

**Gordon Institute
of Business Science**
University of Pretoria

**The role of digital literacy and digital innovations on financial literacy
and financial behaviour: Building financial resilience in South Africa's
middle Class**

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A research project submitted to the Gordon Institute of Business Science, University of Pretoria, in partial fulfilment of the requirements for the degree of Master of Business Administration.

ABSTRACT

Advancements in digital technologies in the financial services sector are set to play a critical role in the lived realities of individuals. The presence of digital financial services has perpetuated the distributed consumption of financial services and democratising financial products. Developing economies have an opportunity to leverage the digital advancements dividends, leap-frogging years of local financial system development through digital technologies. The outcomes of leveraging digital innovations would be a robust economic middle class that is financially resilient which will enable further benefits to the macro and micro levels of developing economies. But for this to be a reality in developing economies, digital literacy skills play a critical role.

This qualitative study had multifaceted objectives, but the study mainly set out to understand the role of digital literacy and digital innovations on the ability of individuals to build financial resilience in developing economies like South Africa. The findings of study highlighted entrenched structural challenges of developing economies as well as hygiene factors that were barriers to individuals leveraging digital innovations. The insights derived from the study provided invaluable calls to action and strategies for both policy makers and organisations to address key impediments faced by individuals. Overall, the study presented a conceptual model of studying building individual financial resilience through a digital lens. The conclusion and recommendation of the study seek to add to the limited literature of the novel construct of financial resilience, applying a developing economy perspective to literature.

KEY WORDS

Financial literacy, financial resilience, digital literacy, digital innovation, South African middle class, financial education, digital trust.

PLAGIARISM DECLARATION

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

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4 November 2024

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CHAPTER 1: INTRODUCTION TO THE RESEARCH PROBLEM

1.1 Introduction

As the human race has evolved through time, so has the business environment. This is true for all sectors of the economy, but it is more prominent in the financial services sector. In the early 18th century, bartering was the main means of transferring value between entities, then the environment evolved to the gold standard era and currently, it is the digital age of financial services (Ali et al., 2020). This is evidenced by the rise in digital technologies such as blockchain and digital money, where technology plays an ever-important role in creating an environment for individuals to be economic participants and be included in economic activity. The financial services sector is experiencing change at a rapid pace, far greater than what society has experienced in the past. While this is seen as the natural evolution within the sector, there is a need to appreciate how social entities are impacted by technological changes (Alt et al., 2018; Machkour & Abriane, 2020; Yao et al., 2018).

Throughout the financial services evolution, financial experts have always placed a high importance on financial literacy and financial inclusion. These topics have garnered global attention and have been at the forefront of the global agenda throughout the 20th and the 21st centuries (Garg & Singh, 2018; Karakurum-Ozdemir et al., 2019; Lusardi, 2015). The importance is due to the topics' ability to improve the social standards of participants through economic inclusion; a key measure on the global agenda (sustainable development goals) of eradicating poverty and narrowing inequality. Evidence has shown that financially literate individuals make better informed financial decisions to improve households' economic standings through activities such as savings, investing and budgeting (Hastings et al., 2013; Lusardi & Mitchell, 2023; Stolper & Walter, 2017). The current financial climate is demanding, and it presents a heightened risk as ill-informed financial decisions can be costly to an individual's future economic standing (Goyal & Kumar, 2021a; Lusardi & Messy, 2023; Yadav & Banerji, 2023). This highlights the importance of financial education and the potential to leverage technological developments to improve financial behaviour (Ferilli et al., 2024; Hastings et al., 2013b; Lyons, 2005).

The intersection between digital innovations and financial services has grown in relevance as fintech disrupts the financial sector. As organisations have leveraged technological advances to create new products and digital channels to consume their products so has the need for economic agents to evolve and become digitally fit.

1.2 Research problem

In recent years, South Africa's economy has been in a prolonged state of stagflation (*The World Bank in South Africa, 2024*). Over the last five years, South Africa's economic growth has been below 2% year on year with not much promise of elevated growth (*The World Bank in South Africa, 2024*). Forecasts into South Africa's future economic growth prospects have remained mute with the International Monetary Fund (IMF) forecasting growth of less than 1% for the year 2024 (IMF, 2023). This has been viewed by many economic experts as negative when compared to countries such as Brazil which have achieved growth rates north of 2% over the same period (African Development Bank Group, 2023; IMF, 2023). South Africa's poor economic performance has been attributed to economic constraints such as the country's electricity crisis, diminishing education standards and the volatile political landscape (IMF, 2022; 2023). These economic constraints have resulted in high unemployment and have threatened to deepen the state of inequality and poverty in the country. These byproducts are seen as key concerns that threaten the country's social stability, its ability to attract foreign direct investment flows and economic growth for the country (Parry & Gordon, 2021). The impact of the recent global financial shocks, through COVID-19 and geopolitics, has impacted the financial stability of businesses and individuals. Economists have highlighted the importance of businesses and individuals building financial resilience to withstand these shocks to the financial system through improved financial decision-making (Robertset al., 2021).

South Africa's economy has struggled to transition from a primary service economy that is focused on mineral exports to a tertiary services economy that exports services globally. This has been due to the mineral-rich borders of the country being a driver of the country's economy. This has had an impact on the employment levels in the country as the global demand for minerals has reduced and diversified to other countries (Arndt et al., 2020). Unemployment has been a major concern for South Africa, with the

current unemployment rate sitting at 32.9% (Stats SA, 2024). Stats SA (2024) highlights that the extended definition of unemployment in the country pushes this indicator to 41.1% of the employable population, with the youth forming 45.5% of the unemployed population. Although the country has achieved progress across the education tiers, and this has been evidenced by the production of university graduates at a faster rate than what the business environment can absorb (International Monetary Fund, 2023), this is a major concern as South Africa which has a relatively young demographic makeup. The above factors are linked to the economic performance of the country.

The spillover from the slow economic growth of South Africa has had a cumulative impact on the country's tax base. South Africa's middle class is considered as the households with an income of R25 000 or with an individual income of R15 000 which is only 20% of the country's population (Bhorat et al., 2023). With high unemployment and a stagnant economy, the result is a static tax base that contributes towards a growing population (Scholtz & de Kock, 2024). Recent reports have highlighted that on average, 10% of the country's population accounts for 90% of the collected tax in and that the middle-class accounts for 80% of the total collected taxes (Scholtz & de Kock, 2024; Red Flags for South Africa's Overburdened Tax Base, 2022). This is indicative of the extreme inequality in South Africa and the economic challenge that the country faces. Economic and tax pundits have also highlighted that the current tax rates are at terminal extremes and impact the country's ability to raise additional tax revenue to fund government expenditure. Traditional economic theory highlights government expenditure as being a key driver of economic growth but the limited prospects to raise additional funds through taxes further indicate the stifled economic growth for the future (Simon, 2000).

Although South Africa faces critical economic challenges, the country's financial ecosystem has received global recognition (IMF, 2022). South Africa benefits from the most developed financial ecosystem on the African continent and it has been described as being mature, well-regulated, and stable by the World Bank (IMF, 2022; South Africa Reserve Bank, 2023). The country has over 30 commercial banks, with new prospects set to join the sector, servicing a geographically dispersed network of over 5 000 branches. Over 65% of the citizens aged 18 years and older have bank accounts and interact with various mobile money solutions that are integrated into the country's

financial system. It is estimated that over 80% of this population interacts with the financial ecosystem, evidencing the financial inclusion achieved by the country (South Africa Reserve Bank, 2023).

One avenue of promoting economic growth for the country is through the financial decisions made by the country's economically active population. Improved financial decision-making contributes to the improvements in saving behaviour and investment behaviour as well as promotes economic growth. Through economic principles, as more people save and invest, the financing pool increases which is important for funding long-term projects and initiatives (Pasa et al., 2022). The cumulative results of funding long-term projects go towards increased employment, infrastructure development and increased tax collections through employment and further entrenches another cycle of savings and investments. These results trigger a self-fulfilling cycle of economic growth. This highlights the importance of the financial decisions made by the country's middle class to improve the state of the country (Hassan et al., 2011).

To achieve improved financial decision-making, financial literacy has been touted as a key field. South Africa's financial literacy has been rated as being moderate to low by the Organisation for Economic Co-operation and Development (OECD) (OECD, 2023). Only 42% of South Africa's adult population was evaluated as being financially literate according to the 2021 survey (Goyal & Kumar, 2021b; Nemataheni, 2023). This highlights a grand challenge for the country as more than half of the population struggles with concepts such as interest rates, inflation and saving key financial concepts that influence day-to-day financial decisions.

A major challenge with financial literacy in South Africa is the lack of access to financial education (Nemataheni, 2023). Financial education does not form an adequate part of the schooling curriculum. The challenges to building financial literacy have been hindered by the lack of public trust towards financial institutions. This has been due to financial scams and financial misconduct that have plagued the country (Roberts et al., 2021).

Contrary to the country's low economic growth, there has been a high adoption and use of technological advancements in the business environment. The financial services sector has been heavily disrupted in recent times as digital technologies have evolved the sector and removed barriers such as access and they have increased financial participation (Bollaert et al., 2021). Through globalisation, the global economy has become a tight-knit ecosystem and product reach has expanded to all the corners of the globe both in developed and developing countries (Klapper & Lusardi, 2020). With advancements in product development and dissemination, there is a need to match this evolution with advancements in financial literacy and the use of digital literacy to build financial resilience (Klapper & Lusardi, 2020; Radovanović et al., 2020).

In concluding the research problem, with South Africa's current unemployment levels, low household savings rates and a stagnant tax base, there is a need to foster financial resilience amongst the country's middle class. Much has been written about the importance of the South African working class and its potential to drive economic growth, the need for the middle class to adopt adequate tools and acquire knowledge to successfully navigate the global economy as it moves towards a digital nature (Bollaert et al., 2021). Technology offers transformative capabilities to various aspects of society, human life, and the planet. The influence of technological advancements is key for business, society and governments but there needs to be care in ensuring that any advancements do not regress the progress made by the country in terms of financial inclusion and poverty elevation amongst other indicators. Digital technologies may present transformative inputs to improve the country's financial literacy, financial behaviour and financial decision-making.

1.3 Purpose statement

In the South African context due to the unfavourable conditions that the country is facing, financial literacy and financial knowledge have become critical to the economic prospects of the country (Roberts et al., 2021; Kass-Hanna et al., 2022; Nemataheni, 2023). The adverse socio-economic conditions have placed a heightened level of importance on the individuals' financial decisions and the financial risk for individuals is at an all-time high. Improved financial decision-making by the citizens has a multiplier effect on the broader macroeconomic environment (Kass-Hanna et al., 2022). Financial

literacy and financial inclusion have been key policy agendas for the country but there is a need to understand the role the digital technologies have on promoting these financial principles.

The purpose of this research was to understand the drivers of financial resilience amongst the middle class of South Africa, specifically the role of digital literacy on financial literacy and financial behaviour. Understanding the relationships between the identified constructs may be critical in maintaining the diminishing middle class of South Africa and informing the development and adoption of technological innovations (Arndt et al., 2020; Parry & Gordon, 2021).

The findings of this study will add to the literature on financial resilience in a South African context. The results of such a study may contribute to the government strategic development initiatives to drive economic growth and education initiatives. Furthermore, the outcomes of this study can aid the financial institutions in understanding the factors that impact product development and adoption.

1.4 Research Aim

This study aimed to understand how digital literacy plays a role in financial literacy and the emergence of digital financial literacy in building financial resilience. This is to understand how digital innovation and digital literacy can promote better financial behaviour and ultimately contribute to financial resilience for individuals. The study sought to add to the body of literature on the impact of technology on the evolution of the financial sector.

1.5 Research Report Structure

Below is an outline of the structure of the research report.

Chapter 2: Literature Review

This chapter of the report provides an examination of the literature landscape, the theoretical arguments of the research and the foundational principles identified from the research problem. The examination of literature delves into prior scholarly studies on financial literacy, digital literacy, financial behaviour and financial resilience.

Chapter 3: Research Questions and Objectives

The research questions that were identified to answer the research problem are detailed in this chapter. The questions sought to understand the influence of digital literacy on financial decision-making and its influence on building financial resilience in a developing economy context. The section also provides the research objectives in line with the research questions.

Chapter 4: Research Methodology and Design

The chosen research methodology and design to conduct the research are outlined herein. The methodology and design guided the research study and outlined the research components such as sampling methodology, instruments selection and how the study ensured reliability, integrity and validity.

Chapter 5: Research Results

The chapter reports on the results and the analysis of the study data. The data gathered in the study was analysed and interpreted in line with the research questions and objectives.

Chapter 6: Discussion of Results

Chapter 6 cross-examines the results of the study against prior literature results. The chapter draws on other data sources to support or contradict the findings of this study.

Chapter 7: Conclusion and Recommendations

The final chapter of the study crystallises the findings of the study, offers recommendations for future researchers, and examines the limitations of the study.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

This chapter aims to provide a systematic exploration of existing literature, examining the different dimensions around digital literacy, financial literacy and financial resilience. The chapter provides the reader with a compass of the existing scholarly studies and builds an argument on the gap identified in the existing literature around the intersection of digital literacy, financial literacy and financial resilience. The chapter canvases the respective constructs, as well as presents the theories used in the study and concludes with the identified gap.

Traditional economic theory is founded on the principle of scarce resources and individuals being rational economic agents that seek to maximise their utility under scarce resource conditions (Robinson, 1999). The studies that have probed the traditional economic theory have found that the economic agents are irrational but also highlight other salient factors such as financial literacy and financial knowledge that are key factors to the decision-making process (Hastings et al., 2013a; Stolper & Walter, 2017). The importance of financial literacy and financial behaviour have been studied over time and it has been ploughed into the global economic agenda due to the benefits they attract. In developing economic agents' financial knowledge and financial literacy, the digital technology innovations have become central to this discussion due to their transformative capabilities (Gomber et al., 2017).

2.2 Theoretical Underpinning

2.2.1 *Human Capital Theory*

The human capital model was introduced in the school of economics during the period of expansive growth in the United States. The studies over the period identified capital as a core construct to explain the growth in economies and the multidimensional nature of the capital construct extended to human capital (Folloni & Vittadini, 2010; Nafukho et al., 2004). The human capital theory is underpinned by the ability of individuals to improve skills and abilities through training or education (Nafukho et al., 2004). The theory sets out to explain that the advances in education are because of the investment into human resources or human capital. The theory posits that investing in people

through various initiatives such as education yields an increase in productivity and skillset. The human capital theory is defined as the knowledge, skills, attitudes, and other traits with the potential to contribute to productive outputs (Fleischhauer, 2007; Nafukho et al., 2004). The theory posits that the individuals with greater levels of knowledge, skills and various other traits will achieve greater performance outcomes. The theory has been criticised for its simplistic approach of merely evaluating the number of initiatives versus the impact of each initiative in growing human capital (Welch, 1975). The model does, however, provide a mechanism to evaluate human progression.

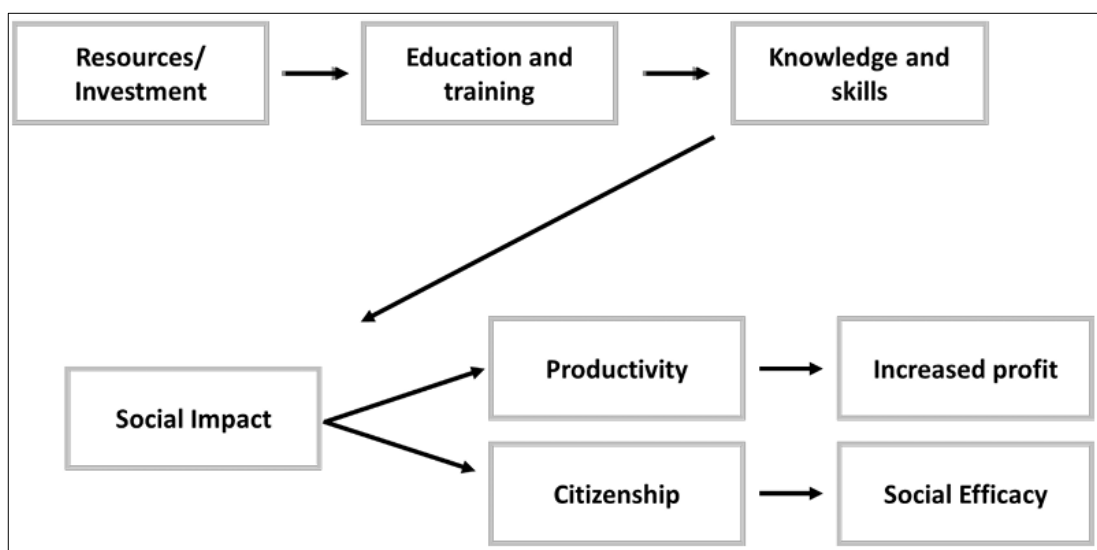


Figure 2.1: Human Capital Theoretical Framework (Source: Ahmed et al., 2017)

Human capital has been used in various studies of formal education or informal education financial education initiatives. These studies highlight the permanent impact of financial knowledge on financial behaviour and financial sustainability (Lusardi & Mitchell, 2012). The human capital theory in relation to digital literacy, financial literacy and financial inclusion posits that the individuals with greater financial human capital are more likely to make better-informed financial decisions (Amagir et al., 2020; Hastings et al., 2013). The educational investments made by the governments and society into financial knowledge, financial literacy and digital literacy can improve financial human capital and ultimately financial decision-making (Lusardi, 2019).

The rapidly changing global environment innately evidences the relevance of the human capital theory in financial literacy. Through engaging with the environment and contending with change, human capital is grown, and individuals adapt and learn new skills and abilities (Fleischhauer, 2007). The recent COVID-19 pandemic is evidence of the adaptability of individuals to gain knowledge and skills to operate in a digital-only environment (Erdem & Rojahn, 2022). The digital advancements in various industries have called for advancements in human capital to create an environment for the adoption of digital solutions. The consumers of these digital solutions have an added burden of advancing skills and knowledge within the digital space to derive the benefits associated with digital innovations. The human capital theory was applied to the research problem of whether digital literacy influences the ability of individuals to build financial resilience.

The human capital theory provides a lens into the human capability to build knowledge and apply IT for better financial decision-making, but there is a need to also capture the digital aspect of the research. The technology adoption model provides a framework for analysing the digital component of the research.

2.2.2 Technology Adoption Model

The ever-growing role of technology in the everyday lives of users has always left an open question about the acceptance or rejection of technological solutions by the users. This challenge is not novel, but it is one that has plagued technological research going back in time (Chau, 1996).

The initial studies into this phenomenon were based on the psychology of users and posited that the users were rational and applied the systematic use of information that was available to make decisions (King & He, 2006). The Theory of Reasoned Action (TRA) focused on the behaviour intention of the users as the predictor of behaviour and further identified attitude as a mediator to the intention. The TRA model evolved into the Theory of Planned Behaviour (TPB) through the additional element of perceived behavioural control (Chau, 1996; Marangunić & Granić, 2015). The two models provided the researchers and practitioners the ability to explain and predict user behaviour. The models struggled with contextual applications as well as the inability to produce reliable

results and they formed the origins of the Technology Acceptance Model (TAM) (Legris et al., 2003).

The technology acceptance model was initially conceptualised by Fred Davis through the use of the TRA and the TPB models (Chau, 1996). In the TAM model, Davis posits that the user's acceptance of any technological innovation is based on the user's perceived usefulness, the perceived ease of use, as well as the user's motivation towards using the technology (Turner et al., 2010). These factors inform the attitudes of the users towards technology and its ultimate usage. Figure 2.2 showcases the primitive TAM model with the factors that are key to adoption and the usage of technology solutions.

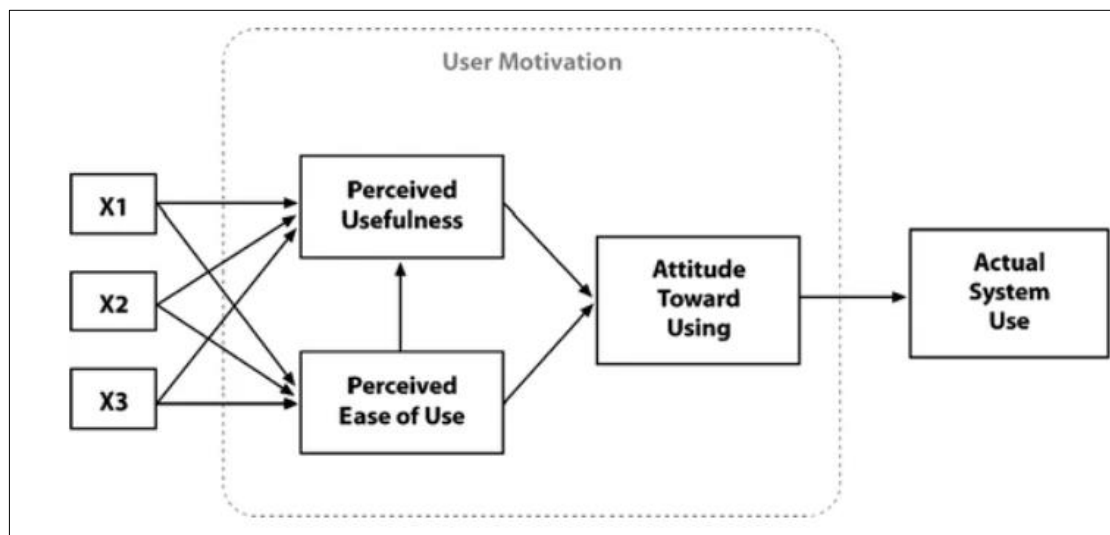


Figure 2.2: Technology Acceptance Model Inception Model (Source: Marangunić & Granić, 2015)

The TAM model has been extensively used throughout research as a model to explain and predict the adoption of new and innovative technologies. The model has been used in ranging studies of technological use across various industries across various user profiles. The model has gained legitimacy through its application in various research studies across various contexts (Holden & Karsh, 2010; Legris et al., 2003).

Though the TAM model has been widely used, it suffers criticism for its inability to factor in a user's predisposition characteristics in relation to acceptance. The model does not consider subjective characteristics such as a user's inclination towards technology or the fear the users may harbour towards technology (King & He, 2006; Legris et al., 2003).

The outcomes of the mentioned limitations may limit the ability of the model to unpack the nuanced traits that may alter a user's acceptance of technological solutions. Furthermore, the model does consider external factors, but it fails to appreciate the ranging levels or the presence of various factors (Chau, 1996; Legris et al., 2003). As technology become pervasive, the level at which the users experience external factors ranges and needs to be embedded in the model.

The TAM model has undergone various modifications by various researchers since its inception. Most notably has been the inclusion of independent constructs and antecedents that set about understanding other aspects of users that are linked to technological adoption (Marangunić & Granić, 2015). Lee et al. (2003) performed a meta-analysis of the modification and identified four categories of changes. The modification comprised of external precursors, elements from other theories, contextual elements and subsequent influence. The evolutions of the model have supported the view by King and He (2006) who posit that the basic TAM model is not extensively comprehensive. Figure 2.3 represents the latest evolution of the TAM mode. The new model considers other variables such as the external predictors and the contextual factors which the primitive model omitted.

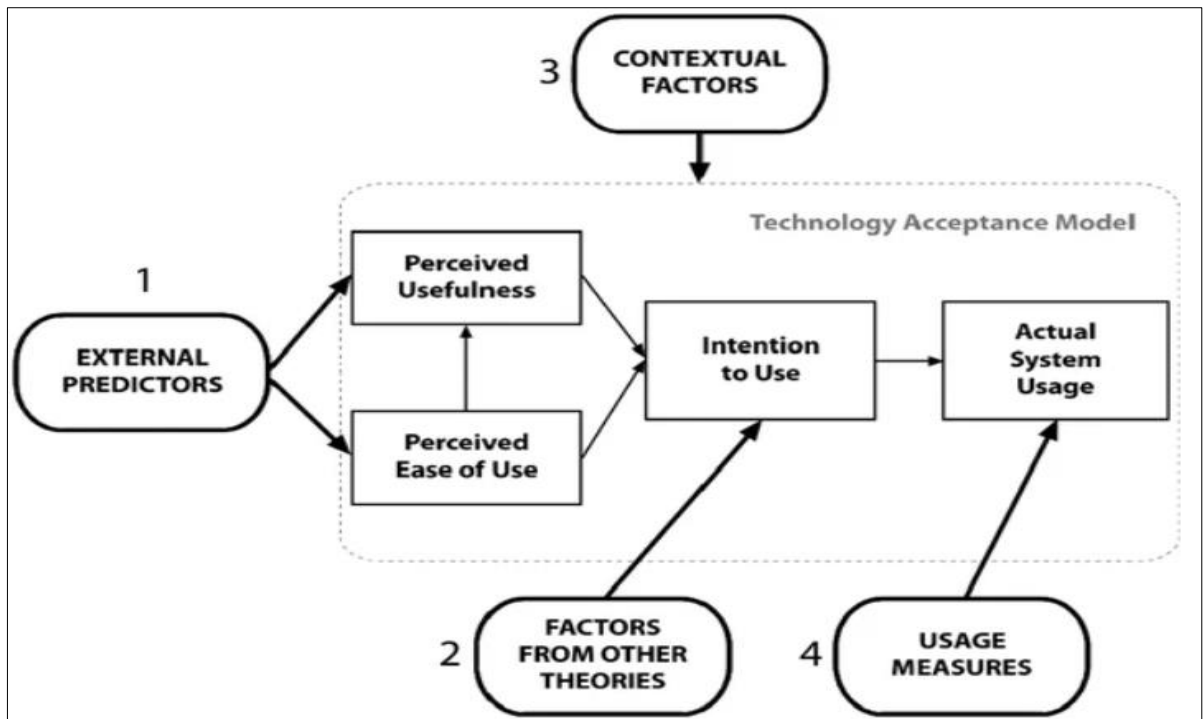


Figure 2.3: Technology Acceptance Model Revised Model (Source: Marangunić & Granić, 2015)

The research used the human capital theory and the technology acceptance model in unison to study the relationship between digital literacy, financial literacy and financial resilience. The models are complementary as each focuses on a construct and the results from the respective model or theory can have a mutual influence on the other. Using these theories, the study analysed the relationship between digital literacy, financial literacy and financial resilience by focusing on components essential to the relationship.

2.3 Financial Literacy

Financial literacy is a concept that has been extensively studied in literature. Noctor et al. (1992) offered one of the first definitions of financial literacy as being the financial knowledge that leads individuals to informed financial decisions (Ouachani et al., 2021). Earlier studies primarily restricted financial literacy to financial knowledge and decision making which did not account for other salient factors such as but not limited to financial self-efficacy and financial attitude (Goyal & Kumar, 2021b; Hastings et al., 2013). As the studies into this concept evolved, so too did the definition and the inclusion of various factors informing the multidimensional nature of financial literacy. The definition by OECD provided a rounded definition of financial literacy as being the interplay between

financial awareness, financial knowledge, financial skill, attitude, and financial behaviours that positively influence the financial decision-making of individuals and helps them to reach financial well-being (OECD, 2023). According to Lusardi (2019), this definition offers a more comprehensive view of financial literacy as it captures all the dimensions of financial literacy.

Bialowolski et al. (2022) support the definition of financial literacy by the OECD but argue that the definition should be coupled with financial inclusion. For individuals to make financial decisions, they need to be in an inclusive financial environment to exercise financial decisions (Hasan et al., 2023). Financial inclusion is defined as the access, availability, and the usage of financial services by individuals in an economy (Sakyi-Nyarko et al., 2022). Tinta et al. (2022) argue that financial inclusion is the precondition that is required to exercise financial literacy and derive the benefits associated with the concept. Hasan et al. (2023) add an element of affordability. Affordability is a key component of financial inclusion especially in the context of a developing country.

Studies have highlighted the importance of financial literacy for economic growth (Ozili et al., 2023). Several studies have evidenced that the individuals with greater financial literacy levels are more prone to engage in financial activities such as savings, budgeting and investing in the stock market (Hastings et al., 2013; Klapper & Lusardi, 2020; Stolper & Walter, 2017). Financial literate individuals were found to be more likely to plan for retirement and focus on wealth accumulation. These are critical benefits for developing countries (Omar & Inaba, 2020).

Financial literacy education has remained a global challenge, more so in the developing economies (Lusardi, 2019b). The lack of integration of financial education in the schooling structure has a defining impact on the long-term financial literacy level of individuals (Lee et al., 2003b; Lusardi, 2019b). The financial behaviour of individuals is considered to be the cumulation of and the individual's financial literacy. OECD's (2023a) global financial literacy reports have highlighted that only 60% of the adult population are financially literate.

Financial literacy has remained a relevant topic in the research community and in the global agenda due to its ability to improve the global socio-economic conditions (Goyal & Kumar, 2021b). Some of the byproducts of the global agenda to improve socio-economic indicators such as poverty and health, have resulted in rises in life expectancy and falling fertility rates globally (Klapper & Lusardi, 2020). Added to those has been the competitive evolution of the global business environment, through globalisation and digitisation, which has slowed labour demand globally (Lusardi & Mitchell, 2023). Financial literacy remains a key concern globally due to people living longer and the stagnant retirement age for various countries (Klapper & Lusardi, 2020; Lusardi & Mitchell, 2023). This places greater responsibility on individuals to manage their financial circumstances effectively to maintain their standards of living past retirement age. Lusardi and Messy (2023) argue the importance of informed financial decisions under these conditions and highlight the key role that financial literacy plays. These conditions have placed more responsibility for saving and investing for future financial sustainability (Lusardi & Mitchell, 2023).

Recent studies into the 2008 financial crises have highlighted the complex nature of the financial environment (Hamid et al., 2023a). This was evident in the number of financial products and services that were available to individuals. Lusardi and Mitchell (2023) argue the relevance of financial literacy as a safeguard measure against financial fraud and financial abuse. As individuals pursue financial resilience, there is a need for financial literacy as the foundation. Liu et al. (2024) found that the individuals with low financial literacy levels were susceptible to behaviours that promote financial fragility. The manifestation of an individual's financial literacy levels is through financial behaviour which is a key metric in evaluating a country's progress.

2.4 Financial Behaviour

Financial behaviour has been widely studied in literature due to its close connection to financial literacy. Initial studies into financial behaviour were focused on the decision-making process of individuals in isolation but they have since evolved and considered financial literacy as a key component of the financial actions taken by individuals (Falahati et al., 2012; Ingale & Paluri, 2022; Xiao et al., 2014). Financial behaviour is defined by Sayinzoga et al. (2016) as an individual management of savings, expenditures

and budgets. Hauff et al. (2020) further add to this definition of financial behaviour and consider financial behaviour as any activity relating to money management by an individual. Studies have further enriched the construct of financial behaviour into four categories of investment behaviour, borrowing behaviour, spending behaviour and savings behaviour (Rahman et al., 2021; Silinskas et al., 2021; Zhu, 2021). Financial behaviour is considered an outcome of an individual's financial literacy levels. Studies have found that the individuals with low financial literacy levels exhibit poor financial decision-making behaviour. These studies showed a positive correlation between financial literacy and financial behaviour (Hauff et al., 2020; Sayinzoga et al., 2016; Zhu, 2021).

Sayinzoga et al. (2016) argue that financial behaviour is also influenced by the access to financial services. The study showed that the individuals who lacked the financial awareness of products and services had poor financial decision-making. This highlighted the link between financial inclusion and financial behaviour. Financial behaviour is considered to be a pivotal component of an individual's financial wellbeing and financial resilience (Silinskas et al., 2021). A study by Falahati et al. (2012) highlighted the consequential nature of financial behaviour against financial well-being.

Financial behaviour is not only influenced by financial awareness and financial access, but there are also elements such as an individual's social environment that play a critical role in fostering positive financial behaviour (Sayinzoga et al., 2016). A study by Rahman et al. (2021) highlighted that the demographics of individuals play a key role as well as the environment that the individuals grow up in. A study by Silinskas et al. (2021) found that if the individuals are exposed to positive financial behaviour from an early age, they are likely to express the same financial behaviour. This highlights an important aspect, especially for developing economies where financial behaviour is not informed by traditional channels, as these economies need to consider social channels to inform positive financial behaviour. Financial behaviour is considered as an output of financial knowledge which infers that building financial knowledge is a critical step towards positive behaviour. Financial education thus is essential to the building of financial resilience and positive financial behaviour.

2.5 Financial Education

Another component that contributes to financial behaviour and financial resilience is financial education. Financial education relates to the building of financial capacity within individuals (Lyons, 2005). The definition of financial education is varied in literature and scholars have not been able to provide a conscious definition (Kaiser & Menkhoff, 2020; Lewis & Messy, 2012; O'Connell, 2009). A study by Hastings et al. (2013b) performed a literature review on financial education and noted attributes of financial education. These attributes were financial knowledge, financial management and the implementation of these aspect in financial decision making. Assessing these attributes, they offer a view of the outputs of financially educated individuals but do not provide a tangible definition of the construct (Shanava & Vanishvili, 2021). A study by Kaiser et al. (2022) defines financial education as the increase in an individual's financial knowledge. OECD also offers a definition of financial education as the process by which the consumers improve their understanding of financial products and concepts, become more financially aware and build knowledge and skills to see risks and opportunities and make informed financial decisions to improve their financial resilience (OECD, 2023a). This provides a well-rounded definition of the construct as it evidences the process of improvement.

A study by Fan and Chatterjee (2019) examined the various methods applied within financial education. The study noted that the initiatives around financial education were centred around employer-based programs, school-based programs and other related methods such as social network learning. In the context of developing countries, the work-based and school based financial educational initiatives have been ineffective due to their lack of integration into all levels of schooling curriculum or the lack of tailor programs that are contextual to the student (Kaiser & Menkhoff, 2020; Shanava & Vanishvili, 2021). Individuals have been left to devise methods of financial education through social networks and social educational groups. A study by Kaiser et al. (2022) posited that other stakeholders, such as banks, had the potential of promoting financial education through their intimacy with the consumers.

The financial education studies have linked it to the ability to effect behavioural change in individuals. The exposure and awareness created by the financial education initiatives

provide individuals with the ability to make better informed financial decisions (Kaiser & Menkhoff, 2020). This draws a link to the ability to improve the financial behaviour and financial resilience of individuals through financial education. There are various positive benefits of effective financial education in developing countries (Kaiser et al., 2022).

Ultimately, the output of financial education is financial knowledge and financial literacy. The effectiveness of financial education efforts continues to be studied in literature and various other methods are continuously being explored. This is a key element that is required in the journey towards financial resilience.

2.6 Financial Resilience

The concept of financial resilience has seen an increase in popularity amongst the scholars which has been prompted by the aftershock of the COVID-19 pandemic (Klapper & Lusardi, 2020; Salignac et al., 2019a). The initial studies into financial resilience were triggered by the aftermath of the 2007 global financial crisis (García-Mata & Zerón-Félix, 2022; Hamid et al., 2023a; Salignac et al., 2019a). The studies at that time set out to understand the relationship between the financial instability of the economy and the ability of households to cope with financial shocks (Bialowolski et al., 2022; Mcknight & Rucci, 2020). The financial resilience studies focused mainly on the access and availability of resources and credit (Klapper & Lusardi, 2020). Though availability and the access to resources contribute to financial resilience, Klapper and Lusardi (2020) argue that other components of financial resilience also play a part in building financial resilience and need to be considered in its definition. A more recent definition of financial resilience is the ability of a household to access or draw on internal capabilities and the access to external resources to support them in times of financial shock (Hamid et al., 2023). This definition is more wholistic as it factors in elements such as an individual's internal capabilities, financial support structures that are appropriate and acceptable, and the external environment accessibility to support an individual (Hamid et al., 2023b; Tinta et al., 2022).

Authors have drawn similarities between financial resilience and financial well-being (Lusardi & Messy, 2023). Financial wellbeing also suffers the same challenges as financial

resilience as there is no common definition amongst the scholars. Various studies agree on the common elements of financial well-being and define financial well-being as the ability of the individuals to manage their current and future financial freedom and desired living standards (Kamakia et al., 2017; Lusardi & Messy, 2023). Though these two constructs share a commonality in the ability of individuals to manage their finances with a view of future sustainability, they can be considered as cumulative constructs. Financial resilience encapsulates financial well-being with the additional element of an individual being able to manage finances through a financial shock (Klapper & Lusardi, 2020).

Various studies have highlighted individual financial resilience as an ecosystem of components which include but is not limited to financial literacy, financial inclusion, financial behaviour and financial awareness (Hamid et al., 2023a; Klapper & Lusardi, 2020; Salignac et al., 2019a). These studies posit that for the individuals to cultivate a state of financial resilience, they need to have elements from each of the above disciplines. The study by Hamid et al. (2023) expresses the relationship between these constructs and financial resilience; that is for the individuals to make financial decisions, they need to be aware of financial concepts and have access to action those financial decisions. Their financial knowledge informs their financial behaviour, which informs how they build financial resilience.

Throughout the literature, there is a multifaced link between the constructs of financial literacy, financial behaviour and financial resilience. Studies have shown the cumulative nature of these constructs and the reinforcement each construct has on the next (Erdem & Rojahn, 2022; Hamid et al., 2023a; Kass-Hanna et al., 2022; Sakyi-Nyarko et al., 2022).

Financial literacy is considered as the foundation of building the goal of financial resilience. Financial literacy informs the behaviour of individuals and how they conduct financial management. The cumulative results of their financial actions or behaviour inform their ability to achieve financial resilience. This has been the traditional literature offering around the linkage of the constructs. The manner in which financial resilience can be attained has evolved with time and digital innovations play a role as an avenue

of building financial resilience. The exploration of the factors around digital innovation is essential in establishing a link to financial resilience.

2.7 Digital Literacy

Digitalisation and the pervasiveness of the use of digital technology across various industries have disrupted the conventional ways of doing things. New technologies have impacted existing economic processes, systems, sectors and most importantly consumer behaviour (Ferilli et al., 2024; Kass-Hanna et al., 2022). As consumers immerse and encapsulate themselves in a digital ecosystem, this opens a new field for scholars to study the impact of digitisation. Di Vaio et al. (2021) argue that digital innovation has the transformative and generative capabilities to alter human behaviour.

Digital literacy is not a novel concept as it was first introduced into literature in 1997 in line with the technology boom at the time (Bawden & Bawden, 2001; Koskelainen et al., 2023a; Yadav & Banerji, 2023). The prolific integration of digital technologies into various industries has brought about increased interest in the study of digital literacy (Koskelainen et al., 2023a). Earlier definitions of digital literacy focused on technical computer skills and knowledge, but this has since evolved to indicate the ability to navigate in a computer environment (Tinmaz et al., 2022). As such, the concept of digital literacy relates to the ability and the competencies to navigate disjointed and complicated information ecosystems (Tinmaz et al., 2022). Yadav and Banerji (2023) define digital literacy as the ability to assess and navigate new technological situations, critically evaluate information, and leverage the technologies' potential to solve problems, build relationships, build knowledge, and share knowledge. Recent studies have highlighted digital literacy as a critical skill that is required to navigate information in an increasingly digital world (Tinmaz et al., 2022). The ever-growing influential role of digital technologies continues to expand the cross-over between technology and lived reality.

The digital literacy studies have predominately been in the education sector where the results from the studies highlighted the positive impact digital literacy has played in online learning (Pangrazio et al., 2020a; Reddy et al., 2020). Studies found that digital literacy positively affected the students' engagement in learning, and it was found to be

a precondition to effective online learning. The findings from the study by Audrin and Audrin (2022) found that digital literacy enhanced the student's self-directed learning and motivation which ultimately improved the engagement of the students. The students with higher digital self-efficacy can learn independently and this results in the studies adopting a positive attitude towards online learning (Pangrazio et al., 2020). Digital literacy has the potential for application in various industries such as financial services and healthcare (Pangrazio et al., 2020b; Reddy et al., 2020).

2.8 Digital Financial Services

The digital financial services have featured prominently in the literature predominantly propagated by the studies into fintech's. the digital financial services span a broad landscape of financial services from digital banking, digital management and digital banking as well as digital payments (Afjal, 2023; Anifa et al., 2022). The definition of digital financial services has varied amongst scholars but there is a broad consensus that the construct encompasses financial services that can be accessed and delivered through financial channels (Amnas et al., 2024; Anane & Nie, 2022; Cheumar & Yunita, 2022; Iheanachor & Umukoro, 2022). The most common digital financial service is digital banking. The digital financial services featured prominently during the COVID-19 pandemic as a means of economic value transfer (Agur et al., 2020). Through the fintech lens, the digital financial services have been at the forefront of financial inclusion through the democratisation of financial services, especially in the developing economies (Okello et al., 2020). The earlier studies into financial inclusion were predominately focused on the financial inclusion provided by banks, but the recent studies have highlighted the importance of fintechs as a driver of financial inclusion. Studies have shown the positive benefits of digital financial services in influencing the decision-making of individuals and the access to financial services (Afjal, 2023; Cheumar & Yunita, 2022).

Though the digital financial services promote financial inclusion, some studies have highlighted the flip side of the coin which is digital financial exclusion (Panakaje & Parvin, 2022). A study by Anifa et al. (2022) posited that as the financial services industry focused on digital innovation, there is a case to be made of digital financial exclusion. As the industry evolves into a digital space, the consumers need to evolve and become

digitally literate to consume these services in the appropriate manner, failing which some consumers will be excluded from financial participation through a digital barrier (Mpofu, 2024; Pakhnenko et al., 2021).

A crucial element to the success of digital financial services is digital trust. Digital trust evolved through the metamorphosis of the construct of trust, which is defined as a belief in the likelihood that other agents would behave predictably (Aldboush & Ferdous, 2023; Mubarak & Petraite, 2020). Digital trust as defined by the World Economic Forum (2023) is the expectation that digital solutions and the organisations providing digital solutions will protect the stakeholders' interests and uphold social expectations and values. Müller and Kerényi (2019) further add that digital trust is the authenticity around digital interactions and transactions that need to be fostered in digital financial services. Digital trust is a multifaced construct encompassing security, reliability, integrity and authenticity (Hermawan, 2019; Marcial & Launer, 2019). A study by Mubarak and Petraite (2020) found that digital trust is a crucial variable in the sustained adoption and usage of digital solutions. The digital financial services require digital trust for increased usage and adoption and to become ubiquitous in the economies.

The evolution in digital financial services has emanated in a new construct amongst the scholars of digital financial literacy. The ability of individuals to apply financial literacy within a digital space as they set out to build financial resilience. Digital Financial literacy is considered as the future evolution of financial literacy and inherits the same gravity in the ability of individuals to build financial resilience.

2.9 Digital Financial Literacy

The concept of digital financial literacy is relatively new in literature, and it bridges two established constructs of financial literacy and digital literacy (Yadav & Banerji, 2023). Earlier studies into the influence of digital innovation in the financial services sector were focused on innovation adoption. These studies were predicated on financial literacy being a key indicator of the adoption and use of digital financial services but did not consider the impact and influence of digital literacy on the adoption of digital financial services (Koskelainen et al., 2023b; Peng & Yu, 2022). There are limited studies

into digital financial literacy and no consensus has been achieved by the scholars on the definition. Yadav and Banerji (2023) define digital financial literacy as financial literacy in a digital financial technology. Hayati and Syofyan (2022) define digital financial literacy as the knowledge of digital financial products and services, the awareness of digital financial risks, the knowledge of digital financial risk controls, and the knowledge of consumer rights and redress procedures.

The relevance of digital financial literacy has been highlighted by the decentralisation of financial products and services through fintech innovations (Gosal & Nainggolan, 2023; Setiawan et al., 2022). Abdallah et al. (2024) argue that the rapid evolution of the financial services sector requires individuals to match that evolution by being digitally proficient. Individuals have become more financially independent and fintech solutions have allowed them to cultivate financial autonomy and promote financial inclusion (Bollaert et al., 2021; Gomber et al., 2017). With the evolution of the financial sector to digital platforms, there is a need to understand the relationship between digital financial literacy and financial behaviour (Koskelainen et al., 2023b; Yadav & Banerji, 2023).

2.10 Building Financial Resilience

To link the various constructs and postulate the different relationships, there is a need to start at the foundation, which is financial education. Hastings et al. (2013) posit that financial literacy is developed through financial education Which is the process by which individuals cultivate financial skills and knowledge to make informed financial decisions. Klapper and Lusardi (2020) highlight that the financial behaviour of individuals has a direct correlation to their financial knowledge. An individual's savings, spending, borrowing, and investing activities are based on their knowledge and awareness of the financial products. Abdallah et al. (2024) argue that growing financial awareness amongst the individuals requires a medium that has extensive reach such as digital platforms. These platforms can drive growth in financial knowledge and awareness (Bollaert et al., 2021). The human capital theory posits that the investment in human capital in the form of financial knowledge can yield improved financial decision-making and financial behaviour. The ability of individuals to interact with digital solutions is key in leveraging the benefits of human capital investment as well as the benefits created by these digital platforms.

The ability of the individuals to build financial resilience is dependent on various factors being present in their environment. Kass-Hanna et al. (2022) argue that for the individuals to achieve a state of financial resilience, they must be possessing financial literacy and be financially included in the economy. Technological advancements have brought about an era of efficiency and change in the methods used to do things in various economic sectors. The innovations brought about by the FinTech's can lighten the cognitive load on the individuals when it comes to financial decisions, but this places a dividend on digital literacy (Ferilli et al., 2024; Gomber et al., 2017).

2.11 Gaps in literature

The studies into the role of digital literacy and digital innovations have increased recently. This renewed interest in digital literacy and digital innovation has seen a new school of study into constructs such as digital financial literacy within the school of finance. As digital platforms have become ubiquitous with everyday life, studies are looking at the influence offered by these constructs. Traditional studies into digital innovations and digital literacy have previously been focused on technology adoption, looking at the supply side of digital innovation. There have been limited studies on how digital is reinventing established theories such as financial literacy and how digital influences the demand side of the equation. The studies into the intersection of digital literacy, digital innovation and financial resilience have been limited. This research aimed at exploring the demand side of the intersection to add to the existing literature.

2.12 Conclusion

The relevance and importance of financial literacy as a determinant of financial behaviour and financial resilience has never been greater in the current economic climate. Financially literate individuals have a key role to play in the development of financial systems and in the creation of a sustainable economy through informed decision-making. The cost of financial illiteracy results in unfavourable consequences for the individuals' long-term financial sustainability as these individuals have a higher probability of making ill-informed financial decisions that impact their household's future financial potential. The benefits derived from financial literacy are a building block for any developing economy and require adequate investment in development.

Digital innovations have played a significant role in the financial services sector. The transformative capabilities of digital innovations have brought about new products and services, as well as reduced the barriers to financial participation and knowledge cultivation and they have promoted financial inclusion through digital platforms. Though digital innovations have created an environment of efficiency and inclusion, there is a need for individuals to be digitally literate. Digital literacy encapsulates the ability of individuals to engage digital platforms proficiently.

The ever-increasing influence of digital innovation on the financial sector has drawn scholars to study its impact on building financial resilience. The coming together of financial literacy and digital literacy is a new field of study that is digital financial literacy. It is the ability of the individuals to apply financial literacy principles in a digital world with proficiency, considering all the risks and challenges with the digital channels.

CHAPTER 3: RESEARCH QUESTIONS

The focus of this research was to gain an in-depth understanding of the role digital literacy plays within the various elements of financial resilience. The novelty of this line of research required the researcher to use the human capital theory to try to understand the phenomenon. The literature review outlined the context of this study and the gap in the literature.

The following research question and sub-questions were identified:

3.1 Research Question 1:

What is the role of digital literacy and digital innovations in building individual financial resilience?

The question aimed to investigate if digital literacy and digital innovations have any influence on an individual's ability to build financial resilience and what factors of digital literacy and digital innovation are relevant for the individuals building financial resilience.

3.1.1 Research Question 1.1:

What is the role of digital literacy and digital innovation on financial literacy?

The sub-question aimed to investigate the role of digital solutions in aiding the individuals to build financial literacy. This research question sought to understand how the individuals are using digital innovations and if that usage contributes to expanding the financial literacy skills.

3.2 Research Question 1.2:

What is the role of digital literacy and digital innovation on financial behaviour?

The sub-question aimed to investigate the role of digital solutions in altering consumer financial behaviour. This research question sought to understand how the individuals are using digital innovations and if that usage contributes to improving their financial behaviour and ultimately their financial resilience.

The broad nature of the questions helped the researcher to conceptualise the role of digital literacy in the consumption of digital financial services and how the digital

financial ecosystem contributed to financial resilience, financial literacy and financial behaviour.

3.3 Research Objectives

Below are the objectives of the research study and the specific goals of the research study which align with the research questions.

1. To bridge the gap identified in the literature on the role of digital literacy in financial literacy and financial resilience.
2. To conceptually define digital financial literacy in a developing economy context.
3. To conceptualise the influence of digital literacy and digital innovation on financial literacy, financial behaviour and financial resilience.
4. To determine the factors around the use of digital literacy, and digital innovations on building financial resilience.

CHAPTER 4: RESEARCH DESIGN AND METHODOLOGY

4.1 Introduction

This chapter presents the research methodology and the study design. The section outlines the approach taken in answering the research questions outlined in Chapter 3. Saunders & Lewis (2018) likens the research methodology and design to the layers of an onion, providing a structured multilayered approach to conducting the research study. This chapter plays a critical role in the research by providing the researcher with a robust framework that guided the research process. This chapter ensures that there is alignment between the research question, the objectives, data collection and the data analysis of the study, thus ensuring the validity and reliability of the findings of the study. Due to the exploratory nature of the research study, the research adopted a qualitative approach which directed the researcher's methodology and design.

4.2 Choice of research methodology

4.2.1 Philosophy

The research study set out to gain an in-depth understanding of the role of digital literacy, and digital innovation in personal financial resilience building. The novelty of the construct required an in-depth understanding presence of this social phenomenon.

The study adopted an **interpretivism** philosophy. An interpretive approach is grounded in trying to understand a phenomenon through the analysis of beliefs, norms and values (Frechette et al., 2020). An interpretivist philosophy is underpinned by the subjective assumptions the individuals make about reality and seeks to understand a phenomenon through an individual's own experience. These assumptions may differ for each individual and they may collectively help the research in formulating an understanding of a social phenomenon (Hammarberg et al., 2016a). This study sought to understand the relationships between digital literacy, digital innovation and financial resilience.

4.2.2 Approach selected

The study made use of an **inductive** approach. This approach is often referred to as a bottom-up approach to research as it seeks to develop theory in a particular context (Hsieh & Shannon, 2005). This approach analyses data that is derived from interviews to identify emergent concepts or themes that can later inform theory. It seeks to attain a

general conclusion from the collected data, starting from a specific observation and through a study, arriving at a general conclusion (Saunders & Lewis, 2019). In contrast, a deductive research approach seeks to affirm or dispel an established theory by studying it in a different context. This approach starts off with general observations and seeks to apply these in a specific context.

The research sought to understand the role of digital literacy in the financial services ecosystem. The inductive approach was informed by the novelty of the concept of digital financial literacy in literature.

4.2.3 Methodological choices

A **Qualitative** research approach was used for this research to explore the role of digital literacy on financial resilience and how digital literacy can play a role in promoting financial literacy, financial behaviour, and in building financial resilience. Qualitative studies make use of various data collection methods, but an interview instrument is popular among the scholars (Saunders & Lewis, 2019). The interviews provide the researcher with organic personalised responses about the intersection of digital technologies and economic activity. The interview instrument allows the researcher to gain valuable insights into a phenomenon and it is suitable for exploratory studies.

The research adopted a **mono method** of data collection. It is the process of gathering data through a single collection technique (Bloomfield & Fisher, 2019). The research study made use of semi-structured interviews as the data collection method as well as field notes.

4.2.4 Purpose of research design

The study made use of an **exploratory** design. Exploratory research seeks to answer the why questions and foster an understanding of a concept or relationship in its infancy (Bloomfield & Fisher, 2019). The research aimed at formulating an understanding of how digital literacy and digital innovation influence financial literacy, financial behaviour and financial resilience.

Financial resilience has received focus from the research community due to the effect of the financial crisis and the COVID-19 pandemic on the financial stability of individuals.

The role of digital technologies in building financial resilience has gathered attention with researchers looking at the role digital literacy has in building financial knowledge, awareness, and ultimately financial resilience (Erdem & Rojahn, 2022). The purpose of this exploratory research was to cultivate new perspectives on the phenomenon and the potential to add new insights to the subject.

4.2.5 Strategy

The research made use of a **narrative inquiry**. The inductive nature of this study required the researcher to use semi-structured interviews as a research instrument to collect and analyse the data in developing theories (Sukamolson, 2007). As such, the study made use of semi-structured interviews to capture the respondents' individual experiences and events to conceptualise the collected data. The outcome of the research aimed at contributing to the existing body of literature on the impact of digital literacy in the finance sector.

4.2.6 Time horizon

This research study was conducted as a **cross-sectional** study due to time constraints. The cross-sectional studies provide scholars with a once-off snapshot in time of the state of the concepts being researched (Saunders & Lewis, 2019). This is opposed to the longitudinal studies that research a topic over a period of time, with at least a three-month interval between sample results, seeking to understand the evolution of the concepts being researched (Saunders & Lewis, 2019).

4.3 Proposed research methodology

The following section provides the details around the research methodology and the study design detailing what was being analysed and how this was achieved in the study.

4.3.1 Population

Adams et al. (2014) define the population as a collective of the social actors the research aims to analyse. The study's population represents the universe of all the social actors that are influenced or impacted by the phenomenon being studied (Saunders & Lewis, 2019). The population of this study is defined as any individual, that constitutes the country's middle class, that participates in South Africa's financial system through any form of digital platform such as budgeting applications, investment platforms or banking

applications. The population consisted of the social actors that use the digital platforms to make financial decisions such as but not limited to saving, transacting, borrowing, investing as well as any social actors that enable these activities for the population through various platforms. The population included all races, ethnicities, and demographic backgrounds.

4.3.2 Unit of analysis

The unit of analysis is defined as the singular entity that forms part of any sample (Easterby-Smith et al., 2021). It is the key component that forms the basis of data collection and analysis. This needs to be determined upfront to ensure the integrity of the study design.

Within the broader population, the study focused on the middle-class employees in the Johannesburg area who are active users of digital financial services platforms, such as but not limited to mobile banking, online investment platforms, and digital wallets.

4.3.3 Sampling method and size

Given the large nature of a study's population, research normally collects data from a sample set of an entire population. The sampling method of a study sets out the inclusion and exclusion parameters of the population and highlights how a sample is drawn from the population. The sampling method also outlines the means used to select participants in the population. Hennink and Kaiser (2022) argue that the sample that is selected for a qualitative study should include the participants who have the expertise to provide sufficient information on the field of study and who can provide rich data.

The study made use of the **non-probability** sampling technique. This is due to the researcher not being able to compile a complete list of the population. The non-complete list of the population makes it challenging to select a sample from the population randomly and to determine the probability of each population member being selected to take part in the interviews (Watson, 2015; Saunders & Lewis, 2019).

Within the non-probability sampling technique, the study made use of **purposive** sampling. This sampling technique allows the selection of homogeneous groups of respondents that carry in-depth knowledge about the constructs being studied to give rich in-depth data (Hennink & Kaiser, 2022). The study focused on individuals that were

predominantly in the financial services industry. This was to give the study a dual lens on the responses leveraging from the respondents' internal knowledge of the industry as well as being consumers of the products from the financial services industry.

There are competing views across the literature on the sample size of qualitative studies (Cooper & Schindler, 2014). There is no common view on the sample size, there is however, a common concept across literature for qualitative research, which is the concept of saturation. The point of saturation is the inflexion point where the research should end the data collection process as the identified themes have reached saturation. This is to say no new themes are being identified by additional interviews (Cooper & Schindler, 2014). Hennink and Kaiser (2022) found that qualitative research studies reached a point of saturation between nine and 17 interviews. The study aimed for a minimum sample size of 12 interviews and continued until the interviews reached a point of saturation.

4.3.4 Measurement Instrument

For qualitative studies, the research scholars can select one of two measurement instruments, namely the unstructured or the semi-structured interviews (Neuman, 2014). In an unstructured interview, the research allows the respondent to direct the interview's line of questioning. The interview process is customised to the participant and there are no dictated questions or sequences to the topics (Watson, 2015). In contrast, the semi-structured interviews are guided by specific questions and a specific sequence of topics to be covered. This permits the researcher the opportunity to probe the participants and gain an in-depth understanding (Sukamolson, 2007).

For this research study and based on the adoption of the **semi-structured** interviews as the research instrument, an **interview guide** was used to steer the interviews with the participants. To ensure the comprehensibility and relevance of the interview questions in the interview guide, the researcher conducted a pilot interview with a member of the sample population. The pilot interview allowed the researcher to adjust the interview guide to better align with the research objectives. This process ensured that the interview guide was effective as well as credible and it provided the researcher with an affirmation to continue with the research study.

4.3.5 Data gathering process

This study collected data through a series of qualitative **semi-structured** interviews. Initially, the interview participants were contacted via LinkedIn, WhatsApp or through email. Once a participant showed the willingness to engage with the process, the consent form and more information about the research was sent to the potential participant. The number of conducted interviews was governed by the concept of coding saturation. Interviews were conducted through online platforms such as Microsoft Teams or Google Meets, with cameras on and they were recorded. The study aimed to create an open environment that allowed the interviewer to observe the non-verbal cues from the respondents. The study aimed to conduct interviews for a minimum duration of 45 minutes per participant.

The study conducted 12 online google meet interviews over a two-month period. A total of 10 of the interviews were done with cameras on, while the other two were voice only interviews due to technical challenges. All the participants were asked the same core questions (Appendix 1: Interview guide), but the researcher delved into the interesting topics that were raised by the respondents. At the start and at the end of each interview, the participants were given an opportunity to ask questions. After each interview, the researcher transcribed and coded the interview transcripts seeking coding saturation. The duration of the 12 interviews ranged between 32 minutes to 56 minutes.

The researcher distributed the consent forms to the participants before the scheduled interview date to ensure that the respondents understood that the data would only be used for the study (Appendix 2: Consent form). The interviews started with the researcher reminding the participants of the research consent conditions, which included but were not limited to the recording of the interviews and seeking affirmation that the participants opted into the interviews. The researcher then introduced the research topic at the start of the interview and offered the respondent an opportunity to ask questions. The interviews were conducted in a relaxed setting, with the respondents and researchers going back and forth on the questions to gain a clear understanding.

The research reached coding saturation after the 12th interview was conducted as no new codes were generated from the interviews after that. The last two interviews generated two new codes, and the researcher stopped collecting new data. This is in line with the suggestion by Braun and Clarke (2021) that data collection should continue until the point where no new codes are surfaced, indicating coding saturation and the diminishing need for additional data.

4.3.6 Data Analysis approach

Qualitative studies lend themselves favourably towards thematic content analysis (Braun & Clarke, 2021). Thematic analysis has been widely used in qualitative research studies as it offers a systemic and transparent means of analysing unstructured data. The analysis technique involves analysing a data set and the identification of patterns within the data set to derive themes. It is regarded as a structured examination and discussion of the data collected from the interviews. The thematic analysis technique offers qualitative research the opportunity to generate new insights and concepts from a dataset that is linked to the research question. The iterative process involves the identification of categories, codes and themes that can be used to bucket responses from the interviewees and can be linked to the research question (Braun & Clarke, 2021).

To analyse the collected data, the data was transcribed and then themes were coded (Braun & Clarke, 2021). The analysis was a continuous and iterative process of transcribing and coding at the end of each interview. This step was performed before the start of the next interview. For this analysis, the ATLAS.ti software was used to code and analyse the transcripts. The software was used to perform text searches and to create code mappings.

Braun and Clarke (2021) outline the below phases for performing thematic analysis. The study coded all the interviews and post coding was done through a thorough linking of codes and a re-analysis of the transcripts was done. The main themes of the study were identified through an iterative process of linking codes, referring to the interview memos and referring back to the quotations. This process took the study one month to complete.

Table 4.1: Phases for Performing Thematic Analysis

Phase	Actions executed
One – Become familiar with the data	The recorded interviews were transcribed, and the transcripts were meticulously reviewed to deepen the researcher's engagement with the data and understanding of its contextual importance. The process also involved data reduction where the researcher removed irrelevant information from the transcripts..
Two – Generate initial codes	The collected data was organized and assigned meanings through attaching codes to the data. This allowed the researcher to structure the data in a manner to assign with data analysis. Data was grouped into codes based on its relevance to the research questions and the study's context. A code list was developed during this phase.
Three – Identify themes	During this phase, similar or related codes were organized into various groupings. These groups started the process of identifying key themes. After a transcript was coded, a review process was done to consolidate the codes. The researcher applied a reflexive by adopting an ongoing evaluation of the themes' relevance to the research questions and the study's context.
Four – Review identified themes	According to Braun and Clarke (2021), a researcher needs to evaluate the identified themes to ensure each theme has enough supportive data, checking for distinct standings and no overlaps. Adopting this guideline, the initially defined themes were reassessed and evaluated against the research questions to ensure they were aligned and consistent.
Five – Define central themes	This phase was a continuation of the previous phase where the researcher defined the key themes, ensuring their uniqueness and importance. The research also applied meaning to the various themes identified to help communicate the findings of the study.
Six – Present and discuss themes	Adopting the recommendations of Braun and Clarke (2021) the researcher used ATLAS.ti to visually represent the data. Various techniques such as text searches were used in preparation for the discussion of the study results.

Source: Braun and Clarke (2021)

4.3.7 Quality Control

Quality control refers to the ongoing process of ensuring that the research process adheres to the intended purpose. It relates to the protocols and methods throughout the process to check for accuracy and reliability (Saunders & Lewis, 2019). These controls are crucial in conducting research to ensure that the generated results are in line with the aim of the research. These measures are essential in the process as they promote the trustworthiness of the research. Trustworthiness refers to the reliability and validity of a research study and the ability of future researchers to rely on the accuracy of the study's results (Saunders & Lewis, 2019).

The following quality controls were implemented in the study:

The study made use of an interview guide as an anchor to the questions that were posed to the respondents. Although the researcher delved into the interesting comments that were made by the respondents, the interview guide ensured that the research did not veer away from the study objectives. This was crucial to ensure that the same topics were being covered for each interview. A pilot interview was conducted at the start of the data gathering process to ensure that the interviewer was adequately prepared and to ensure that the interviews would meet the target duration and address the research objectives. All the interviews were recorded and transcribed, with the interviewer taking field notes to enrich the data collection.

In the absence of quality controls, the research findings may not be relied upon as the lack of controls undermines the value of the study. This also introduces the risk of the results being used in ill-informed decisions or in policy decisions which may be detrimental to society. The key quality control measures that were deployed in the study included methodological triangulation and the auditability of the data collection process.

4.3.7.1 Credibility

Credibility is critical to a research study as it answers the question on elements such as the appropriate instrument being used to collect data in trying to answer the research questions (Mohajan & Mohajan, 2018). The subjective nature of qualitative research

lends itself to scepticism and the researcher has the burden of upholding the reliability and validity of the study through the implementation of various controls.

Secondary data relating to the research topic was incorporated into the comparison and analysis of the findings of the research study. Combining different sources of data allows the researcher the opportunity to further confirm or dispel the findings. This concept is known as triangulation and it aims to bring about more rigour and trustworthiness to the research (Hammarberg et al., 2016). This approach eliminates any biases or limitations within the research, and it adds to the understanding of the phenomenon being studied.

The subjective nature of qualitative research can be influenced by the researcher's biases, and this may ultimately impact the findings of the research. To guard against this, the study implemented reflexivity. Reflexivity is a process where the researcher reflects on their biases and perspectives in the research process (Hammarberg et al., 2016). The researcher kept a research journal of their perspective and preferences throughout the research process and the journal is included in the final report.

4.3.7.2 Transferability

Transferability in qualitative research refers to the ability of the findings of the research to be generalised to conduct quantitative research. This relates to the research findings being applicable in different contexts and for different populations. Given that the study made use of purposive sampling, the findings of the research are only limited to the context of the population sample (Mohajan & Mohajan, 2018). The findings of this research only apply to a specific context and cannot be generalised. Further research into the study's phenomenon is recommended.

4.3.8 Limitations

The subjective nature of qualitative studies results in various limitations on the research findings. Below are the limitations that were identified for this study.

4.3.8.1 Time Horizon

The study was a cross-sectional study which limits the ability to analyse data over a period of time. There are continuous developments in digital and financial literacy, and

it would be worthwhile to understand the progression of financial resilience over a certain period.

4.3.8.2 Sample Criteria

The study adopted a narrow criterion for sampling which limits the findings' transferability. Future studies can expand the sampling criteria in an effort to create a construct that can be generalised. The sample size was also a limitation that impacted the generalisation of the study findings. Future studies would need to broaden the same size to offer the ability to generalise the findings.

4.3.8.3 Openness to interpretation in the analysis

Qualitative research is often considered as being subjective and it can introduce interpretation challenges as opposed to quantitative research. The researcher applies their own interpretation of the data which may introduce bias in analysis and ultimately impact the reliability of the results.

4.3.8.4 Methodological choice

The use of a monomethod may have restricted the ability of the study to gain in-depth and rich data from the respondents when compared to the mixed methods approach.

4.3.8.5 Time and resource constraints

Given the time constraints, the researcher could not spend a lot of time on the data analysis of the gathered responses. Time also limited the extent to which the researcher could further utilise secondary data to add credibility to the study results.

CHAPTER 5: RESEARCH RESULTS:

5.1 Introduction

This chapter presents the research results of the role digital literacy and digital innovations play on building financial literacy, as well as financial resilience and how they alter financial behaviour. The chapter details the data capturing process through the semi-structured interviews from various participants of the study. This chapter provides a comprehensive view of how the respondents identified the role digital literacy and digital innovations play in influencing their financial well-being. This chapter also delves into some of the challenges of using digital literacy in building financial resilience and macro elements of the environment that inhibit the usage of digital platforms to foster financial resilience.

Hammarberg et al. (2016) highlight that the centre of qualitative research analysis is based on the exploratory analysis of the interview responses to identify the codes and themes that help the readers to grasp the gathered responses. The study analysis is based on the responses that were captured from 12 interviewees who offered qualitative responses to the questions articulated in the interview guide. Various methods of analysis were applied to the interview transcripts ranging from text querying, co-concordance, references, co-occurrences and network analysis using the ATLAS.ti software.

Prior to presenting the results of the study, it is essential to provide an overview of the sample that contributed to the results. This overview of the sample plays a critical role in setting the context of the obtained results by highlighting elements such as demographics, qualifications and the industries of the respective respondents. This will aid in encapsulating the presented insights and analysis.

5.2 Sample Description

Table 1 presents an overview of the individuals that were interviewed in the study. The study conducted 12 interviews with individuals from a range of backgrounds. The individuals were asked to share information about themselves at the start of the interviews.

The average age of the respondents was 37 years of age, with the oldest respondent being 56 years of age and the youngest being 28 years of age. This highlights a diversified age range of the respondents.

Table 5.1: Respondents’ demographic information

Participant	Gender	Age	Qualification	Industry
P1	Male	56	M. Com (ICT)	IT
P2	Male	42	M. Com (Financial Engineering)	Banking
P3	Male	36	M. Com (Audit)	Banking
P4	Female	29	H. Com (Investment Management)	Banking
P5	Male	37	LLB (Com Law)	Banking
P6	Male	42	M. Com (Financial Engineering)	Banking
P7	Male	28	M. A (Real Estate Management)	Real estate
P8	Male	31	H. Com (Financial Engineering)	Consulting
P9	Male	38	M. Com (Tax) CA(SA)	Banking
P10	Female	37	M. Com (Audit) CA(SA)	Education
P11	Male	35	H. Sc (Actuarial Science) (FASSA)	Insurance
P12	Female	32	H. Com (ICT)	Banking

The sample was predominantly weighted towards the individuals who work in the financial service industry. The research intended to get insights from the individuals from the financial services sector as the respondents would be exposed to both product development and the consumption of products. This is evident in the sample details, where 58% of the respondents are from the banking industry. This introduced an element of homogeneity in the insights and results, but the research also sought to diversify the results by including the respondents from other industries.

The study’s respondents carried a high level of qualifications with the lowest qualification being honours degrees and the highest qualification being master’s degrees. Several of the respondents had accreditations from various industry bodies such as Chartered Accountants of South Africa (CA(SA)) and Fellow of the Actuarial Society of South Africa (FASSA).

The study did not inquire about the respondents' nationality as the researcher did not identify this as a key element for the research results. Various other respondent attributes were not sourced as those were not deemed to be crucial to the analysis as the research was open to all that met the sampling criteria.

In conclusion, the demographics of the respondents highlighted a limitation in the diversity of the respondents of the research. Though this was a limitation in diversity, the homogeneous nature of the respondents predominately being from the financial services industry gave insights into the thinking around the industry and the exposure to the inner workings of these organisations. Overall, the results present the lived reality of the individuals who operate digital technologies daily and present both consumer and producer insights.

5.3 Process of Analysing Results

This section of the chapter presents the results of the study and provides contextual responses to some of the themes that were identified in the responses. Before presenting the study's results, an overview of the analysis process is given and there is an explanation of how the research filtered to the identified themes.

The study's results were assembled through a systematic exploration of the respondents' experiences. The results draw on the collected data that underwent a thematic analysis process to derive the main themes. Thematic analysis is a qualitative research technique that brings about a structure to the unstructured data that was collected through instruments such as semi-structured interviews (Hammarberg et al., 2016). Thematic analysis allows the researcher to identify, analyse, and interpret patterns or themes from the universe of interview responses. The process enables the researcher to present coherent and meaningful themes or patterns that encapsulate the data collected from the respondents.

Below is an overview of the coding process that was used by the researcher to identify the themes from the collected data. The grounded theory was utilised in the analysis of the results. It refers to the generation of theory on the back of the systematic analysis of the collected data during the research process (Cutcliffe, 2000). The data analysis process continued until the researcher reached coding saturation. Coding saturation

refers to the point where the data analysis process does not produce any new information or when no new relationships between the constructs are identified (Guest et al., 2014). Once coding saturation was reached, the researcher refined the identified themes until a set of selective themes was established which is presented below. Given the inductive nature of the research, the codes that were identified through data analysis were not restricted to the constructs identified in the literature review. The interview guide was governed by the constructs identified in the literature review and the constructs identified in the literature review also influenced the codes identified in the results analysis.

The grouping of codes and the generation of themes were based on the researcher's interpretation of the links or the causality amongst the themes. The researcher created buckets of categories-based codes, after analysing the themes in the data and linked the codes to the various buckets. Post this step, the researcher then reviewed the memos linked to each identified code and identified the links amongst the codes across the different buckets. The analysis of the results was enriched with the extracts from the interview transcripts to give the reader the grounds on which each theme was generated.

Table 5.2 illustrates how the themes emerged from the codes and the extracts that support the codes. This is to give the reader an insight into the thematic analysis process that was adopted by the study.

Table 5.2: Example of Code to Theme lineage

Quotations	Code	Focal Subject	Theme
<p>"One of the things I believe is financial services companies have actually looted the middle and lower class to the benefit of the wealthy an example If you invest in a unit trust, the fees you pay there are tiny, right? But generally, that's an affluent product, you know, for the for people that have got good money. But then if you take a loan, the margins on that loan are significantly high and to the detriment of the customer from time to time"</p>	<p>FSPConsumer Exploitation</p>	<p>FSP drive</p>	<p>Perceived intentions of FSP</p>
<p>"It's business at the end of the day, it's all about, obviously, some of their product for you, but they're not going to say, but the management fees are high. They're not going to say, but the commission is going to be this. They're going to say, here's a product, but you're not going to they're not even me."</p>	<p>FSPConsumer Exploitation</p>	<p>FSP drive</p>	
<p>"It's always a sales too. and there's, there's a lot of, there's a lot of maneuvering, and a lot of, a lot of only presenting the information that is not relevant or will ensure that the client or customer or consumer goes to the next step"</p>	<p>Consumer information overload</p>	<p>FSP drive</p>	
<p>"bank might offer you an increased limit on a credit card, all this credit, but because their limit is saying that you can take it, but your own financial awareness like needs to kick in as well"</p>	<p>FSPConsumer Exploitation</p>	<p>FSP drive</p>	
<p>"With all these everything being digital, I think hackers, hacking has become a very big risk for companies. So, I think it becomes important to make sure that you know who, where, and what platforms they are using to invest, and they are the proper platforms. I'm sure some. I'm sure there's scammers that will say, invest in Standard bank now. And it's a link for fraud, you know? So, I think, yes, there is a very big risk."</p>	<p>Digital Trust</p>	<p>FSP drive</p>	

5.4 Analysis of Results

This section of the chapter delves into the results of the thematic analysis done by the researcher. The results are presented concerning the themes that were identified through the analysis. The researcher opted for presenting the themes of the results analysis, as opposed to the research questions, due to the broad nature of the research topic. This approach offered the researcher the ability to draw on the themes that were born based on the interview responses.

5.4.1 Key Construct Understanding

Before analysing the identified themes, the interview guide requested the respondents to offer their understanding of various constructs that were identified within the literature. These questions were utilised to gain insight into the respondents' understanding of the various constructs. This allowed the researcher to build on the respondents' understanding for ensuing questions, to get the respondent to answer within their contextual understanding of the constructs.

5.4.1.1 Financial Literacy

Financial literacy is considered as a critical foundation for the financial behaviour of individuals. The ability of an individual to understand financial concepts affects the ability of the individual to build financial resilience. Even through digital mediums, financial literacy plays a key role. The respondents gave varying responses to their understanding of financial literacy but there was a common theme amongst their responses. As seen in the responses from P4, P5 and P8. The common thread within the responses was based on the individuals' understanding of money management and the implications of financial products.

“Financial literacy would be understanding the financial product you're entering into and also understanding its impact on you” [P5].

“I would say financial literacy, that's just how to manage, manage your finance” [P8].

“So, from my side, my perspective, I would define financial literacy as a person who knows how to sort of make their money work for them” [P4].

This was an interesting observation from the responses as there was a varying understanding of financial literacy even among the respondents working in the banking sector. This potentially highlights the limited understanding of financial literacy within the general population and the need for interventions to educate people on financial literacy. Money management is a function of financial literacy, and it is also the by-product of the understanding of money and the various concepts that affect money management. The financial concepts are also a function of understanding the various products offered by the financial service providers.

5.4.1.2 Financial Resilience

As noted in the research, financial resilience is an output of the foundational understanding provided by financial literacy as well as enacting that understanding with the financial decisions made by individuals. The construct is also linked to the ability of the individuals' perspective on the future. This brings about the importance of financial goals and the ability to plan. The respondents struggled to articulate the construct of financial resilience, therefore the researcher noted that it was a concept that was unfamiliar to them. The responses highlighted elements of sustainability, financial planning and the role of financial decision-making.

"I would think that financial resilience is one's ability to be able to weather extreme events in their lives, financial events in their lives, without compromising significantly their quality of life or their standard of living"
[P11].

"I just mean just basic finance that a normal South African would be exposed to, and things that we should be doing in order to get ourselves in a better position now and perhaps later" [P10].

"The resilience side, I think the definition for me is just adding enough of a buffer for negative events holding up enough for next aid to actually be able to retire" [P9].

Though the respondents struggled with the description, they demonstrated an understanding of the underlying concept through examples and references to the topic throughout the interviews.

P 10 also linked financial resilience to the context in which an individual finds themselves and their economic environment. This highlights an important insight that the individuals may be facing extreme circumstances where financial resilience is not embedded in their thinking versus survival.

“I mean, you can't save in a recessionary economy, so I'm not even going to worry about things. They're offering me because I don't have the money. Not doing well, I'm surviving. It's a day-to-day thing. So, it's also the state of the economy” [P10].

The ability of the individuals to build financial resilience is linked to situational context. It is dependent on the economic conditions the individuals find themselves in which can influence their view of financial resilience. The respondents provided limited linkages between financial literacy and financial resilience which may be indicative of the limited knowledge of financial resilience as a standalone construct.

5.4.1.3 Digital Literacy

The ability of the individuals to use financial products through digital channels is predicated on their ability to use digital innovations. The rapid infusion of digital innovations into the ecosystems of the individuals has placed increased focus on digital literacy. The introduction of digital innovations in financial services has been through digital channels of consumption which embed a requirement for digital skills in the consumers. The respondents provided a tight grouping of descriptions for the construct particularly focused on the ability of the individuals to navigate digital platforms and engage with digital platforms.

“Your ability to navigate various digital platforms, how to access them, how to communicate through them, just basically your ability to use digital platforms” [P7].

“Digital Literacy the ability to actually use understanding how you use apps, but also understanding the pitfalls of it, understanding what is real and what is fake” [P2].

“Its ability to use technology to probably share information, communicate info, using it for probably creating content, creating info, and it probably, it probably involves, probably a vast range of skills for want to adapt to any of the new what's name environments Expo, the digital environments” [P1].

The respondents offered comprehensive responses to describe digital literacy. In comparison to the other constructs, the articulation of digital literacy came a lot easier for the respondents. The ubiquitous nature of digital platforms may be linked with the respondents' understanding of the construct.

P 5 added the role of digital penetration within South Africa as a driver of digital literacy jointly with the surge in social media usage.

“If you look at what the barriers are, I mean cell phone penetration is quite high in the lower segments of the market, well in the market entirely as a whole so and especially smartphone penetration is increasing” [P5].

In summary, the respondents demonstrated a good grasp of the key constructs in the study. This understanding of the key constructs supported the identification of themes and anchored the relevance of the received responses.

Below are the themes that were derived from the response analysis which is canvassed in detail in the ensuing sections. The study identified four key themes from the data analysis namely, perceived intentions of financial service providers, personal factors of usage, digital innovation influence and scope of intervention. The analysis also includes prominent codes that are featured in the responses which support the established theme. These themes are centred around the researcher's interpretation of the responses.

Table 5.3 gives the reader a view into how the themes were developed from the identified codes. This gives the reader a contextual view of the established theme and the subthemes that are discussed below.

Table 5.3 Code to Subthemes to Themes depiction

Code	Sub Themes	Core Theme
Digital access	Digital and information access	Digital innovation influence
Digital channel facilitation	Digital behaviour alteration	
Digital education	Digital and information access	
Digital exclusion	Digital innovation influence	
Digital financial exclusion	Digital innovation influence	
Digital financial behaviour alteration	Digital behaviour alteration	
Digital financial literacy	Digital innovation influence	
Digital literacy	Digital innovation influence	
Digital penetration	Digital innovation influence	
Ease of technology use	Digital innovation influence	
Financial awareness	Digital and information access	
Financial behaviour	Digital behaviour alteration	
Financial education	Digital and information access	
Financial knowledge	Digital innovation influence	
Financial literacy	Digital innovation influence	
Financial market knowledge	Digital behaviour alteration	
Financial resilience	Digital innovation influence	
Financial resilience challenges	Digital innovation influence	
Lack of technology access	Digital and information access	
Consumer information overload	FSP perceived intentions	
Consumer needs	FSP perceived intentions	
Financial situational awareness	Product accessibility	
Financial visibility	Product accessibility	
FS product accessibility	Product accessibility	
FS provider consumer education	FSP perceived intentions	
FS provider consumer exploitation	FSP perceived intentions	
FS providers intent	FSP perceived intentions	
Incentive based behavioural change	FSP perceived intentions	
Product accessibility	Product accessibility	
Providers leveraging consumer	FSP perceived intentions	
Seamless financial integration	Product accessibility	
Digital crimes	Digital distrust	
Technology abuse	Digital distrust	

Code	Sub Themes	Core Theme
Building financial resilience	Personal factors	Personal factors
Consumer preference	Personal factors	
Critical thinking	Personal factors	
Digital exposure	Contextual learning and environment	
Economic awareness and integration	Contextual learning and environment	
Individual aspirations	Personal factors	
Individual background	Personal factors	
Individual formal education	Personal factors	
Individual future outlook	Personal factors	
Individual self-control	Contextual learning and environment	
Information triangulation	Contextual learning and environment	
Lived experience	Personal factors	
Market awareness	Contextual learning and environment	
Risks of financial markets	Contextual learning and environment	
Social contextual education	Contextual learning and environment	
Technology awareness	Contextual learning and environment	
Technology risk and rewards	Contextual learning and environment	
Technology use	Personal factors	
Workplace exposure	Contextual learning and environment	
Government facilitated education	Government intervention	
Information access	Government intervention	
Limited regulatory scope	Government intervention	
Financial resilience challenges	FSP intervention	
Financial education	FSP intervention	
Prudent financial behaviour	FSP intervention	

5.4.2 THEME 1: Perceived intent of financial service providers

The financial service providers play a critical role in any economy by enabling means to which the consumers can participate in the country's economy. The importance of the role played by financial services is highlighted by the extensive legislative policies that govern the industry as well as the regulatory bodies that are formulated to govern the industry. The financial services industry has grown due to the democratisation of

products through digital technologies. This is evidenced by the surge in fintech companies as well as the cross diversification of neighbouring industries into financial services.

The first theme to emerge highlighted the intentions of the financial service providers. Though these entities play a crucial role in facilitating economic activities, they are still private entities that are accountable to shareholders. The financial service providers are businesses, and at the end of the day, they are driven by the bottom line.

“So, I think the nudge factors have helped ensure that financial companies make more money. I don't think they've helped empower customers to do better and know better” [P11].

“I don't think so, because ultimately their aim is to make money from people who will lend or borrow money so that their money is making money from interest.... I don't think you're going to get that from a banking perspective, to get people financially literate. Because again, the thing is that understanding that a 1% extra in fees, how that impacts your long-term savings will then get people more motivated to look at other stuff” [P2].

Respondents P2, P11 and P10 questioned the true intent of the financial service providers in helping the consumers to become financially resilient. Through the extensive understanding of their consumers, the financial service providers are able to tailor the products they offer to the customers with margins in mind. This brings about an important insight that was supported by respondent P2, that the financial service providers will only educate their consumers to the extent that will benefit them and their bottom line.

“I don't think it's in the best interest of financial institutions to fully educate their customers, which might controversial” [P9].

A phrase that emanated from respondent P11 was the “looting” of South Africa’s middle class. The respondent highlighted that the financial service providers understand the

drivers of economic growth and which segment drives growth, as they have set their targets on the middle class, identified as the cash-generative segment of the economy. The respondent highlighted the focus of financial service providers on efforts to extract value from this segment and not helping build resilience in the consumers of this segment.

“One of the things I believe, is financial services companies have actually looted the middle and lower class to the benefit of the wealthy.....I always find it quite interesting, because you can't help but conclude that actually, financial services companies are finding ways to kind of instead of investing in people and getting them better, especially the lower to middle class, it is about seeing what they can do to generate bottom line revenue, not to improve customer lives” [P11].

The respondents did mention a particular behavioural financial service provider and their efforts to bring about financial resilience to the consumers by embedding savings behaviour throughout the offered products. However, the company still resides in private hands and faces the same scrutiny of intentions being shareholder driven. Furthermore, some statements linked back to the true intent of the provider as they have a very specific market segment and focus on the financially affluent segment of the economy.

5.4.2.1 Financial service product accessibility:

Though the intent of financial service providers has been questioned, a subtheme that emerged from the respondents was an element of the increased accessibility of the products provided by the financial services providers through digital innovations. Digital technologies have been praised for their ability to help individuals transcend the current context and situations towards prosperity. Digital innovations have been credited with the ability to bring about financial inclusion through the economic integration of citizens especially in a developing economy.

“I remember my grandfather used to sit every Sunday with the Sunday Times newspaper and a piece of graph the number of shares he had for each company. He write down the prices get got in the Sunday Time, get

out his calculator and calculate what his whole portfolio was worth and it was a time consuming exercise, whereas for you and I take out my phone, which is my pocket, FNB scans my face, I go to my portfolio, and within a minute, I know what the real time value of my entire portfolio is, but like, there's been absolute strides in that front" [P9].

A total of eight out of 12 respondents mentioned the increased accessibility of financial service products and those being propagated through the digital channels. The respondents highlighted that accessibility has played a key role in the ability to build financial resilience from anywhere at any time. This highlights the technological advancements within the financial service providers in the democratisation of the financial services within South Africa.

Though the accessibility provided by the financial service providers has been seen in a positive light by the respondents, there is still an element of intent around accessibility. Drawing back to the broader theme of intent, the access provided by the financial services may be in line with the underlying drive for profits and bottom-line growth.

Respondent P10 also highlighted the success of digital innovations bringing about accessibility as a function of individual preference. The respondent stated that there is still a population within the country that is not digitally capable or connected and preference is in-person interaction with the financial service providers. This insight may inform how the financial service providers navigate the future environment.

5.4.2.2 Digital Distrust and Technology Abuse:

Linked to the intent of financial service providers emerged the subthemes of digital distrust and digital technology abuse. Initially looking at digital distrust, trust is a big proponent in the financial services industry as the consumers seek assurance that their hard-earned money is safe and actively protected. Trust was mentioned by the respondents as an inhibitor to the adoption and utilisation of digital products. The respondents mentioned the scams that have been perpetrated through digital channels that have created an element of digital distrust within the country.

“I think in the South African context, funny enough. I think trust is especially in the in the in the lower and middle income. Trust is actually quite important” [P11].

“You might find my aunt in the Eastern Cape, yes, has got a phone, and that's why they get scammed because they don't actually understand what they're doing. Shouldn't check because they get this thing click here to file your tax return that time is something that is actually fraud” [P10].

“And there's also a trust factor as well, and a language barrier, because, I mean, with this digital age has digital crimes have also increased. So, there is a balance to be maintained” [P5].

This provides insights into the regulatory reform lag when compared to the rapid moving digital innovation space. The progress made by the digital innovations has left room for the scammers to take advantage of the consumers who are novel or are attempting to use technology as a means of embedding financial resilience. Although not specifically mentioned by the respondents, this may highlight the need for the government to intervene in creating a safe environment for the users to engage in the solutions.

Respondents P11, P10 and P7 also raised the point that the financial service providers, in an attempt to bring about trust and safety, do provide the consumers with cautionary information. There is an element of raising awareness by the financial service providers to educate the consumers.

“When there's a scam, everyone knows about it, and then you're kind of aware of these things also, the various financial services companies have also done well and empowering or educating consumers around the potential of these fraudulent scams” [P11].

Technology abuse as a subtheme was not extensively prominent in the data but it was considered as an additive to the digital distrust subtheme. Although technology is praised for its positive attributes and its life-changing properties, there is a dark side to its use and application. Respondent P2 highlighted the lack of transparency of the

technological solutions. The respondent linked technology abuse to the intentions of the technology creator. Respondent P 9 alluded to the consumers trusting the technology creators to have the right intentions for the consumers but encouraged professional scepticism noting that technology could be used to drive the outcomes sought by the technology creator. Respondent P11 also linked technology abuse to the type of products that the financial service providers nudge to the consumers as they might not be in the best interest of the consumers.

“I'm by no means an expert on these sorts of things, but my understanding for AI, is that it is essentially very intelligent search engine that scouts the internet for what's out there, which, to me, means that it's susceptible to manipulation” [P9].

“South Africans are over indebted, and you'll hear things like your, you know, South Africans spend their salary in the first week, whatever, and what you then find is that actually financial services companies, because it's about the bottom line, those [digital] nudges that you described might not be nudges that are to the benefit of you” [P11].

Respondent P 10 highlighted that the regulation of the technology companies would be a challenge in the South African context due to the limited resources, and also the fluid nature of technology would make it hard to police. The respondent argued that the code bases could be altered to bypass the regulatory reviews as the digital applications are not written in black or white paper.

“I think that would be impossible for the regular regulator to regulate [technology abuse] ... I don't think the regulator has the manpower yet” [P10].

From the gathered responses, a few insights can be drawn from the respondents. The first insight would be that there is a lack of visibility or communication of the financial service providers' true intent for the customers. The second insight is around the short-sighted nature of the financial services providers in the extractive practises. The financial service providers potentially focus on their own needs to the detriment of the

consumers' needs. The third insight is the need to foster trust when the consumers engage with the digital innovations by both the financial service providers and the government.

In summary, the above analysis highlighted through the subthemes reinforces the theme of the perceived intent of the financial service providers.

5.4.3 THEME 2: Personal factors of usage

Through the data analysis, a theme around personal factors emerged. The theme is centred around the various variables that the respondents felt influenced the ability of the individuals to gain digital literacy or adopt digital solutions in the plight to build financial resilience. The respondents highlighted that the utilisation of digital innovations was predicated on the personal circumstances of the individual. The theme of personal factors was composed of various subthemes that will be unpacked below.

“It's again, going back to the individual right first, to actually understand or drive to understand, what is those factors. So, I think that is important. I mean, if you don't have that personally to understand those components”

[P2].

5.4.3.1 Social Contextual Learning and Environment

From the responses, there was a subtheme of social context that emerged. The respondents noted that the general economic environment of South Africa was not conducive to the individuals' ability to save and foster financial resilience. Respondents P 8 and P 10 highlighted the challenging employment statistics of the country and the limited opportunity for individuals to practise good financial behaviour while focused on survival.

“And you know, given how you know the economy is going and the pressure that consumers are facing, inflation and also shrinking real wages, that if they see that, you know that ad Oh, you can save such and such amount of month” [P8].

“If you think about the unemployment levels, and it's rising amongst the young ones. So, I don't know about those digital levels and the natural

attrition and how that's going to work going forward, because a lot of the guys are unemployed, and if everything digitalized, I don't know how they had access to that, which then brings a bigger challenge in terms of literacy, because our education level are also an issue" [P10].

Further to this, respondent P2 highlighted the implication of South Africa's recessionary outlook. This outlook may influence an individual's view of financial resilience and perpetuate the consumption culture of South Africa. This highlighted the implication of what is generally communicated with respect to the economic conditions.

"Firstly, we've got a problem, maybe in our middle class in South Africa, but we've also got the bigger problem of poverty in the poorer community. It's again, going towards having a savings versus a consumer culture within the environment" [P2].

Another aspect of social context that emerged was where individuals source information and how they learn about financial products. The responses highlighted that individuals were predominately relying on the social environment to gather and learn about financial products. The respondents highlighted that financial learning was through other individuals within their social circle engaging with financial products and relying on this experience with product performance. This further highlighted the need for support for the individuals on the financial resilience journey and it cannot be done alone. Limited reference was made to the efforts made by the financial service providers to educate individuals.

"So, I mean, what's quite a good example that comes to mind is I was not aware of all these different Sharia compliant investments, and [a colleague] was telling me about them, and he shared, like, all these pieces of information, and they were actually such good investments, but it's not the kind of information that's freely available, where, if you didn't know the right people and were just searching for it online, chances are you wouldn't come across it" [P6].

“They've really done all the research, all the legwork on their side, and they're comfortable sharing that knowledge, so they essentially save you the time, so you've just got access to that information just by being around those people” [P9].

This highlights a point around the importance of the environment of the individuals. The ability to leverage the social networks to build financial resilience. Another interpretation of the responses would be that the pitch of the information that is propagated by financial service providers may not be at the right level or contextual for consumers. Linked to this observation was the identification of language as a barrier to the usage and consumption of digital financial products. Respondents P5 and P10 noted that language could introduce an element of economic exclusion and is a barrier to the consumption of digital financial products.

“These digital channels and all of that, they are still not in in the language of the home language of the target of the target audience” [P5].

Although language was seen as a barrier to digital and product consumption, respondent P11 countered this assertion noting that the financial service providers historically tried to address the language barrier but there were limited benefits to the providers and consumers as English emerged as the preferred language.

“Man, the banks used to have different languages. You get to the ATM; it's got all the languages. You choose your language. You know what they found?... Everyone, about 90% [selected] English” [P11].

The insights that were drawn are that an individual's background as well as their social standing forms a critical part of the usage of digital financial products. The respondents also drew a link between the social context to the environment in which an individual finds themselves. The combination of the two can be considered as key to the ability of the individuals to learn and build their propensity to adopt digital innovations. This also highlighted the limited role, or the influence the financial service providers play in the learning journey of the individuals. The findings highlight the role of social cohesion in the context of financial learning.

Respondents P1 and P11 also highlighted the role of situational financial awareness as an element of social context learning and the environment when it comes to the usage of digital financial services.

“It's up to the individual and your, what's the actual situation” [P1].

“Look, I think also, I mean, to build financial resilience, you need personal disciplines, so no organisation is going to give you that” [P11].

The respondents highlighted other individual factors that influence the usage of digital financial products such as an individual's formal education, on-the-job exposure and general financial product exposure. This insight links with the economic conditions of the country and the role it potentially plays in the engagement with financial products.

“My parents were CAs with sort of heavy financial backgrounds, so I grew up constantly being made aware of the value of money and how everything costs money” [P9].

“Yeah, that they offered a financial literacy course through work” [P8].

“I've learned at the workplace, both in the context of work, like learning about the products that I've traded at the bank” [P9].

In summary, the social contextual factors were mentioned as key determinants of digital usage and digital adoption. Factors such as the economic environment, the individual's social environment and background influenced how the individuals engaged and learnt about financial products. Other factors such as language and digital access were noted as being potential barriers that would need to be addressed by the financial services industry.

5.4.4 THEME 3: Digital Innovations Influence

The influence of digital innovations has been ubiquitous in various industries owing to its innate ability to reach more people and promote engagement in economic activity. The level of influence is dependent on the usage of digital technologies. The theme of

digital innovation influence is grounded on the attestations of the respondents around improved information access and experienced behaviour changes.

“[Digital innovations] it's made things a little bit more seamless, I talk for myself, a little bit more seamless and a little bit easier to access financial markets, if I can put it that way” [P10].

5.4.4.1 Digital and Information Access

The respondents highlighted the increase in digital access within South Africa and the ability of individuals to access information. Digital innovations are pivotal to the democratisation of information. The respondents noted the progress that has been made in the financial services industry to provide access to individuals. This has been reinforced by the digital drive to have consumers transacting at any moment in time.

“The previous generation did not have access to so much information in respect to financial products as you would today” [P3].

When asked about the potential for the digital exclusion of individuals who do not have digital access, the respondents gave varying responses. Some respondents cautioned against the economic and financial exclusion that the digital innovations are introducing in the country. They emphasised the duality that the financial service providers need to maintain by offering individuals digital and personal touch services.

“I think anytime there's any sort of digital innovation, or, you know, technological advancements, the people you know below the poverty line will always be three steps behind. I mean, if someone doesn't even have electricity in their home, but if you're asking them to navigate a banking app, there's just so much that people don't have access to. So, like more people, the inequality gap will get bigger” [P4].

“I mean, it's great to digitalize everything, but we must also remember we are third world country with third world problems, so I think there'll always be a need for some of the services not to be digitalised” [P10].

This insight was further reinforced by the observations around digital access. The respondents noted that there is a general digital access challenge in South Africa that prevents people from accessing digital financial products. The challenges with general internet access for individuals and the access to infrastructure to engage with digital channels were highlighted by the respondents. This raises insights into the importance of digital exposure as a predictor of the engagement levels of individuals.

“I think there is still some work that can be done in trying to target and help the guy on the streets those guys don't necessarily have access to those digital tools” [P7].

“Does your everyday normal guy on the streets have access to internet a smartphone. I think there's still quite a big population of people that don't have access to the internet or to some kind of smart device” [P5].

5.4.4.2 Digital Behaviour Alteration

The respondents highlighted the importance of incentives as a mechanism for altering the financial behaviour of individuals. A total of seven out of the 12 respondents referred to the ability of incentives to alter financial behaviours and the opportunity the digital platforms have offered the financial service providers. Respondent P4 highlighted the positive influence the digital innovations have had from a financial behaviour perspective noting the ability to outsource some of their savings' behaviour.

“So, I fully agree that you know you need the reward component actually makes it increase the probability of getting regular engagement” [P11].

“What I've noticed is that a lot of banks have tried to sort of incentivize people for spending well. So, like discovery is very good with that when they incentivize you if you're spending on the right things” [P4].

When asked about the extent of influence of the digital nudges, through the financial service provide platforms, only three out of the 12 respondents intentionally pursued those digital nudges to inform financial behaviour. Respondent P7 raised concerns around the retrospective nature of digital financial nudges, noting that the scope of action is limited and the information shared cannot be actioned. This raises a point

around the proactive nudges that enable individuals to build financial resilience. Respondent P11 questioned the actionability of the excessive information that the financial service providers push onto the customers. The ability for the individuals to engage and interact with digital nudges was seen as being critical to both educating the consumers as well as ensuring informed product activation.

“So, I think, like, are those nudges more retrospective that the decision has already been made in the past. There's nothing we can do to change it now” [P7].

As stated above, the pursuit of financial service providers to have the customers engage with their products has also raised an element of overcommunication with the customers. Respondent P 3 highlighted that in the drive to increase information access to the customers, there may be an element of confusion for the customers.

“I am on FNB, I know there's always something you can either go read more, or you can say skip, because me, I'm trying to do what I'm trying to do. So, I think those nudges are there. But I honestly, for the life of me, I skip, and as I say, and as I said, for me, it's all about the conversations I have people, then I go research, then I go make the investment” [P10].

Respondent P5 highlighted the danger of manipulating individuals by the financial service providers. Given the extensive knowledge of the customers, there may be an element of abuse that is propagated through digital innovations. The point was further emphasised by respondent P11 noting that the digital nudges from the financial service providers may not be in the best interests of the consumer. This draws a link to the theme of financial service intent, reinforcing the points raised about the financial service providers being out for the bottom line.

“I think digital financial nudges can also be dangerous, because it's handing over some of the control to a financial institution that's got limits that you are unaware of or that you don't want to actually test the top handle” [P5].

The respondents shared positive sentiments towards the potential of digital innovations to influence financial behaviour in South Africa. Focal to the sentiments were the comments around the use of digital innovations to financially educate the customers. The element of digital financial education was also mentioned in relation to the young generation of South Africa. The respondents were positive about the potential of the digital financial platforms to inform good financial behaviour from a young age.

“So, I think also, like, if there was an AI element, also, it could be like, okay, [my young daughter] likes xyz thus develop a program, or something that is at her level, where she can understand financial decisions and financial decision making, all of that. So, I think definitely, like for the young generation, I think that's an excellent player to bring AI into, like, financial literacy and digital technology and all of that for this younger generation to help them get that financial literacy and understand the value of money”

[P7].

In summary, digital innovations have the ability to influence the behaviour of individuals. The financial service providers have been able to tap into this capability to drive certain financial behaviours amongst the consumers. Digital innovations have removed the friction of time between deciding to realising a decision. This has had some level of influence on the individuals, both negatively and positively, and calls for questions into how digital innovations are influencing the individuals' financial decision-making.

5.4.5 THEME 4: Scope for interventions

Another theme that emerged from the data is the opportunities and the scope of interventions from both the financial service providers and the government. The theme was grounded on the opportunities to increase the usage of digital platforms for educational efforts. Interventions are a critical aspect of driving behavioural change and the respondents highlighted the opportunities offered by the digital innovations.

5.4.5.1 *Financial service provider intervention:*

From the data, the respondents were bullish on the opportunities for inventions by the financial service providers in lure of educating their customers. A total of nine out of the 12 respondents referred to the scope of change the financial service providers could have in helping the South Africans to build financial resilience. The respondents mentioned the ability of the digital innovations to bridge the financial educational gap in financial literacy and improve financial resilience.

“I definitely think so. I don't feel like platforms are deliberately play a role in terms of building that financial resilience or encouraging people to do that like, I feel like there's more that can be done there, and more things that can be made available, more Education in that area specifically” [P6].

“So, I think I wouldn't say financial institutions are doing enough, and they probably should do more” [P9].

Based on the above, this raises an interesting insight into whether the financial service providers are missing the mark with regards to the digital solutions in the marketplace. This links to the initial theme of intent and how that informs product design and consumption. Respondent P1 raised a point around introducing mandatory financial education for the customers as a prerequisite to them engaging with digital financial platforms. This emphasises educating the customers to understand the basics of financial literacy before engaging with financial products. Though this may be linked to the subtheme of digital abuse and consumer exploitation, this highlights a link to government intervention and the potential for a regulatory framework to counter consumer exploitation.

“The key there is education...it should definitely be more focused on the end user education, putting them into some prerequisites before you start using the various digital platforms” [P1].

“Now the why I say it depends is it all depends on financial services companies' ability to build the appropriate platforms tools to better be effective at educating South Africans” [P11].

In line with the digital interventions offered by the financial service providers, respondent P11 raised the need for the digital interventions to be more engaging. The passive nature of the platforms is not enough of a nudge, and it will not compel the customers to act. Respondent P 6 emphasised the importance of the ease of use of these digital innovations. This was in line with the context of South Africa and the illiteracy levels of the country. Further to this, respondent P5 emphasised the importance of the interventions to be contextual for the individual using the applications.

“I think its ability to give a tiered approach to information consumption, you know, or information production, I think, is a very good tool that I think financial institutions should use to target all individuals, regardless of their educational level, intellect or work background” [P5].

5.4.5.2 Government Intervention

The government interventions were not mentioned extensively by the respondents with only two of the 12 respondents referring to the topic. The references to the government intervention were considered in the context of the overall theme of the scope of interventions. Respondents P3 and P7 noted the possible scope of interventions concerning financial education and the promotion of digital access. The intertwined link between the government and the economy of the country provides the government legitimate scope to intervene. The subtheme of government intervention can be linked to the social context theme as the economic attributes of the country may influence financial behaviour.

“So, I think there are various ways to get the digitization to bring about financial literacy, but I think the most critical one is the incorporation of the digitization piece within the education system. It will be a powerful one”

[P3].

In summary, the respondents highlighted the potential need for interventions from both the industry and the government in the consumers' financial resilience journey. This alludes to the insight that the consumers cannot do it on their own, while trying to navigate the digital financial services. The respondents called for educational

interventions through digital innovations but also highlighted the need for easy-to-use interventions to benefit all the consumers.

5.5 Conclusion

This chapter provided an in-depth analysis of the results of the study drawn from the lived reality of the respondents and their engagement with digital innovations within the financial services industry. Using the interviewees' narratives, the research was able to gain a deeper understanding of the challenges and opportunities surrounding the financial services industry in the consumers' journey towards financial resilience.

The findings revealed that the respondents were sceptical of engaging with digital financial solutions, questioning the true intent of the financial service providers. This scepticism fostered an element of distrust between the consumers and the financial service providers. Though the respondents were concerned about these aspects, they praised the evolution of the accessibility of financial services and the improved channels of consuming financial services products.

The ability of the individuals to use digital innovations was linked to other social factors such as but not limited to formative education, the social environment and economic-driven exposure. This innately introduced barriers such as the language and digital exposure that the consumers need to navigate in their journey to financial resilience. Individuals have relied on social learning networks to build financial product knowledge and to inform financial behaviour. Economic attributes such as unemployment also play a key role in the social networks and in the ability of the individuals to gain financial knowledge. The results showed the need for interventions from both the financial services and the government to help the consumers on their financial resilience journey.

The results chapter provided contextual insight from the interviewees. This window into the lived realities of the individuals provided the foundation of Chapter 6. Chapter 6 bridges the gap between existing academic literature and the research results, by drawing parallels and contradictions between the two sources. The aim of the chapter is to provide a comprehensive picture of the research study.

CHAPTER 6: DISCUSSION OF RESULTS:

6.1 Introduction

The most value derived in any research study is based on the ability to integrate the research findings with the existing literature. This process of integration creates fertile ground to extract the principal findings of the study and inform future studies. The analysis provided in Chapter 5 of the study focused on extracting the main findings from the performed narrative interviews. The chapter encapsulated the main findings from the lived realities of the interviewees and informed themes that were established within the data.

To recap the research problem, digital innovations have become a relevant topic in research and the business environment. For developing economies, this offers the ability for individuals to leverage this new technology frontier to develop financial resilience and financial prosperity. The tough economic and social environment of developing economies have highlighted the critical role digital literacy and digital innovations could potentially bridge the financial gap for developing economies both at macro and micro levels and address their challenges. But to realise the benefits there is a need for individuals to become financially resilient adopting good financial behaviour informed by increased financial education and the access and usage of technological advancements. The themes identified in Chapter 5 link to addressing the research problem.

Chapter 6 provides a discussion of the main findings of the study in relation to the research questions and adds a perspective from the existing literature. The structure of the chapter will link the identified these to the respective research questions. With each research question insights will be discussed in conjunction with literature and the associated theories. The discussion aims to link the research problem statement to the themes identified in Chapter 5 to provide a rich contextual understanding of the constructs from literature and the research findings. The chapter integrates the literature review performed in Chapter 2 with the findings extracted in Chapter 5 of the study with the intent of providing a new perspective on the main results of the study.

6.2 Research Question 1: What is the role of digital literacy and digital innovations in building individual financial resilience?

The global economic environment has been described as being complex and highly integrated owing to globalisation. Global events such as the 2008 financial crisis, the Covid-19 pandemic and the Russia/Ukraine war bear testament to the complex global environment and the extensive global impact that follows such events. These global events have had unprecedented long-term impacts on developing economies and have drawn much attention to the importance of developing countries to build resilience among its citizens (Goldberg & Reed, 2023; Leal-Arcas et al., 2024). The concept of resilience has spanned into individual financial resilience. It is considered the ability of an individual to maintain a certain self-selected lifestyle throughout financial challenging times such as recession or unemployment.

In Chapter 2 of this study, financial resilience was defined as the ability of a household to access or draw on internal capabilities and access to external resources to support them in times of financial shock (Hamid et al., 2023). The results of the study did not steer far away from this definition. The respondents noted elements of financial resilience such as financial planning and financial decision-making, but the key focus was on individual financial sustainability. Concepts such as retirement planning, budgeting, savings and investment were referred to in the results under the banner of financial sustainability (Hamid et al., 2023b). In line with the objectives of the study, there was an aim to get a contextual rich articulation of financial resilience which was best provided by respondent P11 who referenced to the ability to weather extreme life and financial events without compromising significantly the quality of life and standards of living.

Financial resilience is considered as an output of financial decision-making, but to achieve financial resilience, the individuals need mechanisms to exercise financial decisions (Klapper & Lusardi, 2020; Salignac et al., 2019b). The advancements in digital innovations within the financial services industry have offered individuals opportunities to exercise financial decision-making through digital channels and applications. Digital innovations are considered as key economic inclusion drivers in the financial services environment. This drive for digital innovation has seen the emergence of fintech

companies that seek to democratise financial services through digital platforms. Digital financial services as defined in Chapter 2 refer to the delivery of financial services through digital channels (Amnas et al., 2024; Anane & Nie, 2022; Cheumar & Yunita, 2022; Iheanachor & Umukoro, 2022). But for the consumers to fully leverage the digital financial services delivered through the digital channels and platforms, there is a need for individuals to have proficiency to navigate those technologies (Ferilli et al., 2024; Mubarak & Petraite, 2020).

6.2.1 Digital Literacy and Digital Access

The proficiency that is required by the individuals in a digital world is digital literacy. Digital literacy, as defined in Chapter 2, refers to an individual's ability to assess and navigate new technological situations, critically evaluate information, and leverage the technologies' potential to solve problems, build information relationships, build knowledge, and share knowledge (Tinmaz et al., 2022). This definition of digital literacy aligns with the findings of this study which postulated digital literacy as the ability of the individuals to navigate digital platforms, source information and communicate using digital platforms. The findings of the study, however, did present an additional element of security which is not encapsulated in the definition sourced from the literature. Though subtle in its pervasiveness, the study noted the ability of the individuals to safely navigate digital spaces as a key aspect that should form part of the definition of digital literacy. This skill equips the individuals with the ability to protect themselves against the harm introduced by the digital platforms and discern between legitimate and illegitimate information. This is a notable contribution to the existing literature as it adds a contextual element to the definition. This presents a unique perspective to literature and an element that needs to be considered in the study of digital literacy. The presence of digital crimes, such as fraud and phishing, are a lived reality that the consumers need to guard against. In the context of a developing economy such as South Africa and the financial nature of these services, individuals may fall prey to the digital crimes that compromise financial resilience. The study's results support the findings of Adam (2022) and Sun et al. (2023) that identified digital literacy as a challenge in the South African context. The studies provide a view of the progress made in digital literacy compared to the developed economies and note the gap that exists in the digital literacy levels. The

studies noted the need for government interventions to prioritise digital literacy within the schooling curriculum to bridge the identified gap. This component linked with the need for improved digital infrastructure across the schooling environment to improve access and exposure to the digital landscape to improve digital literacy levels.

The study results noted the important role played by digital innovations in liberating the access to financial products. As defined in Chapter 2, digital access refers to the ability of an individual to fully participate within a digital society. Digital access comprises of internet connectivity, digital literacy and digital tools, as well as the components required to be effective in a digital society. Digital access in developing countries remains a challenge and ultimately it is a potential barrier to financial resilience (Tay et al., 2022). The study results noted that basic digital components such as the access to affordable internet services and the access to compatible hardware were a challenge and a detractor to the usage of digital financial services. This adds a dynamic to the relationship between digital literacy and building financial resilience. The study results align with the findings by the researchers who posit that the access to digital infrastructure in South Africa was lacking and called for interventions by the government to promote the rollout of infrastructure to all the corners of the country (Adam, 2022). The combination of low digital literacy levels and limited digital infrastructure places a restriction on the ability of the South Africans to leverage digital innovations for prosperity. Essentially, this puts the individuals at a disadvantage of not benefiting from the digital boom that has emerged globally.

6.2.2 Digital Trust and Financial Service Provider Perceived Intentions

Over and above the challenges presented by digital access is a challenge of trust both towards the digital innovations and the financial service providers. Historically, the financial services industry has been able to build trust with individuals, but this was a prolonged game of patience. The trust goodwill was aided by the physical presence of the brick-and-mortar branches across the country that provided individuals with a level of assurance of the institutes storing hard-earned money (Müller & Kerényi, 2019). The digital innovations on the other hand, have not been able to leverage the trust goodwill built up by the financial service providers to date. The study results found the emergence of distrust amongst the individuals concerning the financial services

providers. This element of distrust has been propagated by two phenomena, digital distrust and the perception of financial institution intent.

Digital distrust as defined in Chapter 2 refers to the lack of trust in using the digital platforms or channels. It is the non-belief or the better scepticism around the intentions of other agents acting through digital channels (Aldboush & Ferdous, 2023; Mubarak & Petraite, 2020). The results of the study noted digital distrust within the financial services industry. Digital innovations have eliminated some of the friction points within the traditional engagement model with the consumers of in-person engagements. The traditional engagement model of financial services presents the consumers with an opportunity to interrogate the information or products being presented through in-person engagements with the financial service providers' representatives (Zhang et al., 2021). This engagement model fosters an element of trust with the consumers drawing on other in-person engagement elements such as body language cues and engaging with representatives that can offer contextual understanding of the consumers. It is not to say that there would not exist opportunities for exploitation for the financial service providers, but regulatory frameworks protect the consumers in these engagements (Zhang et al., 2021). In contrast, within a digital sphere, the burden of contextual understanding is left solely to the consumer, bypassing the regulatory efforts to protect the consumer. It requires the consumers to have the relevant knowledge about financial products to inform good financial decision-making. This has naturally fostered a trust deficit amongst the individuals in engaging with digital innovations (Aldboush & Ferdous, 2023).

The point around digital distrust, as per the study results, was further cemented by the respondents under the banner of consumer preference (Aldboush & Ferdous, 2023). The study results noted that the individuals were willing to engage in low-risk activity through digital platforms, such as digital payments, but preferred in-person engagements with high-risk transactions, such as mortgage applications and investment decisions. Though the capabilities for high-risk transactions are available through digital platforms, the respondents preferred in-person engagements for these types of transactions. This highlights the trust goodwill built by the brick-and-mortar financial services branches that the digital innovations are yet to establish. In the context of

developing economies such as South Africa, trust in the financial services industry plays a large role given the economic conditions. Individuals seek to protect their hard-earned resources by engaging with established methods of in-person engagements, and digital distrust potentially is a barrier to the use of digital innovations to build financial resilience. Although the study's results note digital distrust as a barrier to the adoption and usage of digital innovations, there is a need to appreciate the evolutionary processes that the digital innovations need to go through. The studies by Skare and Soriano (2021) as well as by Najib and Fahma (2020) highlight that the evolution of new methods within the digital space is a lengthy process and digital innovations will need to go through the various phases before being widely adopted. The study posits that the adoption model provides a good reference for digital innovations. As the digital innovations evolve and become better at addressing the challenges that surround them and the legislation around these innovations catches up, there will be a natural migration to adoption.

Linked to digital distrust is the perceived intentions of the financial service providers. As discussed in Chapter 2, trust is the belief that other agents will behave predictably (Mubarak & Petraite, 2020). The role of financial service providers is decreed, through the central banks and regulations, to promote financial stability. The emphasis from a regulatory lens is to ensure that the macro environment is conducive to economic activity and protects the financial system and its participants. These governing agents offer little influence in the manner the financial services engage the target market but have rather outsourced this responsibility to the principles of free market economies. The little influence exerted by these agents' centres around financial stability and safeguarding the consumers from activity that impacts the macro environment.

Through risk and reward, the financial service providers engage in risky endeavours to derive rewards. The rewards for the risks that the financial service providers engage in are derived from the product consumers (Tuyon et al., 2023). This practice has become widely accepted in the global environment, but it has opened the door to the exploitation of the consumers by the financial service providers to extract greater rewards. Digital innovations have broadened the opportunities for consumer exploitation in the current digital financial services environment. The results of the study

noted consumer exploitation as a key finding that the financial service providers do not act in the best interests of the consumers but act in the best interests of the potential reward to be derived.

6.2.3 Consumer Exploitation and Nudges

Digital innovations have entrenched consumer exploitation through the digital nudges offered by the digital platforms (Mpofu, 2024). An example that was offered by a respondent contextualised the exploitation in their personal experience when they received a digital nudge for a credit limit increase even though they were financially secure and did not need the extended credit. Various other macro examples such as the 2008 global financial crisis further question the true intent of the financial service providers' exploratory behaviour. This behaviour may be considered as shortsighted and borrowing from the accounting school does not promote the going concern of the financial services. For the financial service providers to remain a going concern, there is a need to foster the viability of the consumers over a long period. It can then be argued that financial resilience amongst the customers should be a key driver for the financial service providers to remain profitable over a long period (Menghwar & Daood, 2021; Omar & Madzimure, 2022). Consumer base sustainability has been prominent throughout the literature and refers to the ability of a firm to maintain a consumer within their products over a long period. This has morphed into the concept of shared value which refers to the sustainable business practices that benefit the firm, its clients and society (Menghwar & Daood, 2021). The shareholder value theory still plagues the financial services industry, and it is a principle that may be deductive to the individuals building financial resilience (Tuyon et al., 2023).

Bringing together the different aspects around digital literacy, digital innovations and financial resilience, the study's results draw a causal relationship between the variables. For individuals to build financial resilience in a digital world, there is a need for digital access. Provided with digital access there is a requirement for digital platforms that are easy to use, contextual to the individual and support individuals in making informed financial decisions. Individuals need digital literacy to navigate digital platforms and realise financial intent. The findings of this study align with a number of studies that

highlighted similar challenges within the developing economies (Agur et al., 2020; Khera et al., 2022; Mpofu, 2024).

The findings of this study support the findings of Salignac et al. (2019) around the factors that contribute to financial resilience. The study by Salignac et al. (2019) identified four categories that contribute to the ability of individuals to build financial resilience. The conceptual model of the study identified economic resources, financial resources, financial knowledge and behaviour and social capital as key determinants of financial resilience. This study results found similar themes around social capital, financial knowledge and behaviour as well as financial resources. This study identified social networks as a key enabler for financial education. From a financial resource perspective, the access provided by digital innovations to financial products has propagated access to financial products and fostered financial inclusion. A study by Tinta et al. (2022) developed a conceptual model of studying financial resilience in developing economies. The study identified demand and supply side factors that influenced financial resilience. This study aligns with the findings of the study by Bialowolski et al. (2022) in respect to financial resilience.

There are a limited number of studies into the role of digital literacy, digital innovation in building financial resilience. This presents a unique contribution to the limited literature on the influence of the various constructs on financial resilience. This study's results align with the novel work of Kass-Hanna et al. (2022) that found quantitative links between the constructs of digital literacy, financial literacy and financial resilience.

In answering the main research question on the role of digital literacy, digital access and digital innovations on the ability of individuals to build financial resilience, the results of the study indicate that financial resilience can be achieved through digital innovations provided the individuals are equipped with digital literacy skills and have digital access to those innovations. However, the relationship is governed by the contextual challenges for the respective countries. There is a relationship between the four constructs as all digital literacy, digital access and digital innovations are all prerequisites to building financial resilience in the digital-only financial services industry.

6.3 Research Question 1.1: What is the role of digital literacy and digital innovation on financial literacy?

Another construct that contributes to financial resilience is financial literacy. Financial illiteracy has been a global challenge historically and it has been part of the global agenda in recent times. The benefits of financial literacy are evidenced in its by-product effect of aiding in the eradication of poverty amongst other benefits. There have been various initiatives globally to try to improve the financial literacy levels through financial educational programs, but illiteracy still remains a challenge.

As defined in Chapter 2, financial literacy refers to an individual's financial awareness, knowledge, and behaviour (OECD, 2017). It relates to the skills required by an individual to successfully navigate the financial services industry. The results of the study did not provide a comprehensive definition of financial literacy, but they were centred around an individual's money management abilities. The definition, as per the study results, provided a more abstract view of financial literacy focusing on the ability to effectively use financial resources. Thus, the study results conform to the definition of financial literacy in its comprehensive form.

Financial literacy is considered the foundation required to achieve financial resilience (Salignac et al., 2019). The construct plays a mediating role as individuals are financially literate which informs their financial behaviour. Though its role as mediator is often seen as positive it doesn't preclude irrational financial behaviour, a school of thought introduced by behavioural finance (Ingale & Paluri, 2022). The ability to effectively manage finances helps to promote sustainability within households. Though financial literacy holds a critical role to play in the journey of financial resilience, financial literacy education remains a challenge, especially in developing economies (Hastings et al., 2013).

Financial education as presented in Chapter 2 refers to the initiatives that set out to instil financial knowledge and skills within individuals (OECD, 2023a). Financial education is the process of developing financial knowledge and skills among individuals. Financial education emerged from the study results. The study results noted that financial education was disseminated through three channels, social networks, on-the-job

exposure and financial service providers. All three of these avenues form part of the adult learning methods studied in literature.

6.3.1 Financial Education

Experimental learning is learning through exposure and application (Brookfield, 1995). A large component of the experimental learning around financial literacy is through formal workplace exposure (Kaiser et al., 2022). Within formal employment, the individuals are exposed to financial education whether it is through forced retirement contributions or employee benefits. This offers the individuals the exposure to interrogate financial products and capture financial learning through the firm. Although nothing legislates the firms to provide individuals with financial knowledge, the byproduct of employment is the exposure to elements of financial products. This provides individuals with a starting point towards the financial resilience journey. This also introduces an element of self-directed learning. The study found that a small cohort of respondents deployed this method of quasi-experimental-self-directed financial education learning. Potentially more could be done legislatively to ensure financial education within the firms to promote financial knowledge among the employees.

Collaborative learning is defined as working within groups to achieve a certain goal (Brookfield, 1995). Within the collaborative learning space, the study noted two methods employed by individuals to gain financial knowledge. The first method is financial education through social networks. The study found that many individuals relied on social networks for financial education and executed financial decision-making on the back of the social network recommendations. Though this method proved effective for the respondents, there were two challenges it presented. Firstly, is the credibility of the information shared through those social networks. This could introduce the herding of individuals towards financial products that may not be in the individuals' best interest. The Bitcoin craze provides a good illustration of this challenge. Secondly, the individuals who are not privileged to be part of the financial educating social networks are left to quasi-experimental-self-directed financial education.

The other collaborative learning method that was deployed was financial education through financial service providers. The study respondents were receptive to the

financial education content provided by the financial service providers. Though the respondents showed a level of scepticism in activating the financial products linked to the information received, they did, however, provide an initiation point for further self-learning.

The results of the study noted that more could be done in the space of financial education by the financial services owing to the pivotal role they occupy within the economy. It's safe to say that the digital financial service providers are potentially the key to improved financial literacy in the developing economies. By their nature, the financial service providers have deep expertise in the field, allowing them to produce and deliver financial education through existing digital platforms. Though at face value the argument makes logical sense in terms of addressing financial illiteracy, this would not promote higher rewards for the financial service providers. A respondent of the study noted that as the consumers become financially literate, this might trigger inquisitions into the consumed products and may mean lost revenue for the financial service providers as the consumers apply informed decision-making. This point is linked to the earlier discussion around consumer exploitation, that for the financial service companies to generate higher rewards, there is a dependency on the consumers making uninformed financial decisions. The study results posit that the financial service providers do not act in the best interest of the consumers. There would need to be a balance between reward and societal good.

The role of financial service providers has been well studied. Prior studies have primarily been around the integrating role providers play in terms of economic inclusion and facilitating the flow of value through the economy (Epstein, 2007; Patiño & Gutiérrez, 2019; Trunk et al., 2017). Limited studies have looked at the role of financial service providers beyond being integrators to include the element of financial education. A study into banks in the European Union showcased how financial education was driven by commercial banks as opposed to government or central banks (Trunk et al., 2017). The initiatives run in the respective countries were made up of private-public partnerships between the government and commercial banks. The findings of the case study by Trunk et al. (2017) highlights the possibility of financial service providers playing a bigger role in educating consumers. The ability of financial service providers in the

European Union to remain profitable while exposing their consumers to enhanced financial education initiatives provides a blueprint for developing economies like South Africa to implement. Though it may be argued that the European Union may not suffer the same challenges as developing economies, it does however showcase the concept of consumer sustainability which is beneficial in both developed and developing economies concerning economic growth.

The case study noted the principal drive for commercial banks to educate their consumers was to enable them to leverage the positive benefits of good financial decision-making and financial well-being (Trunk et al., 2017). This introduces an element of societal good, a construct that has been termed shared value. The concept of shared value refers to sustainable business practices that benefit the firm, its clients and society (Menghwar & Daood, 2021). A few respondents highlighted, Discovery Bank, as a shared value bank which seeks to improve the financial well-being of its consumers through its product designs and rewards programs (Omar & Madzimure, 2022). Though this is a noble cause, the flip side of the coin is shareholder value. There is a delicate balance between the models of shareholder and shared value that financial service providers need to maintain concerning consumers (Crane et al., 2014). As consumers become financially knowledgeable and invest funds into various markets for future financial needs, the expectation is for those firms to create value that is shared with those that are invested. This cements the notion that firms need to make profits to satisfy investors and the more profits they make, the better the financial resilience of investors. But by the same token, other consumers seek financial education from financial service providers which puts into question the notion of making the most profits. This highlights the complex challenge faced by financial service providers in trying to balance the scale between shared value and shareholder value.

Though some financial service providers grapple with the challenge of rewards versus societal good, the respondents mentioned financial service providers that have taken a shared value approach in the industry, by promoting consumer financial resilience through their product designs and by creating a sustainable consumer base for the future.

Digital innovations have created opportunities for the financial service providers to introduce financial education through digital channels. The ubiquitous nature of digital financial platforms is an opportunity to address the financial literacy challenges. Granted the digital challenges previously discussed would need to be addressed before this can be a reality. To realise this reality, the financial service providers would need to pivot towards a shared value model educating the consumers and building financial resilience in the country. The financial service providers may not derive direct benefits from these endeavours but would benefit through the macroeconomic context that would be created by a financially resilient middle class.

6.4 Research Question 1.2: What is the role of digital literacy and digital innovation on financial behaviour?

The discussions to date have been centred around the two extremes of financial literacy and financial resilience. The discussion has noted financial literacy as the input and financial resilience which is an output. There exists a mediating construct between the two extremes which is financial behaviour. Financial behaviour is considered to be an important element of financial resilience and financial freedom.

As defined in Chapter 2, financial behaviour is defined as the financial practises the individuals engage in when dealing with finances (Falahati et al., 2012; Ingale & Paluri, 2022; Xiao et al., 2014). It refers to how the individuals make financial decisions and manage financial issues. Financial behaviour is considered to be the bridge between financial literacy and financial resilience. Financial behaviour is considered as the mechanism through which financial resilience can be achieved.

The initiatives into addressing the financial literacy levels have also featured efforts to improve the financial behaviour of individuals. A respondent used an analogy of financial behaviour being the fuel to a car. An individual can have a car, and financial literacy, but without fuel, which is financial behaviour, therefore they cannot reach the destination of financial resilience. The study results highlight the importance of financial behaviour as a mechanism to realise financial resilience. The opportunities for individuals to express financial behaviour have improved with the improvements made in the financial services industry.

There have been various efforts to improve the financial behaviour of individuals. Examples of this have been through information dissemination and through product designs that reward individuals for good financial behaviour. Financial behaviour improvement efforts have evolved from paper-based solutions such as chequebook balancing to digital solutions which allow individuals to budget through digital platforms. These advancements have addressed the methods by which individuals can enact their financial decision-making but have not truly addressed the actual individuals' behaviour. The school of behavioural finance has focused on the behavioural components that guide individuals in their decision-making process. This school has identified elements such as but not limited to biases, herding, anchoring and loss aversion. The financial service providers have used this school of understanding to inform their digital platforms in addressing financial resilience.

Digital innovations have offered financial service providers plentiful opportunities to influence the decision-making process of the consumers. The financial service providers have leveraged the school of behavioural finance as a means of influencing decision-making (Königstorfer & Thalmann, 2020). Noted in the study results was the component of digital nudges that the financial service providers use to trigger product activation. The nudges are considered to be subtle persuasions to influence the actions of an individual. The digital nudges are considered as persuasion through digital platforms.

The study results noted a theme of digital behavioural changes by the individuals. The financial service providers were able to influence the actions of the respondents through digital nudges (Silinskas et al., 2021). There were mixed results from the theme as some respondents were receptive to the digital nudges to inform financial behaviour while others were not as receptive. These nudges fall into two categories, informative nudges and activation nudges. The informative nudges were classified as being prompt around an individual's financial standing and even offered a comparison to similar consumers. The study results deemed the information as being retrospective and it had limited actionability. The other class of digital nudges was the activation nudges that placed a call to action on the consumer. These ranged from vehicle finance offers to credit limit extension offers for consumer activation. Both of the above-mentioned digital nudges are predicated on an individual having the required financial knowledge to understand

the implications of the products or information. This is particularly prevalent in the activation nudges as the absent financial literacy individuals may make ill-informed financial decisions that may compromise financial resilience. This point can also be linked to the intentions of the financial service providers to make a profit. A respondent noted that the financial service providers offered middle and lower-class individuals' products that generate the firm the highest margin or profit, and these are products that may not be good for the consumer. This highlights the importance of financial literacy for the individuals in dealing with digital platforms and the need for professional scepticism.

In line with the digital behavioural changes, the financial service providers have re-enforced their efforts around the digital nudges by offering the consumers incentives for product activations. The incentives are considered as an effective motivational factor in influencing the behaviour of an individual (Friedrich et al., 2020). These can be linked to the loss aversion principle of behavioural finance. A respondent to the study noted that the rewards program offered by their bank included an element of product activation. To achieve the top tier in the program, individuals had to have a home loan product and a revolving loan product to derive the most benefits from the program. These are high-margin or long-term products considered as tier-1 profit products by the financial service providers. This adds another dimension to the influence of digital innovations on financial behaviour and individuals building financial resilience.

Though the above portrays an unfavourable position on the influence of digital innovations on financial behaviour, there are positive components as well. The study results noted the respondents who have inherited good financial behaviour off the back of digital nudges. Informative nudges have presented individuals with key information without any effort from the individual. Historically, for the individuals to evaluate the total net worth or compare changes in the net worth year on year, it would require extensive effort, but informative nudges have the information readily available to the individuals. The informative nudges offer an individual the potential to track and adjust the financial resilience journey. Activation nudges offer individuals the opportunity for financial education. A respondent to the study noted that they were offered an activation nudge, in the form of a tax-free unit trust product by their financial service

providers. This was a trigger point for them to further explore the product as they had not heard of a tax-free investment vehicle before. This offered a financial education component to the respondent.

Digital innovations have also offered consumers the ability to outsource elements of financial decision-making (Königstorfer & Thalmann, 2020). A respondent noted an example of a service offered by their financial service provider to round up their transaction amounts and invest the rounding difference into shares. With each daily transaction, the digital platform rounds the transaction amount and automatically invests those funds into the equity market. Again, this would need to be contextual to the individual, but the concept of everyday investing and continuous financial resilience building can be achieved. Another example offered by a respondent was the use of artificial intelligence to evaluate various shares and recommend what shares to purchase, an exercise that would historically require tremendous effort and knowledge. However, these types of platforms would need to be evaluated against the backdrop of the earlier discussion of the intent of the platform providers.

6.5 Conclusion

This chapter provided an in-depth discussion of the main findings of the study in relation to the research questions and added a perspective from the existing literature. The chapter linked the literature review of the study to the results of the study adding contextual elements from the respondents.

The main research question of this study was to determine the existence of a relationship between digital literacy, digital innovation and the ability of an individual to build financial resilience in the current financial ecosystem. The study set about understanding the lived reality of individuals and how “digital” influenced their ability to build financial resilience personally. In answering the main research question, the study found that there is a relationship between the three constructs which the study alludes to as being a causal relationship between the constructs. Though the study found a causal relationship, various digital challenges depreciated the extent of financial resilience potential for individuals. These challenges ranged from digital access, and digital distrust to the intent of the financial service providers.

One of the main findings of the study were the presence of a trust deficit in digital innovations that acts as a barrier of leveraging the benefits of digital innovations. The pervasive nation of digital crimes have negatively influenced individuals to steer away from digital innovations in the financial sector but rather to focus of traditional in-person engagements. Also linked to trust was a finding around the perceived intentions of financial service providers who may have not had the best intentions of consumers. The study found that there is a level of scepticism towards financial service provider stemming from their perceived exploitation practises. This was evidenced by the calls for improved financial educations actioned through financial service providers. The study also unearthed other hygiene such as digital access, financial awareness and social contextual factors that also play a role in the usage of digital innovations in building financial resilience. Click or tap here to enter text. Click or tap here to enter text. Click or tap here to enter text.

The study then deployed several sub-research questions to canvas the influence of digital literacy and digital innovation on other elements of financial resilience. These spanned financial literacy, financial education and financial behaviour. The study alluded to a similar causal relationship between the various constructs.

The findings of the study highlight the challenges faced by developing economies such as South Africa. Though there are broader and unique contextual challenges experienced by individuals in developing economies, such as digital trust, there are other hygiene factors that are common for developing economies (Agur et al., 2020; Matewos et al., 2016; Mpofu, 2024). Findings such as digital access, financial education, financial awareness and social contextual factors already discount the benefits of the digital dividend developing economies can leverage. The findings of the study contribute to both practical and theoretical spheres. Theoretically, the study findings add to the emerging field of study into financial resilience through digital technologies. The study adds a perspective of a developing country and contributes to the early work of authors Salignac et al. (2019), Klapper & Lusardi (2020) and Hamid et al. (2023) who have conceptualised frameworks to study the ability of individuals to build financial resilience in a digital age. Practically, the findings of the study highlight the need for key interventions both at a macro and micro level. The study findings encourage

governments to address hygiene factors that would allow individuals to benefit from the digital boom. From an industry perspective, the finds are a call for introspection in business practises and how the sector could look more toward shared value and sustainability and move away from a predominantly shareholder value driven business models.

In conclusion, the digital age has brought about various challenges for individuals to conquer in their plight for financial resilience. The study found that the ability to transcend in digital financial services was predicated on digital literacy and digital innovations as key components. From the collected data, the study results show the positive and negative aspects of digital financial services and form the foundations for industry and regulatory recommendations.

CHAPTER 7: CONCLUSION AND RECOMMENDATIONS:

7.1 Introduction

The rapid evolution in the financial services industry has been matched by the increases in complexity faced by consumers. Navigating the financial services in the 21st century has become a challenging task that individuals encounter through economic participation. Developing economies have not been spared from these complexities and are faced with other economic challenges that have further compounded the task. This evolution in the financial services industry has called for individuals to upskill their financial management skills to navigate the complex financial environment.

Digital innovations have provided individuals with a window of opportunity to bridge the skills gap and the ability to mitigate some of the complexities of the industry. The individuals within the developing economies could benefit from the digital innovation dividends but there may be other friction factors to be studied to maximise the benefits. In the age of increased financial autonomy, the role played by digital innovations to bring about financial resilience cannot be discounted. It has placed a new focus on digital literacy as a critical skill for individuals to possess.

The middle-class segment of developing economies has a crucial role to play in propagating a cycle of economic growth. From a macro-country perspective, addressing the challenges the individuals encounter on their road to financial resilience has positive benefits encapsulated in efficient government spending towards economic growth. From a micro-individual perspective, individual financial resilience ensures that the households maintain a standard of living through periods of financial stress. Digital literacy and digital innovations are key avenues of creating a robust avenue for individuals to build financial resilience. As technology becomes ever-prominent, the ability of individuals to use and adopt digital innovations is an area of interest for developing countries, offering the opportunity to leapfrog financial development phases and accessing global financial solutions.

This study set out to explore the role of digital literacy and digital innovations on the ability of individuals to build financial resilience. The study sought a deep understanding

of the lived experiences of the respondents within the South African context. The study produced interesting findings about these lived realities and how those influenced the ability to build financial resilience through digital solutions.

This chapter is aimed at providing the principal findings of this study, the implications of the study findings, the limitations encountered by the study and the recommendations at both a macro and micro level of the developing economies. The chapter then concludes the study's contribution to the existing literature and the nuanced perspective.

7.2 Principle Findings

The study highlighted several interesting findings. It found that financial resilience can be achieved through digital literacy and digital innovations. The three constructs evidenced a causal relationship that would need to be further explored. Even in the presence of the causal relationship, other factors played a role in the adoption and usage of digital innovations in building financial resilience.

Digital innovations have a long journey ahead of building trust amongst the users, especially in the financial services environment. There exists a trust deficit within the digital financial services that is not mirrored by the traditional financial service engagements. The trust deficit experienced in the digital environment may be attributed to change aversion of individuals who have become accustomed to the current traditional financial engagement's models through brick-and-mortar infrastructure. The stickiness towards traditional the engagement model can also be seen as a journey managed evolution of the financial sector. There is an element of vulnerability that is fostered by digital innovations that presents a friction point to the individuals adopting and using digital financial platforms. While the individuals were willing to engage these platforms to perform low-complex activity, they were not willing to engage in high-risk activity on these platforms. This highlights the challenge of trust within the digital space. Contextual factors were also a key variable towards digital distrust. The economic conditions of the country may also play a role in the willingness of the individuals to engage with digital innovations. The study presented unique findings that relate to developing economies such as South Africa.

An interesting finding of the study was the perception the individuals had towards the financial service providers. The study found that the individuals questioned the intentions of the financial service providers and the intent towards the customers. The financial service providers are seen as integrators in economies but at the end of the day, they are businesses and are motivated by profits. These motives have emanated in the financial service providers promoting products through digital nudges. The study results showcase various concerns around the types of products promoted to ill-informed consumers that were potentially detrimental to financial resilience. This has highlighted the need for and the importance of financial literacy in individuals navigating digital financial services and building financial resilience.

Individuals rely heavily on the financial education through social networks. There are limited opportunities for financial education and social network education is preferred as it offers a contextual element. Financial education remains a critical component of financial resilience. Financial service providers offer little by way of financial education which was linked to the intentions of these institutes. The study suggests that more can be done by the financial service providers to educate the consumers to become financially resilient.

Figure 4 is a proposed conceptual model derived from the study results in conjunction with the theories used in the study. Using the technology acceptance model the study postulates the various factors that would need to be considered in the study of personal financial resilience. The model presents the key external and contextual factors that need to be considered in the study of financial resilience. The human capital model further adds key findings from developing these capabilities of individuals to engage and adopt digital innovations in their journey towards financial resilience. The conceptual model has its limitations in its comprehensive articulation of various other hygiene factors and theories that can contribute to financial resilience. It does however provide a starting point into understanding financial resilience in a developing economy context such as South Africa. Due to the nature of the study, the strength of influence of the various factors are not quantified and would need quantitative studies to refine the conceptual model.

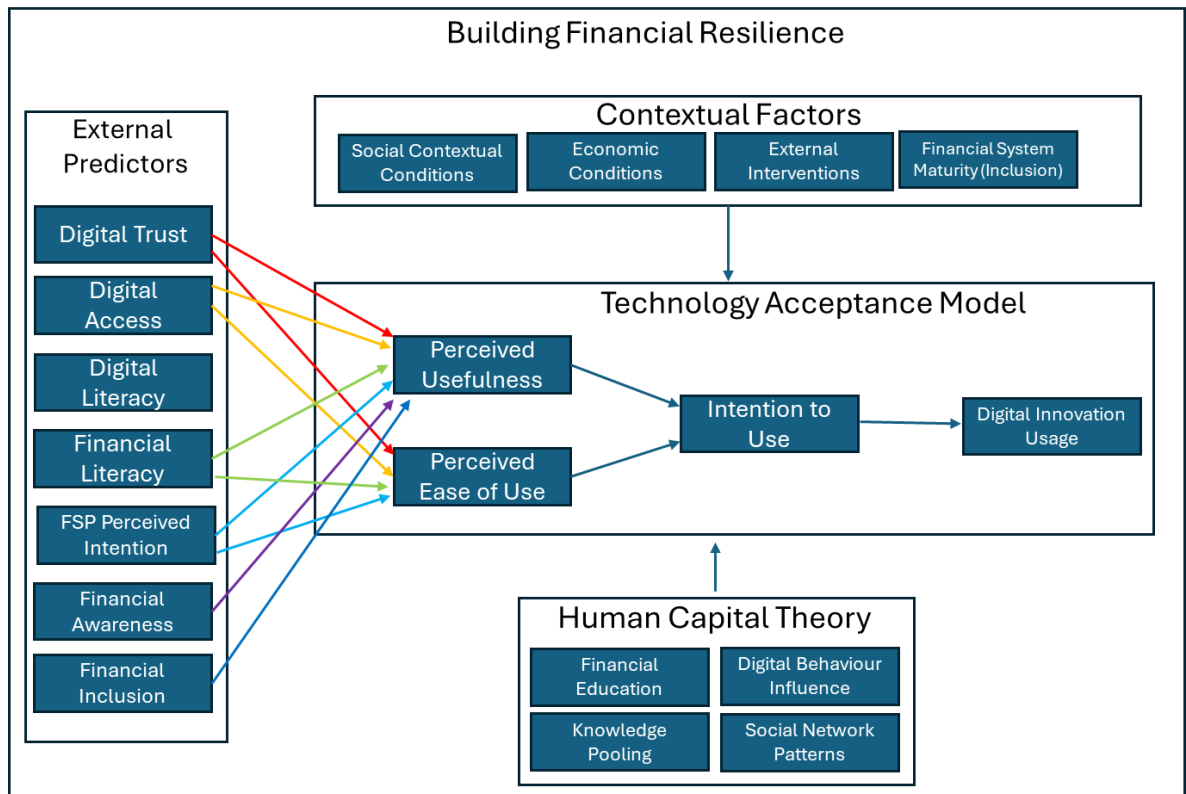


Figure 4 Conceptual model of building financial resilience in developing economies

(Source: Authors own compilation)

7.3 Implications

7.3.1 Industry Implications

The findings of the study would be insightful for the financial service companies in their approach towards consumers. There would be a need to correct consumer perceptions of their position and potentially provide visibility on their intentions. Further to this would be the design of their digital solutions. The study noted the ease of use as a key requirement with digital platforms and platforms that are contextual to the knowledge and financial position of the consumer. Absent addressing some of the elements raised in the study, the financial service providers would struggle to realise investments in digital innovations. The providers' efforts towards a digital-only industry would be restricted requiring them to maintain a dual system of brick-and-mortar and digital solutions. The study would be of interest to the digital-only fintech companies that do not offer a dual system. Ultimately, the financial services companies would need to selflessly prioritise the consumers over profits and shift their focus to educating consumers through educational programs. This could take the form of basic financial

education as a pre-requisite to activating various financial products articulating the benefits and draw backs of various products. Financial service providers would also need to engage on a digital journey for consumers, educating them on digital literacy and the usage of digital innovations. This may have a cost implication to providers and the value of financially aware consumers may not be directly captured but there are indirect benefits to providers. Given the integrated nature of the economy, a robust middle class is beneficial to economic growth which in turn creates a conveyor of new potential clients. By providing adequate financial education to the consumers, the companies can trigger a chain reaction towards economic prosperity . As the general consumer population becomes financially literate and financially resilience on a macro level more funds flow into the financial services sector creating an environment for increased investment and funding towards economic growth. Providers would indirectly reap the benefits of an efficient functioning macro environment whether through foreign direct investment, efficient government spending or increased exports. To ensure equality in the drive to educate consumers, the financial services sector could benefit from the establishment of a body that financial service providers subscribe to that will monitors and directs educational activities in the sector. The aim of this initiative would be to create shared value across the sector, creating organic economic growth for the country and building a robust financial system and economic environment.

7.3.2 Government Implications

The governments play a key role in economic growth and benefit from a functioning and growing economy. The implications on the government of a financially robust middleclass emulate the self-licking lollipop principle. The more people employed in the economy, the greater the tax revenue collected and directed towards economic development activities. The more people save for retirement, the less the burden on the government for social welfare. The more people save, the more funds available to fund new business adventures. For the government, a robust middle class only has upside benefits, and the government needs to play its role in promoting and protecting consumers. Elements such as regulatory reforms to eliminate predatory behaviour by the financial service providers would go a long way. Adding a requirement for financial

service providers to prove that the consumer's financial situation was evaluated before offering or nudging them towards a product would be beneficial and there is a need for evidence that the offer or nudge promotes financial resilience. Another regulatory reform could be adding a requirement for the financial service providers and employers to provide financial education to the individuals. Government intervention is also required to eliminate digital crimes such as scamming and phishing.

7.4 Study Limitations:

Although the study offers valuable insights, it had some limitations. The acknowledgement of these limitations seeks to promote the credibility and transparency of the research and adds to the considerations on future research.

7.4.1 Sample Size and Selection

The research achieved a sample size of 12 participants which limited the ability for the research findings to be generalised. The studies that achieve a large sample size provide the researchers with the opportunity to generalise the research findings given the diversity within the sample. The limited sample size restricted the ability of the study to gain broad and in-depth insights into the research topic.

The sample of the research was homogenous, as it directed targeted participants within the financial services industry. This was a function of the researcher's sampling technique, using their network as an input into sampling. The study would have benefited from a diverse set of respondents from different industries. The study would have also benefitted from a wider age range of participants to ensure that there is a distributed representation of the various age groups.

7.4.2 Scope of the Study

The study was localised to the participants in the researcher's network which is predominantly the individuals in the Gauteng Region. The study did not extend to the participants from a different region, context or cultural standing. The study would also have benefitted from broadening the population of the study to include all the South Africans within the working age range. It would have been valuable to gain insights from a diverse group of people including unemployed or individuals that rely on social grants

as their sole form of income. The constructs of the study are far-reaching, and the narrow focus of the study limited the applicability of the results.

7.4.3 Researcher Bias and Inexperience

Although the researcher tried to remain impartial and objective in the study, their experience from working in the financial services sector may have played a role in the interpretation of the research results. The researcher set out to mitigate any biased views during the research process by maintaining a research journal of their thoughts in an attempt to safeguard the study. Furthermore, the researcher was inexperienced in conducting interviews as they had received no formal training. Through the analysis of data, the researcher noted an improvement in the presentation of interview questions and in the engagement with the participants. The researcher was also inexperienced concerning applying various data analysis techniques. They were guided by past studies and various other mediums to perform the data analysis.

7.4.4 Time Horizon

The study adopted for a cross-sectional time horizon which provides a snapshot of data at a point in time. Due to the nature of the study, which sought to understand the role of digital literacy and digital innovation on various constructs, a longitudinal study would have been more appropriate. A longitudinal study would showcase how the relationship between these constructs changed over time. As people become more digitally literate how that informs the changes in the identified constructs.

7.5 Recommendations for future research:

Future studies into the role of digital literacy and digital innovation on financial resilience would benefit from a broader sample group to include individuals from various industries, age groups, regions, backgrounds and cultures. This would offer a comprehensive view of the relationships between the constructs and potentially derive different elements that influence the relationships. The incorporation of quantitative methods to study these relationships would also provide further context on which construct has the greatest influence on financial resilience. This would better inform the governments and industry on what elements to centre efforts towards.

New technologies such as artificial intelligence and blockchain are yet to reach their full potential in terms of reach and functionality. Future studies can perform a similar study, that addresses the limitations of this study, once those new technologies are entrenched in the developing economies. Given the speed of digital advancements, these may alter consumer behaviour in the future, and it would be good to reperform this study in the future.

Given the nature of building financial resilience, future studies can look into a longitudinal study to understand how the identified relationships evolved. This would study the extent of influence between the variables over time overlaid considering economic measures, developments in financial education, digital migrations and demographic evolutions. Though a longitudinal study would provide retrospective results, it could inform future evolutions of industries that lag in terms of digital innovations.

A comparative study amongst developing economies would also be beneficial for future research. The study of the relationship between the various constructs could potentially highlight similarities or disparities between the developing economies, thereby providing an opportunity for the countries to learn from one another. For common themes that present, the countries could collaborate in their efforts to address the theme collectively. Those studies can go as far as comparing developing to developed economies to gauge the gap between those categories of countries. This could provide the governments with a benchmark of the country's performance and areas to improve upon.

This study mainly focused on the end user and their lived experience in building financial resilience. The study has also provided insights from one side of the dual-faced coin. Future studies could look at targeting the supply side of the equation, thus getting an in-depth understanding from the financial service providers on how the financial resilience journey of the consumers is being aided.

7.6 Conclusion

This study set out to understand the role of digital literacy and digital innovations on the ability of an individual to build financial resilience. The main research question was to

understand the role of the various constructs and factors that influence individuals in developing countries in building financial resilience through digital technologies. The study set out to understand what hygiene factors presented in a developing country perspective that were inhibitors or accelerators of efforts to build individual financial resilience. The study gained conceptual understanding of constructs such as digital literacy and financial resilience in a developing economy such as South Africa. The study met the research objectives through its findings creating a refined model of studying financial resilience through digital technologies in developing economies. The study adds to the novel study area of financial resilience and builds on existing work by authors Salignac et al. (2019), Klapper & Lusardi (2020) and Kass-Hanna et al. (2022) providing a lens from a developing country perspective. The study findings around digital trust, perceived intentions of financial service providers and financial education were key factors that were included in the conceptual model developed by the study.

To conclude the final chapter of this research study, financial resilience is an important field of study for developing economies. The complex and integrated nature of the global economy exposes developing economies to extreme swings in economic performance influenced by the global environment. Developing economies need to look at organic internal methods of muting the global impact and generating internally driven economic growth. This can be achieved through various economic agents but more so through the middle-class segment of the developing countries. South Africa's middle class has a crucial role to play in the growth of the country's economy, but there is a need to foster a robust middle class to realise the benefits. This requires the economic agents to play an active role in fostering a healthy and thriving middle-class segment. The digital advancements have made it possible to build these attributes within the segment, as they provide individuals with the ability to build financial resilience. However, some challenges need to be addressed at the macro and micro levels of the economy before that future can be realised. The study highlights the important role of digital advancements, as well as the challenges and opportunities surrounding building financial resilience with the middle class of developing South Africa.

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APPENDIX A: INTERVIEW GUIDE

Research Interview Guide – Semi-Structured Interviews

Opening Script: Introduce the researcher to the interviewee. Share details about the study giving an overview of the research problem. Request permission to record the interview. State confidentiality and prompt informed consent. Obtain a signed consent form if no objections.

Structure: Interviews will be semi-structured and guided by open-ended questions. The below questions provide a guide for the interview and the interviewer may probe into the responses provided for further insights. The aim is to have a discussion and gain valuable insights towards the research objectives.

Financial Literacy:

1. How has digital innovation influenced the financial services environment?
2. How has financial literacy evolved in the digital age?
3. How has digital innovation influenced financial literacy?

Financial Resilience:

4. Can you please describe the concept of financial resilience?
5. How have digital innovations played a role in the individuals building financial resilience?
6. How have digital innovations influenced financial behaviour?
7. What skills do consumers need to navigate digital financial services?

Digital Financial Literacy:

8. Can you please describe the concept of digital literacy?
9. Can you please describe the concept of digital financial literacy?
10. What role does digital financial literacy play in individuals building financial resilience?

Digital Literacy:

11. How do the changes in the digital literacy levels over time correlate with the changes in:
 - a. Financial literacy?
 - b. Financial behaviour?
 - c. Financial resilience?
12. How does digital literacy inform your product development and dissemination?

13. How do you ensure the consumers have the adequate digital literacy skills to consume your products?
14. How do the consumers develop digital literacy skills? And how are the digital financial service providers helping consumers develop digital literacy skills?
15. What are the main challenges faced by individuals in using digital tools to improve financial literacy and financial resilience?

Closing Script: Thank the interviewee for their time and insights toward the research objectives. Provide the interviewee with an opportunity to ask any closing questions. Request the opportunity to follow up with any questions if the need arises.

APPENDIX B: CODES

Code	Code Group 1	Theme
Digital Access	Digital Influence	Digital Innovation Influence
Digital Channel Facilitation	Digital Influence	
Digital Education	Digital Influence	
Digital Exclusion	Digital Influence	
Digital Financial Exclusion	Digital Influence	
Digital Financial Behaviour alteration	Building Resilience	
Digital Financial Literacy	Building Resilience	
Digital Literacy	Building Resilience	
Digital Penetration	Digital Influence	
Digital Trust	Digital Influence	
Ease of Technology Use	Digital Influence	
Financial Awareness	Building Resilience	
Financial Behaviour	Building Resilience	
Financial Education	Building Resilience	
Financial Knowledge	Building Resilience	
Financial Literacy	Building Resilience	
Financial Market Knowledge	Building Resilience	
Financial Resilience	Building Resilience	
Financial Resilience Challenges	Building Resilience	
Lack of Technology Access	Digital Influence	
Consumer information overload	Financial Service Providers	Perceived intentions
Consumer Needs	Financial Service Providers	
Financial Situational Awareness	Financial Service Providers	
Financial Visibility	Financial Service Providers	
FS Product Accessibility	Financial Service Providers	
FS Provider Consumer Education	Financial Service Providers	
FS Provider Consumer Exploitation	Financial Service Providers	
FS Providers Intent	Financial Service Providers	
Incentive based Behavioural Change	Financial Service Providers	
Product Accessibility	Financial Service Providers	
Providers Leveraging Consumer	Financial Service Providers	
Seamless Financial Integration	Financial Service Providers	
Technology Abuse	Financial Service Providers	
Building Financial Resilience	Building Resilience	Personal Factors
Consumer Preference	Individual Factors	
Critical Thinking	Individual Factors	
Digital Exposure	Individual Factors	

Economic Awareness and Integration	Individual Factors	
Individual Aspirations	Individual Factors	
Individual Background	Individual Factors	
Individual Formal Education	Individual Factors	
Individual Future Outlook	Individual Factors	
Individual Self-Control	Individual Factors	
Information Triangulation	Individual Factors	
Lived Experience	Individual Factors	
Market Awareness	Individual Factors	
Risks of Financial markets	Individual Factors	
Social Contextual Education	Individual Factors	
Technology Awareness	Individual Factors	
Technology Risk and Rewards	Individual Factors	
Technology Use	Individual Factors	
Workplace exposure	Individual Factors	
Government Facilitated Education	Government Intervention	
Information Access	Government Intervention	Scope for intervention
Limited Regulatory Scope	Government Intervention	
Prudent Financial Behaviour	Building Resilience	

APPENDIX C: INFORMED CONSENT LETTER

Gordon Institute of Business Science

University of Pretoria

Informed Consent Letter

I am currently a student at the University of Pretoria's Gordon Institute of Business Science and completing my research in partial fulfilment of an MBA. I am conducting research on digital literacy in the context of digital financial services. The study looks at examining the role of digital literacy on financial literacy, financial behaviour and financial resilience in a South African context. |

The interview is expected to last about an hour and will help me unearth insights into digital literacy and how it may influence future digital financial services. Your participation is voluntary, and you can withdraw at any time without penalty. All data will be reported without identifiers and data collected will be treated with confidentiality. If you have any concerns, please contact my supervisor at the details provided below.

Researcher Name: Esetu Gazi

Email: 10557343@mygibs.co.za

Phone: 084 961 0421

Research Supervisor: Prof Alicia Fourie

Email: fouriea@gibs.co.za

Phone: 011 771 4000

Signature of Participant: _____

Date: _____

Signature of Researcher: _____

Date: _____

APPENDIX D: LANGUAGE EDITING LETTER



You Write. We Edit. You Love it.

24 October 2024

TO WHOM IT MAY CONCERN

REF: CONFIRMATION OF LANGUAGE EDITING SERVICES: STUDENT NUMBER: 10557343

I confirm that I have done language editing for Student Number: 10557343's research project titled:

THE ROLE OF DIGITAL LITERACY AND DIGITAL INNOVATIONS ON FINANCIAL LITERACY AND FINANCIAL BEHAVIOUR: BUILDING FINANCIAL RESILIENCE IN SOUTH AFRICA'S MIDDLE CLASS

The research project now conforms to the University of Pretoria's required language editing standards.

Yours sincerely

A handwritten signature in black ink that reads "Lynn N. Sibanda Moyo".

Lynn N. Sibanda Moyo

Lynn N. Sibanda Moyo

Tel: 011 050 0376

Mobile: 071 989 0983

Email: lynn@lovetoedit.co.za

Member of the [Professional Editors Guild](#)



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