digitising their offerings and that there is a much bigger focus on customers and what they require. Participant D and E indicate PayToday and MobiPay as FinTech's that are currently thriving in Namibia.

Participant F indicates a thriving FinTech start-up is OperFin. Participant G indicates a thriving FinTech start-up would be MobiPay and PayToday. Participant H mentions VCS Namibia as a thriving FinTech start in Namibia. Participant I indicates that a thriving FinTech company in Namibia is the First National Bank Namibia mobile application. Participant J and L state that they are not aware of any FinTech company thriving in Namibia.
Participant K states that PayToday is a FinTech company thriving in Namibia. Participant M states that PayToday and MobiPay may become a success story one day. Participant N states that Chommiee Bites is the only FinTech company she is aware of.

Overall, all participants are aware of at least a FinTech company in Namibia although they were unsure on whether these companies are thriving.

5. CONCLUSION AND RECOMMENDATIONS

This section provides a summary of findings based on the interview questions as discussed in Chapter 4. The responses to the questions provide a clear conclusion of this research study. The summarised findings are grouped into four themes namely 1) Definition of FinTech and FinTech space in Namibia, 2) Benefits or risk exposure and factors that affect Fintech start-ups, 3) Role of Government in FinTech operation in Namibia and 4) FinTech start-ups that strives more in Namibia. Policy recommendations are discussed. This chapter also provides suggestions for future research as well as limitations to the study.

5.1 Summary of findings

The result from this reach study is summarised according to four themes defined above.

5.1.1 Definition of Fintech and FinTech Space in Namibia

From this research findings, majority of the participants defined FinTech as using technology to better deliver financial services and enhance a customer's experience. Most of the participants further defined FinTech by giving examples of innovations that they have experienced or used in their personal capacity. Therefore, this study concludes that FinTech is generally defined as using technological innovations to aid financial products and services.

In relation to Namibia's exposure to FinTech companies, this study found that Namibia is far behind and is implementing innovations at a very slow pace, compared to the rest of the world. More so, there is a lot to be done before a relatively good growth will be experienced in the FinTech space in Namibia. Though there are innovators in Namibia, they are found to mostly exist in the banking space and very little has been observed in the non-banking space. However, these innovations are mostly imported and/or copied from other countries and to date, no innovations are purely Namibian ideas.

It was also found that FinTech start-up in Namibia are not likely to take over the traditional financial institutions. Some reasons were presented to justify the argument, which include, Namibia has a relatively small population, lack of IT infrastructure in remote areas, high capital requirements, stringent regulatory requirements, existing financial institutions at an advantage, lack of support from the government. Finally, Namibians are not embracing technology and they have trust issues with new market entrants. An interesting finding is that Namibia's existing financial institutions are more likely to collaborate with FinTech companies and sometimes buy them off when they have an innovation that can enhance their processes and customer satisfaction.

One of the participants explained that FinTech companies in the banking space may not thrive as much because the potential users of innovations are already banked and would therefore be reluctant to switch to new market entrants. Another participant expressed that FinTech companies that do survive are likely due to operation at a very low scale which means they are least likely to make profits. In this regard, therefore, it is confirmed that FinTech start-ups are likely to fail in the Namibian space.

Further finding in the surviving of FinTech start-ups in Namibia is based on the strategies that the organisations have in place to respond to FinTech influx in Namibia. It was found that from the banking institutions, non-banking institutions, the regulatory authority for banks and FinTech companies' point of view, FinTech forms part of their internal organisational strategy as technology is the future and the world is heading towards digitisation. From an information technology point of view, technology firms are constantly finding ways to innovate and keep up with market trends and looking out for innovations from competitors. Therefore, it was concluded that FinTech companies are focused on finding various ways to keep their clients and grow customer base by word of mouth, as well as going out of their way to provide the best customer service.

5.1.2 Benefits/risk exposure of Fintech and factors that affect FinTech start-ups

The findings of this study indicate that all the participants' perceptions were aligned with regards to their view on the benefits of FinTech. The most common benefits are, financial inclusion, convenience, reduced costs and therefore lower service fees, efficiency, improvement of service delivery contribution to the economy and deepening of the financial markets. It is therefore concluded that FinTech does bring significant benefits to consumers, financial institutions and the economy at large.

Similarly, the findings show that the participants agree that FinTech poses risks to consumers, financial institutions and if they are not carefully mitigated, pose a threat to the financial stability of a country. The findings indicate that the participants' perception on the risks posed to the customers are somewhat alike. The most common risks are, cybersecurity, information security, identity theft, fraud, credit risk, reputational risk, confidentiality risk and money laundering. It therefore follows that in the implementation financial innovations, financial institutions and regulatory authorities have a lot to do to ensure that these risks are minimised as far as possible.

On the factors hindering FinTech start-ups in Namibia, the findings indicate that factors that hinder influx of FinTech in Namibia are different to specific industries. It was found that according to FinTech companies, the most common factors hindering FinTech start-ups in Namibia include, a conducive environment of operation, financial resources, support from government, trust from consumers, IT infrastructure and innovation hubs. The factors gathered from the banking space are, over regulation, lack of embracement of technology by consumers, consumer education, and a small market size.

The factors identified from the non-banking industry perspective where there is low FinTech activity include; lack of skills, consumer literacy, complexity of some FinTech products, scalability, most importantly, most consumers still prefer face to face interactions with FinTech providers or advisors. The findings from regulatory authorities stipulate additional factors, namely, limitations in the laws, slow pace in deploying legislation, lack of skills and capacity, a lack of funding and a high unemployment rate. It was somewhat affirmed that, in a way, regulators as government agencies, may be holding FinTech back.

5.1.3 Role of Government FinTech operation Namibia

In relation to the government's role in the promotion of FinTech growth in Namibia, this research found that government integrate promotion of FinTech in the national agenda. Some of the agendas should include setting up innovation hubs, incorporating programming and innovation in school curriculums, favourable policy setting, rolling out funding programs for start-ups, supporting FinTech start-ups by making use of new innovations where possible etc.

This study establishes that limitations in legislation prohibit financial innovations in Namibia. On whether financial innovations must be regulated, the findings indicate that FinTech start-ups must be regulated to protect consumers and ensure financial stability. Although there was a view that argues that FinTech must not be regulated as the nature of FinTech products are borderless and therefore may limit regulators in carrying out this function. The Regulators through international bodies are trying to find ways to successfully regulate and supervise FinTech companies providing services in Namibia while based in other countries.

The most common approach suggested is the creation of a regulatory sandbox where FinTech start-ups will test their innovations in a controlled environment before becoming fully operational. The participants agree that a more relaxed regulatory and supervisory approach such as reduced capital requirements on FinTech companies will increase FinTech activity in Namibia. An important aspect to consider is for Regulators to use a flexible approach and must base regulation and supervision on the risks posed to consumers and the financial system. The rules and regulations imposed on FinTech companies must follow a risk-based approach and avoid over-regulation as it kills the FinTech start-ups.

In regulating and supervising FinTech, regulators are likely to face challenges. The findings indicate that the most common challenges that the regulators may face are, adequate skills and capacity, lack of understanding of the underlying technology of FinTech products, appropriate ICT systems, keeping up to date with market developments and the slow pace at which regulators roll out new legislation. In addition, the findings indicate that non-compliant FinTech companies must be fined rather than blacklisted. The level of fines must depend on the severity of the non-compliance as well as the risks posed to the consumers. It is suggested that blacklisting must be used in extreme cases.

On whether RegTech as regulatory and supervisory tool by the Regulator would be welcomed by financial institutions. The findings indicate that Regtech would be a welcomed tool as it would save time, save costs and may eliminate non-compliance matters. It is further suggested that the RegTech tool be created locally to keep the skills in Namibia instead of passing these skills to outside countries.

5.1.4 FinTech start-ups that thrive more in Namibia?

On finding out whether there are any FinTech companies thriving in Namibia, the findings are that FinTech companies exists only in the banking space. The most mentioned were financial innovations offering payment solutions. It was however argued that if thriving meant profitable then Namibia does not have thriving FinTech companies.

5.2 Policy Recommendations

Based on the findings of this research, the following recommendations are outlined.

According to the participants, financial innovations increase the level of financial inclusion, convenience for consumers and reduce service charges. In addition, financial inclusion deepens the financial markets and increases investment product options. Government must therefore play a major role in the promotion of FinTech in Namibia. FinTech must be integrated in the national agenda because digitisation will continue to accelerate in the years ahead. One of the main concern is the outdated laws and the length it takes to release new legislation. It is therefore recommended for the government to implement laws effectively and efficiently. The government through its educational agencies should deploy programming and innovation-related topics in the school curriculums. The participants further highlight that consumer literacy is very critical in the understanding and embracing of financial innovations and therefore government must prioritise consumer education. In addition, technical assistance can be sought from first world countries by establishing agreements for exchange programmes with universities and organisations that are more advanced for skills transfer and exposure.

Further, it is recommended for government to prioritise government spending on IT infrastructure for the internet to reach the majority of the population especially those living in rural areas. The government through its agencies must look at the most effective way to set up an innovation hub for innovators to create and test their products before they are released to the market. A special investment vehicle or funding programme specific to FinTech start-ups is highly recommended as financial resources hold financial innovations back.

It is recommended that government must be at the forefront of FinTech promotion in Namibia and must make use of innovations by FinTech start-ups where applicable to help them grow. Where government systems are required, local companies must be granted the opportunity to create the systems, this enhances local skills. In conclusion, the government must create a conducive environment for FinTech start-ups in Namibia.

It is highly recommended that Regulators implement strategies to respond to the influx of FinTech companies in Namibia. Instead of prohibiting financial innovations, Regulators must allow financial innovations to be tested in an environment called a regulatory sandbox before they are implemented. The concept of a regulatory sandbox avoids a prescriptive approach to regulation and adopts a framework to test digital models. The concept ensures that even FinTech companies falling outside of the current legal framework are tracked to ensure authorities carry out their core business which is consumer protection and financial stability. The sandbox therefore enable compliance with rules and regulations to the growth and pace of innovation without overregulating FinTech start-ups. Regulatory authorities must also keep up with market developments and be proactive in responding to financial innovation products.

Further, it is recommended that financial institutions embrace and make use of technology and digitisation. Where possible, the established financial institutions must also come on board in supporting the government to promote financial innovations. A contribution towards the establishment of the innovation hub is highly recommended as well as play their part in consumer education. Financial institutions are encouraged to engage regulators more frequently on market developments and suggest the best way to implement financial innovations as they are introduced in the market. Financial institutions are encouraged to ensure a clear explanation of their products and services to consumers to ensure they understand their products and services.

The consumers are encouraged to extensively satisfy themselves that they understand a product before they take it on. Consumers are encouraged to educate themselves as far as possible with regards to financial services and ensure that they are aware of all available channels to contact should they require clarity or experience misconduct concerns. Consumers are encouraged to embrace technology and where possible, be flexible to take on products that bring convenience and reduce costs.

5.3 Recommendation for Future research

To have an insight on FinTech from industry players, a qualitative approach was chosen as it is very new. To date, no regulations and supervision exists in the Namibian market. There are opportunities to research on the impact of regulation and supervision of FinTech in Namibia to determine whether, regulation and supervision resulted in the growth of financial innovations in Namibia. In addition, after implementation of regulation and supervision of FinTech companies, a quantitative research on the growth to the economy and financial inclusion can be conducted. Another approach to be considered in the future is a collaboration of the qualitative and quantitative method. The quantitative method can adopt well-structured questionnaires and employ statistical tools to test hypothesis relating to differences in participants' opinions. Lastly, a study on the effects of regulation and supervision of FinTech companies on financial institutions can be conducted.

5.4 Limitations

The limitations in this research relates to the targeted number of 20 participants not being met as some participants that were contacted did not respond and those that responded at times simply did not make it to the interview. Some of the respondents could have provided diverse information that could contribute widely to the study. There is a lack of diversity as start-ups in non-banking such as equity crowdfunding, E-trading and Insurance Tech was not represented.

5 REFERENCES

Abad-Segura, E., Gonzalez-Zamar, M.-D., Lopez-Meneses, E., & Vazquez-Cano, E. (2020, June 10). Financial Technology: Review of Trends, Approaches and Management. *Mathematical Analysis in Economics and Management*, pp. 2-6.

Abel, S. (2019). *Bankers Association of Zimbabwe*. Retrieved from Bankers Association of Zimbabwe: www.baz.org.zw

Adedamola, B. (2019, October 31). *What are the different types of fintech?* Retrieved from Coinspeaker: www.coinspeaker.com

Arslanian, H., & Fischer, F. (2019). *The Future of Finance.* Cham, Switzerland: Palgrave Macmillan.

Association of Supervisors of Banks of the Americas. (2019, December). Global FinTech Regulation and Supervision Practices. *Regulation for Responsible and Competitive Financial Sector Innovation*. Retrieved from www.absasupervision.com

Bank, S. A. (2009, November). *Position Paper on Electronic Money.* Retrieved from resbank: https://www.resbank.co.za/en/home/publications/Papers/position-papers

Banking for International Settlements. (n.d.). *The Basel Committee* . Retrieved from Banking for International Settlements: https://www.bis.org/bcbs/

Collis, J., & Hussey, R. (2014). *Business research: a practical guide for undergraduate & postgraduate students 4th edition.* Basingstoke: Palgrave Macmillan.

Didenko, A. (2018). Regulating FinTech: Lessons from Africa. *San Diego International Law Journal*, 315.

Erman, C. (2017). *Financial Technologies effect on financial services from open innovation perspective.* Lappeenranta: Lappeenranta University of Technology.

Financial Stability Board. (2019, February 14). Retrieved from www.fsb.org

Gergely, I. (2019). *The Evolution of Fintech*. Retrieved from DIGIFIN: www.digifinmasters.com

Hennink, M., Hutter, I., & Bailey, A. (2020). *Qualitative Research Methods.* London: SAGE.

International Association for Insurance Supervisors. (n.d.). *International Association for Insurance Supervisors*. Retrieved from IAIS: www.iaisweb.org

International Association of Insurance Supervisors. (2018). *Issues Paper on Increasing Digitalisation in Insurance and its Potential Impact on Consumer Outcomes.* International Association of Insurance Supervisors.

International Monetary Fund. (2018). *The Financial System Stability Assessment for Namibia was prepared by a staff team of the International Monetary Fund.* . Washington, D.C.: International Monetary Fund.

International Organisation of Securities Commission. (n.d.). *International Organisation of Securities Commission*. Retrieved from IOSCP: www.iosco.org

International Organisation of Securities Commissions. (2015, July 09). *IOSCO publishes report on SME financing through capital markets.* Retrieved from iosco.org: https://www.iosco.org/news/pdf/IOSCONEWS387.pdf

International Organisations Securities Commission. (2017). *IOSCO Reasearc Report on Financial Technology.* Madrid: IOSCO.

Jenik, I., & Lauer, K. (2017). *Regulatory Sandboxes and Financial Inclusion.* Washington DC: CGAP Plublications.

Karadogan, B. B. (2019). *Regulating Financial Technology - Opportunities and Risks.* University of Essex.

Kumar, R. (2011). *Research Methodology.* London: SAGE. Retrieved from Oxford University: http://lib.oup.com.au/he/media_journalism/weerakkody/weerakkody_research_glossary.pdf

Loesch, S. (2018). *A Guide to Financial Regulation for Fintech Entrepreneurs.* West Sussex, United Kingdom: John Wiley & Sons.

Miles, M. B., & Huberman, A. M. (1994). *Qualitative Data Analysis: An expand sourcebook.* London: SAGE.

Parag, Y. A. (2018). *FinTech The Technology driving Disruption in the Financial Services Industry*. New York: CRC Press.

Puschmann, T. (2017). Fintech. *Catchword*, 69-71.

Restoy, F. (2019, October 16). *BIS management speeches.* Retrieved from Bank for International Settlements: https://www.bis.org/speeches/sp191017a.htm

Saunders, M., Lewis, P., & Thornhill, A. (2009). *Research method for Business Students 5th Edition.* Harlow: Prentice Hall.

Shipalana, P. (2019). *Digitising Financial Services: A Tool for Financial Inclusion in South Africa?* Johannesburg: South African Institute of International Affairs.

Sy, A. N., Maino, R., Massara, A., Perez-Saiz, H., & Sharma, P. (2018). *FinTech in Sub-Saharan African Countries.* Washington DC: International Monetary Fund.

University of Cambridge Judge Business School. (2017, February). The Africa and Middle East Alternative Finance Benchmarking Report. United Kingdom.

Viola, R., & Guersent, O. (2014, November 14). *European Commission sets up an internal Task Force on Financial Technology*. Retrieved from Europa: https://ec.europa.eu/digital-single-market/en/blog/european-commission-sets-internal-task-force-financial-technology

Yermack, D. (2018). *Fintech in Sub-Saharan Africa: What has worked well, and what hasn't.* Massachusetts: National Bureau of Economic Research.

Zavolokina, L., Dolata, M., & Schwabe, G. (2016). *FinTech - What's in a name?* Dublin.

Zetzche, D. A., Buckley, R. P., Arner, D. W., & Barberis, J. N. (2017). *From FinTech to TechFin: The Regulatory Challenges of Data-Driven Finance*. Hong Kong: University of Hong Kong.

APPENDIX A: INTERVIEW QUESTIONS

1. What is your professional background and work experience?
2. What are your roles and responsibilities at your organization?
3. How long have you been working at your organization?
4. How has your company defined Financial technology (FinTech)?
5. What is your opinion about FinTech companies in financial services?
6. Is FinTech part of your company's strategy? If so, do you have an internal segment and are resources being dedicated to this segment?
7. Do you foresee FinTech start-ups taking over the financial institutions?
8. Do you foresee FinTech start-ups or products to impact any segment of your company?
9. Do you think FinTech start-ups, at this stage, are more likely to fail?
10. Do you or your organisation foresee FinTech companies as rivals to the incumbent financial services provider?
11. What are your organisation's strategy/ies to respond the influx of FinTech and any impact (negative or positive the influx might bring into the financial services industry?
12. What are the reasons for the choice of such strategies?
13. In your opinion, what are the factors that are hindering FinTech start-ups or new market entrants into Namibia?
14. In your opinion, do you believe that the Fintech start-ups and/or their products and services of start-ups must be regulated?
15. Do you have any suggestion on the type of regulation the government should deploy in regulating FinTech start-ups and their products/services?
16. What are the challenges that the Regulator may likely face with regards to Fintech regulation and/or supervision?
17. Do you think the Regulator has the resources and technology to regulate FinTech?
18. What do you think the Regulator should implement to prepare for the influx of Fintech companies in Namibia?
19. Do you think non-compliant FinTech companies must be fined or blacklisted from the market?
20. In your opinion, should government support the influx of Fintech start-ups in Namibia?
21. If so, what can government do to promote growth in the FinTech space? If not so, what can the government do to prevent influx of Fintech start-ups?
22. Would RegTech be welcome by your company as a tool to be used by the financial authority to regulate FinTech start-ups?
23. What do think are the risks FinTech start-ups pose to customers and the financial industry?
24. What are the benefits of Fintech that are accrued to financial customers, both individuals and organisations?
25. Do you know of any local FinTech company that is thriving in Namibia?