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An Appraisal of the Impact of Financial Technologies (FinTechs) on Financial Inclusions in Selected Parts of Zambia

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Abstract

Purpose: In recent years, the rise of Financial Technologies (FinTechs) has transformed the landscape of financial services, particularly in terms of expanding access to financial products and services, known as financial inclusion. The study seeks to understand how FinTech innovations contribute to bridging the gap between the banked and unbanked, promoting financial literacy, and fostering a culture of financial empowerment.

Methodology: The study employed a mixed methods approach to gather comprehensive insights. A target sample size of 1,200 individuals was carefully selected across six districts—Chongwe, Shibuyunji, Chisamba, Lusaka, and Kafue—encompassing both urban and peri-urban areas. These districts were chosen based on evidenced statistical literacy levels, ensuring participants had sufficient understanding of financial concepts and technology. A total of 722 responses were received, resulting in a 60% response rate.

Findings: Results indicate a strong link between the emergence of FinTechs and financial inclusion. FinTech innovations, such as mobile banking, digital payments, and alternative lending platforms, have significantly lowered barriers to accessing financial services for underserved populations, including low-income individuals, small and medium-sized enterprises (SMEs), and those in remote areas. Additionally, FinTech platforms have empowered individuals by promoting financial literacy through user-friendly interfaces and personalized financial management tools. Despite these advancements, challenges persist in ensuring equitable access, particularly for marginalized communities facing digital literacy barriers, infrastructural limitations, and regulatory constraints.

Unique Contribution to Theory, Policy and Practice: The study highlights the transformative role of FinTechs in democratizing access to financial services and knowledge, fostering financial empowerment, and narrowing the gap between the banked and unbanked. However, it underscores the need for collaborative efforts among governments, financial institutions, and FinTech companies to address persistent challenges. Recommendations include developing inclusive policies, improving infrastructure, and promoting digital literacy initiatives to ensure that FinTech's potential is fully harnessed in creating a more inclusive and sustainable financial ecosystem.

Keywords: *Financial Inclusion, Financial Literacy, Constraints, Digital Finance, Financial Empowerment*

1.0 Introduction

"FinTech", a shortened version for financial technologies refers to the new technologies that have revolutionised the way we conduct financial business. The term's originated can be traced to the 1990s when a consortium of financial services providers, mainly Citi bank initiated such technologies in the United States of America. However, the term has now been associated with a lot of such upcoming companies that have ventured in such technologies and are pioneering the emergency of such technologies following the explosion in knowhow especially in the technology industry more especially the Information Communication Technologies (ICTs). According to Arner et al (2015), the term now refers to a totally different perspective as compared to when it was started that is now every new development in the sector but as only regards to financial sector. In developing countries such as Zambia, the terminology is only gaining traction as the regulation and oversight by the financial regulators is just taking root. With the advent of the three mobile money transmission service providers that is Zamtel, Airtel Money and MTN money swinging into action to provide a service which was performantly a preserve of the banking sector, it is envisaged that they will continue to take root and usher in a new dispensation to catch up with the rest of the world as regards financial technologies and other related likes that flourish on similar platforms as the already established institutions in the sector. The topic of financial inclusion has recently attracted considerable interest from policymakers and researchers. The World Bank (2016) defines financial inclusion as individuals and firms having "access to useful and affordable financial products and services that meet their needs - transactions, payments, savings, credit, and insurance - delivered in a responsible and sustainable way." The literature on this issue has focused on the factors causing financial exclusion and which policies are effective in increasing financial inclusion. More recently, however, the impact of financial technologies (Fintechs) on financial inclusion has been studied.

1.1 Background of Financial Technologies

Financial technologies refer to any technological tools and technologies that are used to facilitate financial transactions. Financial technologies (FinTech) open up new ways and create an opportunity to provide financial services to an affordable and secure public. Because of that, you have to integrate financial products to widely distributed groups and provide traditional banking fields, insurance, and many others. In recent years, fintech technology development has attracted the attention of national and international bodies. Financial inclusion goes beyond the innovation of new financial products. In the definition of Morawczynski and Pentin (2008), it is a state where all people have access to affordable, appropriate financial products and services to meet a particular need and can use them responsibly. It can be identified by their active participation in the financial system. This perspective suggests that there is more to financial inclusion than having new financial products. It includes the capacity to leverage the products, assessing financial knowledge, and the value ascribed to this knowledge.

1.1 Research Objectives

This study examines how financial technologies (FinTechs) enhance financial inclusion in Zambia, focusing on access, adoption, and socio-economic factors. It analyzes current

inclusion levels, FinTech services, and their impact on underserved populations. The study also explores socio-economic adoption drivers and provides strategic recommendations for policymakers, institutions, and FinTechs to foster inclusive financial growth in Zambia.

2.0 Literature Review

In the wider context, FinTechs will refer to the technologies primarily in finance but of late in other sectors as well but was initially intended for the sole purpose of enhancing the developments in the financial sector. Of course, the introduction of old technologies such as the telex, the fax machines and recently of the emails has truly revolutionised the way we conduct business. Extensive secondary data was collected and reviewed. Firstly, data on impact of (FinTechs) at global level was reviewed, followed by secondary data at continental level and finally narrowing at national level. Financial inclusion, characterized by access to and usage of formal financial services, is integral to economic development and poverty alleviation globally. The rise of Financial Technologies (FinTechs) has transformed the financial landscape, offering innovative solutions to enhance financial inclusion. This literature review examines empirical studies investigating the determinants and impacts of financial technologies on financial inclusion, particularly in selected parts of Zambia.

2.1 Determinants of Financial Inclusion

Studies exploring the determinants of financial inclusion offer valuable insights into the complex interplay of factors influencing individuals' access to formal financial services. Sahoo et al. (2017) conducted a study in tribal districts of Odisha, India, focusing on socio-economic, cultural, and institutional determinants. Their findings underscored the significance of these multifaceted factors in shaping financial access patterns within marginalized communities. In a parallel study, Soumaré et al. (2016) delved into the determinants of financial inclusion in Central and West Africa. While the contexts may differ, both studies highlighted similar challenges, such as limited access to banking infrastructure, low levels of financial literacy, and cultural barriers inhibiting financial engagement.

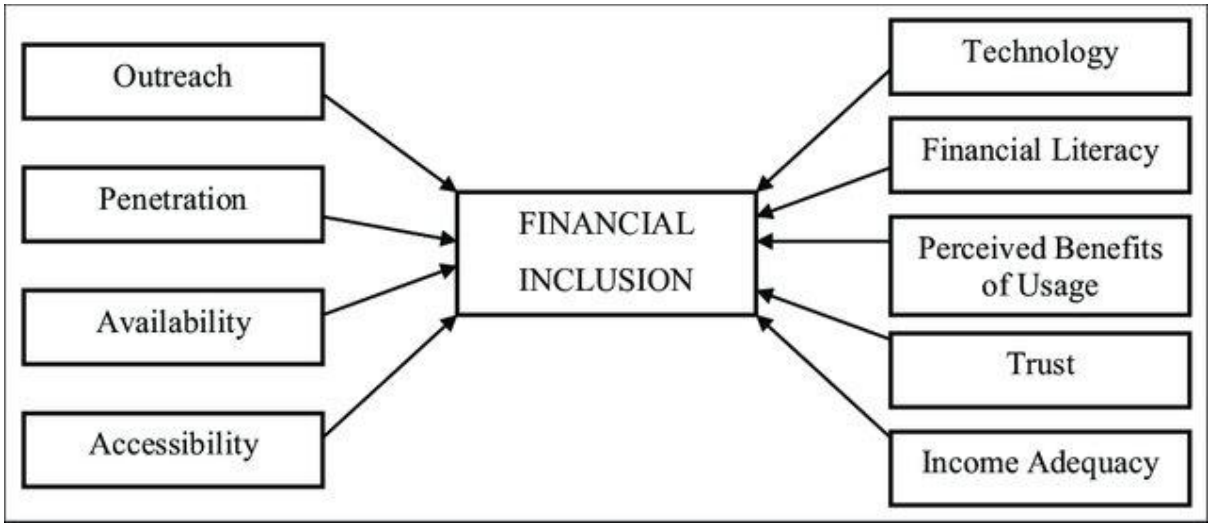

Figure 1 Conceptual Model Representing the Determinants of Successful Financial Inclusion (Adopted from Iqbal & Sami, 2017)

Comparatively, Sahoo et al. (2017) identified community-level interventions, such as financial literacy programs tailored to local cultural norms, as effective strategies for promoting financial inclusion. In contrast, Soumaré et al. (2016) emphasized the importance of innovative financial products and services, including mobile banking and microfinance, in addressing accessibility barriers. These findings suggest that while contextual factors may vary, targeted interventions at both the community and systemic levels are essential for fostering financial inclusion.

Determinants of Financial Inclusion

Studies on financial inclusion consistently highlight the role of socio-economic, cultural, and institutional factors in shaping individuals' access to formal financial services. Musa et al. (2015) emphasized socio-economic drivers and gender disparities in Nigeria, while similar themes emerged in Sahoo et al. (2017) and Soumaré et al. (2016), advocating for gender-sensitive policies and the reduction of socio-economic disparities. Insights from Akudugu et al. (2013) on behavioral factors in Ghana further underline the importance of individual perceptions in financial behavior.

In Zambia, Chansa et al. (2019) found education, income, and proximity to financial institutions as key determinants of financial access in rural households, while Manda et al. (2020) highlighted financial literacy, mobile phone ownership, and trust in urban areas. Comparative studies across Africa, such as those by Ndiaye et al. (2018) in Senegal and Agyei et al. (2017) in Ghana, corroborate these findings, emphasizing trust in institutions and mobile banking as critical factors. However, contextual differences, including cultural norms and infrastructure challenges, affect the effectiveness of financial inclusion interventions.

Role of Mobile Money

Mobile money has emerged as a transformative tool for advancing financial inclusion, especially in areas with limited banking infrastructure. Platforms like Kenya's M-Pesa provide accessible financial services, including money transfers, bill payments, and credit. These services empower marginalized groups, particularly women, by enabling independent financial management and promoting economic participation.

Addressing Exclusionary Risks

Exclusionary risks, including economic shocks and socio-economic vulnerabilities, pose significant barriers to financial inclusion. Strategies to mitigate these risks involve promoting financial resilience through diversified income sources, savings, and access to formal financial services like insurance. Investments in social protection programs, financial literacy, and community-based initiatives also enhance stability.

Community resilience through social networks and collective action plays a vital role in mitigating risks. Policymakers must prioritize these strategies to build inclusive and resilient financial systems that address vulnerabilities and foster sustainable development.

2.8 Understanding Exclusionary Risks

Exclusionary risks in financial inclusion refer to barriers that prevent individuals or groups from accessing financial services. These risks include socioeconomic factors, institutional

barriers, regulatory constraints, and technological limitations (Demirgüc-Kunt & Klapper, 2012). Addressing these issues requires a multifaceted approach involving government policies, regulatory reforms, technological innovations, and financial education initiatives.

Socioeconomic Factors

Socioeconomic factors such as income inequality, lack of formal identification, and geographic isolation significantly hinder financial inclusion (Allen et al., 2016). Low-income individuals often face limited access to banking services due to being perceived as high-risk customers. Additionally, those without formal identification documents struggle to open accounts and access credit, exacerbating exclusion (World Bank, 2018).

Institutional Barriers

Discriminatory practices, inadequate infrastructure, and limited financial literacy within financial systems contribute to exclusionary risks (Bateman & Chang, 2012). For instance, lending discrimination based on gender, ethnicity, or religion restricts marginalized groups' access to credit. Rural and remote areas often lack physical infrastructure like bank branches and ATMs, limiting financial access (Claessens et al., 2020).

Regulatory Constraints

Stringent Know Your Customer (KYC) requirements and restrictive licensing regulations pose significant barriers (World Bank, 2017). While KYC rules mitigate risks like money laundering, they often require burdensome documentation, deterring access to formal financial services (Honohan & King, 2010). Complex licensing procedures and high capital requirements also stifle innovation and competition (G20, 2019).

Technological Limitations

Limited internet connectivity, digital illiteracy, and cybersecurity concerns impede financial inclusion efforts (GSMA, 2021). Individuals in regions with poor internet infrastructure face challenges accessing digital financial services. Additionally, concerns about data privacy and cybersecurity deter the adoption of digital banking solutions (Claessens et al., 2020).

Addressing Exclusionary Risks

Government Policies and Regulatory Reforms

Governments play a crucial role in promoting financial inclusion. Simplifying KYC requirements, expanding alternative identification forms, and implementing inclusive credit reporting can enhance financial access (CGAP, 2019). Policymakers should also develop regulatory frameworks that encourage innovation while safeguarding consumer protection and financial stability (GSMA, 2021).

Technological Innovations

Technological advancements in mobile banking, digital payments, and biometric authentication have transformative potential. Mobile platforms like M-Pesa in Kenya have demonstrated the impact of technology in providing financial services to unbanked populations

(Jack & Suri, 2014). Biometric systems facilitate secure access for individuals lacking formal documentation (World Bank, 2017).

Mobile Banking and Digital Payments

Mobile banking has revolutionized financial inclusion, particularly in regions with limited banking infrastructure. Platforms like M-Pesa and bKash enable money transfers, bill payments, and credit access via mobile phones, making services affordable and accessible (GSMA, 2021).

Biometric Authentication

Biometric technologies, such as fingerprint scanning, ensure secure and efficient access to financial services for individuals without traditional identification (World Bank, 2017). These systems enhance security while streamlining onboarding processes (GSMA, 2021).

Blockchain and Distributed Ledger Technology (DLT)

Blockchain technology creates secure platforms for financial transactions, reducing costs and bypassing intermediaries (Swan, 2015). Blockchain-based solutions, including digital currencies and smart contracts, provide innovative mechanisms for delivering financial services to unbanked populations (Kshetri, 2017).

Agent Banking and POS Devices

Agent banking extends financial services to rural areas by empowering local entrepreneurs to act as intermediaries. Point-of-service (POS) devices allow merchants to accept digital payments, fostering financial inclusion (Allen et al., 2016).

Artificial Intelligence (AI) and Machine Learning

AI-powered tools facilitate credit scoring, risk assessment, and personalized financial recommendations, enhancing access to formal financial services. Chatbots and virtual assistants improve financial literacy by providing accessible and personalized support (GSMA, 2021).

Financial Education Initiatives

Financial Literacy and Empowerment

Financial education empowers individuals to make informed decisions, assert their financial rights, and engage in economic activities (Lusardi & Mitchell, 2014). Targeted literacy programs can help individuals understand financial products and avoid predatory practices (Allen et al., 2016).

Access to Formal Financial Services

Education initiatives address barriers such as distrust of formal institutions and misconceptions about financial products. By raising awareness of banking, savings, and insurance benefits, these programs integrate marginalized populations into formal financial systems (CGAP, 2019).

Behavioral Economics and Digital Financial Education

Behavioral economics insights enhance financial education by addressing cognitive biases and promoting positive behaviors (Hastings et al., 2013). Digital platforms, such as mobile apps and online courses, provide scalable and cost-effective educational channels. Interactive features like gamification increase engagement and knowledge retention (OECD/INFE, 2016).

2.11 Research Gap

The cited studies explore financial inclusion and resilience strategies but highlight a gap in understanding FinTech's role in Zambia. Existing research lacks focus on FinTech adoption's impact on financial access, resilience, and barriers. While broader insights exist, targeted studies on Zambia's unique context are needed to uncover how FinTech innovations enhance financial inclusion and risk management.

3.0 Methodology

This section details the research methodology used to achieve the study's objectives on the impact of FinTechs on financial inclusion in Zambia. It covers research design, data sources, sampling methods, instruments, and data analysis. Methodology involves the principles, paradigms, and techniques guiding data collection and analysis (Langos, 2014; Pandey & Pandey, 2015; Faryadi, 2018).

Study population and sampling.

Due to the nature of study and the spacial dispersion of the respondent's, purposive sampling method was adopted with a total of 1,200 as target sample from 6 districts (Urban and peri urban) namely: Chongwe, Shibuyunji, Chisamba, Lusaka and Kafue. A total of 722 responses were received representing a response rate of 60%. Babbie (2007) stated that 50% could be regarded as an acceptable response rate in social research surveys, while Richardson (2005) suggested that the desirable response rate should be 60% or more.

4.0 Data analysis and Presentation

Kyei (2016) defined data analysis as the method of turning raw data into usable output**.** Since the study was quantitative in nature, SPSS was used to generate the descriptive statistics and correlation tests between different variables.

4.1 Gender Distribution

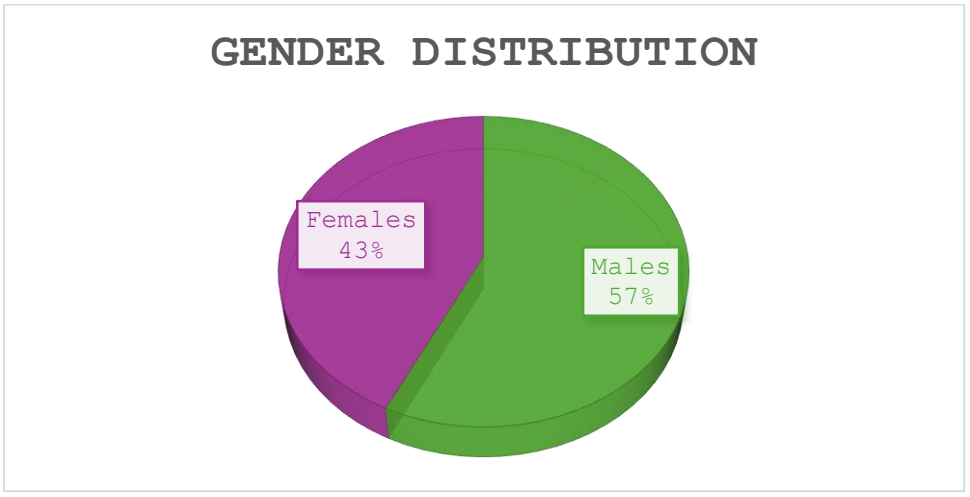

Figure 4.1 Gender distribution.

Figure above shows that there were more male respondents at 57% than females respondents at 43%. The observation that males tend to respond more than females to research questions in data collections can stem from various factors, including societal norms, cultural expectations, and individual preferences. Some of the potential reasons for this phenomenon in this current research could be gender roles and societal expectations which is pervasive in many cultures where there are traditional gender roles that influence behavior and participation in various activities. In Zambia, historically, men have been encouraged to assert themselves and take leadership roles, which may translate into a greater willingness to participate in research studies or respond to questions.

4.1 Age Distribution

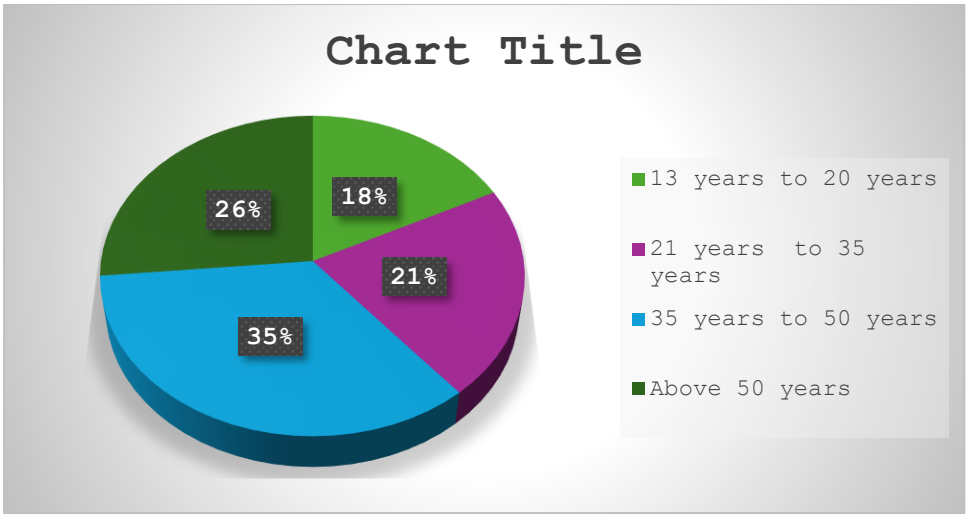

Figure 4.2 Age distribution.

The above figure No 4.2 shows that there were more 35 to 50 years respondents at 35%, followed by the age group of the age group of above 50 years. The least in terms of responses was the age group between 13 and 20 years. Reasons that could be attributed to this

phenomenon could be that there is a strong likelihood that of the age group above 50 years being financially included can be attributed to several factors. Firstly, accumulated wealth: Individuals above 50 years often have had more time to accumulate savings and assets compared to younger age groups. This accumulated wealth can provide them with greater financial stability and resources to access financial services and products. Secondly, established financial habits: Older adults may have developed established financial habits and a greater awareness of the importance of financial planning and management over time.

4.2 Location of respondents

Table 4.1 Location of respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Lusaka	17	2.4	2.4	2.4
	Chongwe	63	8.7	8.8	11.1
	Kafue	373	51.7	51.9	63.1
	Chisamba	134	18.6	18.7	81.8
	Sibuyunji	131	18.2	18.2	100.0
	Total	718	99.6	100.0	
Missing	System	3	.4		
Total		721	100.0		

Table 4.1 above shows that the majority of respondents accounting for 51.9% were drawn from Kafue town, while the second highest number of respondents came from Chisamba at 18.7%, Shibuyunji at 18.2% and Chongwe at 8.8%. A negligible figure came from Lusaka. Lusaka was added on the sampling frame merely researchers expected spill offs from the nearby towns. Results could be distorted if Lusaka was also included on the sampled towns because of its cosmopolitan nature where almost everyone is expected to be financial included, hence allowance of overlap on respondents from Kafue and Chisamba

4.4 Employment Status

Employment status of respondents

Table 4.2 Employment status

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	271	37.6	38.0	38.0
	Yes	422	58.5	59.2	97.2
	Maybe	20	2.8	2.8	100.0
	Total	713	98.9	100.0	
Missing	System	8	1.1		
Total		721	100.0		

The statistical findings from Table 4.2 above show that the majority of the respondents at 59.2% are employed while 38% are unemployed with 2.8% in some form of employment as

they indicative choice was a strong "Maybe". The Reponses from Table 2 required a further inquiry to prob the relationships between respondents' employment status, income levels and establish whether there is a significant correlation among the variables-Employment status, income level and one having a phone. Mobile banking and mobile money services have become a common trend in the banking sector globally and locally and therefore financial inclusion aspects cannot be analyzed without bringing into perspective mobile phone ownership and relating this to one income level and then conducting tests on the number of transactions one receives on their mobile phone. Understanding the distribution of respondents across different locations can help in tailoring interventions, policies, or research strategies to address specific geographic needs or challenges.

4.3 Income Levels

33% of the respondents reported that their levels of income ranged between K1,001 and K2,000. This is consistent with the wage structure in the peri urban areas where most of the people are engaged either as casual workers of maids and or garden boys whose salaries range between K1,000 and K2,000. 25% of the respondents indicated that their income levels were below K1,000, while 23% of the respondents reported having income of between K2,000 and K4,000. 14% of the respondents reported that their monthly income ranges between K4,000 and K10,000. A paltry 6% of the respondents reported having monthly incomes of above K10,000.

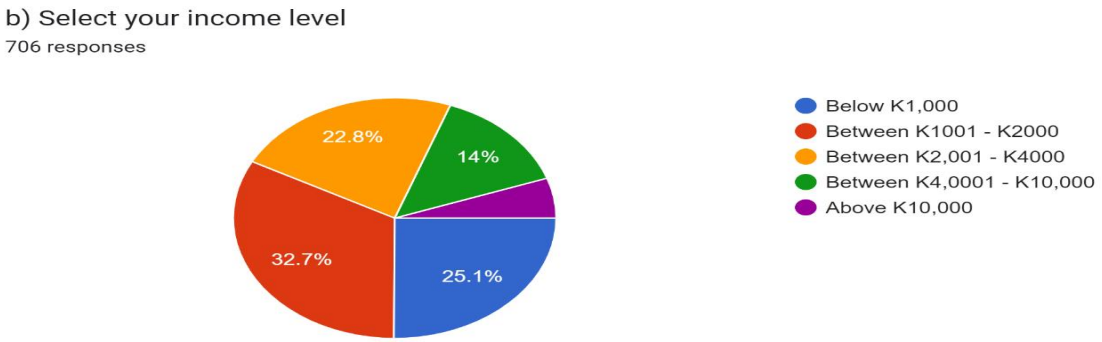

Figure 4.3 Income levels

4.4 Ownership of Mobile Phone

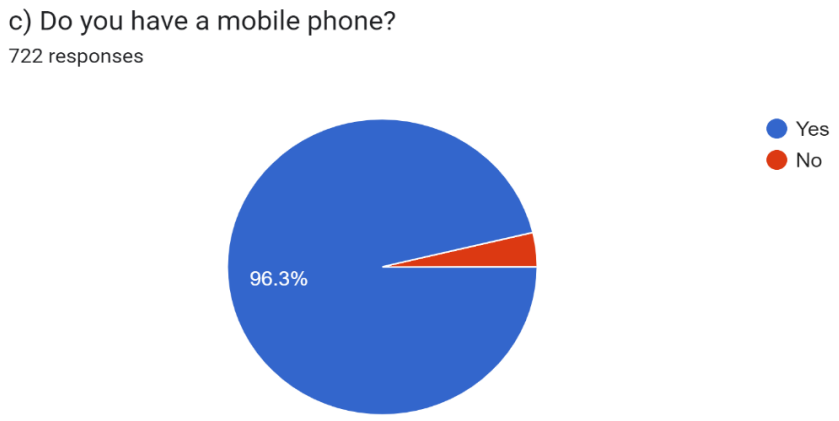

Figure 4.4 Mobile phone ownership

Figure 4.4 shows that 96.3% of the respondents reported owning a mobile phone, while a paltry 4% reported to the negative. It is most likely that even the 3.7% who reported not having a phone, actually may have had a number but merely misplaced the handset, hence their reporting that they did not have a mobile phone. The high rate of mobile phone ownership can be attributed to the low cost of owning a mobile phone handset cotemporary need for citizens to communicate with their loved ones and relatives.

4.5 Ownership of Mobile Money Account

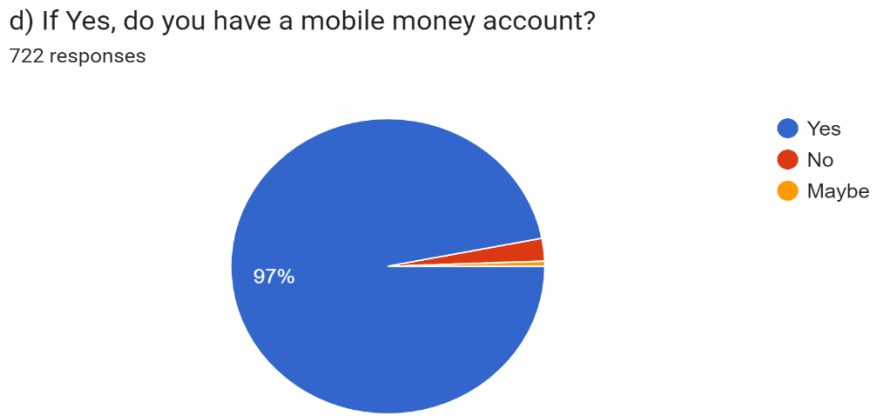

Figure 4.5 Ownership of mobile money account

Figure 4.5 shows above that 97% of the respondents reported that they had a mobile money account with either of the three mobile money services, namely Airtel Mobile Money, MTN MoMo and Zamtel Mobile Money. Only 3% reported not having a mobile money account. The few (3%) that reported not to have a mobile money account may have had other financial services such that the mobile money services were not necessary.

4.6 Use mobile phone to make financial transactions.

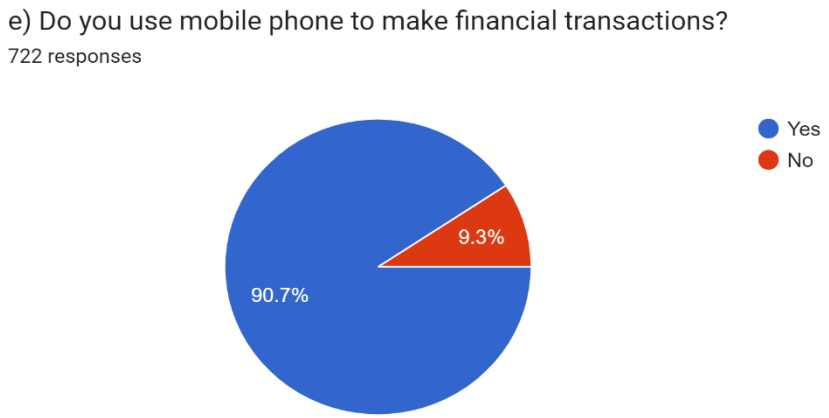

Figure 4.6 Use of mobile phone to make financial transactions.

Figure 4.6 above shows that 90.7% of the respondents reported that they used their mobile handsets to make financial transactions or use of financial services. 9.3% reported that they did not use their mobile handsets to access financial services. This is expected considering that some people may just own a mobile handset for communication with their children or other family members and have no need to use such device for financial services access.

4.7 Frequency of Internet Usage

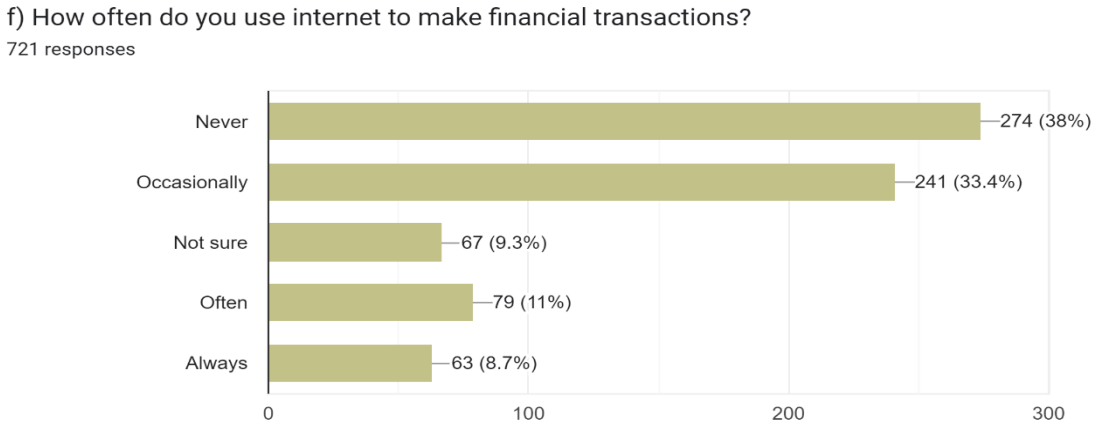

Figure 4.7 Frequency of the use of internet to make financial transactions.

When asked how often the respondents use internet to make financial transactions, 38% reported never to have used the internet to make financial transactions.

38% indicated that they occasionally used the internet to make financial transactions while 9% reported that they were not sure. 11% reported that they often used the internet for making financial transactions and 9 reported that they always used the internet to make financial transactions. These findings are consistent with the amount of disposable income of the

respondents where a higher percentage of 11% reported earnings of above K10,000. This entails that those respondents with high disposable income are the ones that make use of the internet to make financial transactions.

4.9 Receipt of fake messages on your mobile phone.

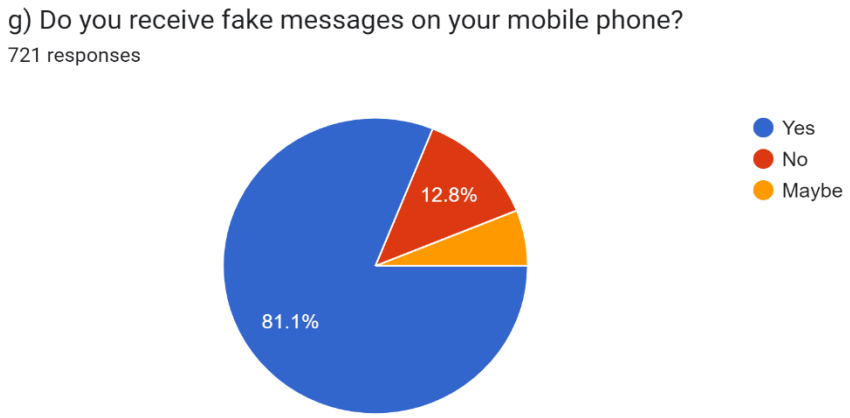

Figure 4.9 Receipt of fake messages

When asked if the respondents received fake messages, figure 4.9 above shows that 81.1% reported receiving fake messages of soliciting money of that they had won some lotto, or that they needed to send their NRCs for them to access the Constituent Development Funds (CDF) or Social Cash Transfer Funds (SCT). 12.8% of the respondents were not sure while 6.1% did not respond. The findings are consistent with the literature from Zambia Information and Communication Authority (ZICTA) that reported an increase in face messages being peddled by unscrupulous people swindling unsuspecting members of the public.

4.10 Saving Money

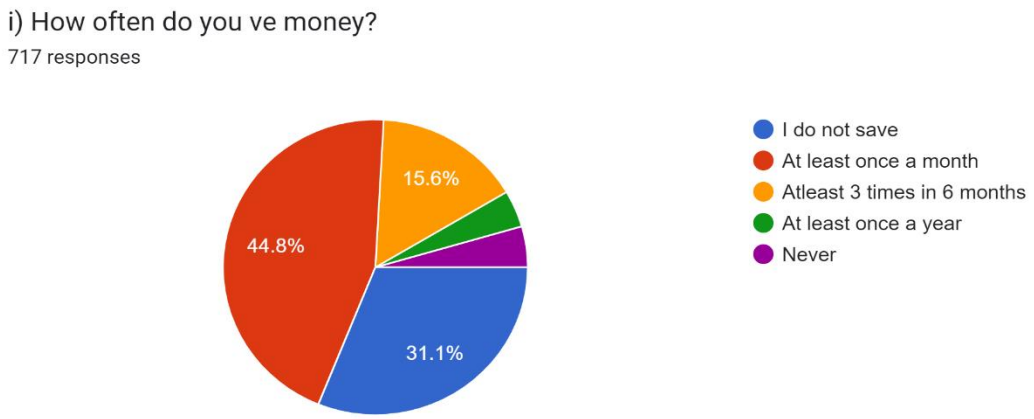

Figure 4.10 Money saving Habits

Figure 4.10 above shows that 49% of the responded reported that they saved money at least once a month, while 15.6 % reported saving money at least 3 times in 6 months. 31.1% reported that they did not save any money at all while a minimal number of respondents reported that either they did not save money or scantly once a year. These finding are consistent with findings of Mpuka (2010), who discovered that although people have no bank accounts, they save money through the village banking system, a term they have coined as “Chilimba”.

4.11 Usage of Financial Services

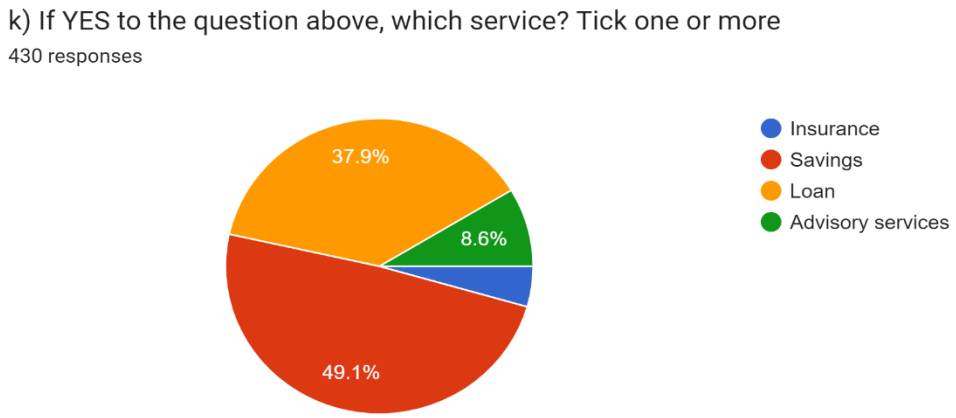

Figure 4.11 Usage of financial products and services

Figure 4.11 above shows that 49.1% reported that they had some sort of saving, though in most cases informal one. 37.9% indicated that they had obtained loans from various lending institutions. The ranged from micro finance institutions, shylocks, savings groups etc. 8.6% of the respondents reported having accessed some advisory services from the lender, government officials, church members. This is consistent with the reports of the National Financial Inclusion Strategy (NFIS) 2017-2022. A paltry 4.4% reported having used some insurance products. Historically, insurance in Zambia has not been well embraced and this is evident in the low uptake of insurance, with only 5% of insured adults, according to the 2020 Finscorp Survey. The findings of this study are consistent with the Finscorp studies of 2020.

4.11 Low financial products and Services Usage

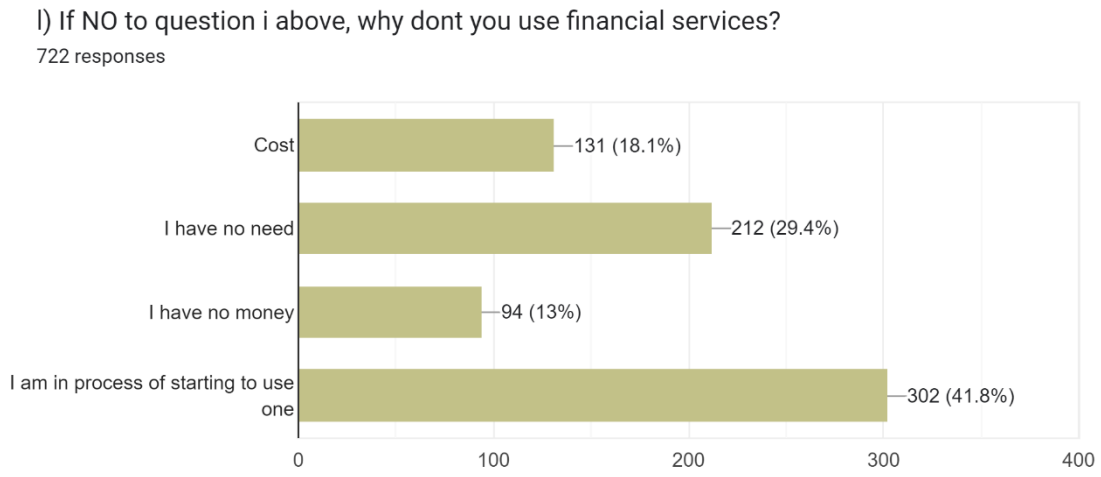

Figure 4.12 Reasons for not using financial services

Considering low penetration of usage of financial products and services, respondents were asked why they did not use financial products and services. 42% indicated that they would like to use financial products and services and were in the process of starting to use one. 29% reported that they did not see need to use financial products and services, while 18% reported that they did not use any financial products and services due to cost. They claimed that it was expensive to save money in banks as your money dwindles with charges even when not using the account. 13% indicated that they did not use financial products and services because they are poor and live on hand to mouth, so cannot afford the cost of using the financial products and or services.

Table 4.3 illustrates the distribution of respondents' employment status across different locations. For example, in Kafue, out of 373 respondents, 291 are employed, 78 are not employed, and 4 are unsure about their employment status. This cross-tabulation allows for a deeper understanding of how employment status varies among respondents from different locations, which can be valuable for targeted interventions or policy planning.

Correlations

Table 4.4 Correlations

		a) Are you employed?	b) Select your income level	c) Do you have a mobile phone?
a) Are you employed?	Pearson Correlation	1	-.023	.076*
	Sig. (2-tailed)		.550	.043
	N	713	698	713
b) Select your income level	Pearson Correlation	-.023	1	-.009
	Sig. (2-tailed)	.550		.802
	N	698	705	705
c) Do you have a mobile phone?	Pearson Correlation	.076*	-.009	1
	Sig. (2-tailed)	.043	.802	
	N	713	705	721

*. Correlation is significant at the 0.05 level (2-tailed).

The significance of the relationship among the variables has a 2tailed significance of positive 1 and this could mean that there is a probability of 100% correlation among these variables to indicate a strong relationship among the variables. This correlation coefficient suggests a very weak negative correlation between being employed and income level, but it's not statistically significant (p = .550). In simpler terms, there's hardly any linear relationship between employment status and income level. Even if there's a slight trend, it's not strong enough to be statistically meaningful. This correlation coefficient indicates a weak positive correlation between employment status and mobile phone ownership, and it's statistically significant at the .05 level (p = .043). In other words, being employed might slightly increase the likelihood of owning a mobile phone. However, this relationship is not strong. This correlation coefficient suggests a very weak negative correlation between income level and mobile phone ownership, but it's not statistically significant (p = .802). In simpler terms, there's hardly any linear relationship between income level and mobile phone ownership. Even if there's a slight trend, it's not strong enough to be statistically meaningful.

Correlations

Table 4.5 Correlation

		a) Are you employed?	b) Select your income level	c) Do you have a mobile phone?	d) If yes, do you have a mobile money account?
a) Are you employed?	Pearson Correlation	1	-.023	.076*	.031

	Sig. (2-tailed)		.550	.043	.405
	N	713	698	713	713
b) Select your income level	Pearson Correlation	-.023	1	-.009	.038
	Sig. (2-tailed)	.550		.802	.313
	N	698	705	705	705
c) Do you have a mobile phone?	Pearson Correlation	.076*	-.009	1	.146**
	Sig. (2-tailed)	.043	.802		.000
	N	713	705	721	721
d) If yes, do you have a mobile money account?	Pearson Correlation	.031	.038	.146**	1
	Sig. (2-tailed)	.405	.313	.000	
	N	713	705	721	721

*. Correlation is significant at the 0.05 level (2-tailed).
**. Correlation is significant at the 0.01 level (2-tailed).

Pearson correlation coefficients range from -1 to 1, where: 1 indicates a perfect positive linear relationship, -1 indicates a perfect negative linear relationship, and 0 indicates no linear relationship.

Table 4.5 above also shows that on the question of income level only 705 respondents gave responses to this question, however the difference in the responses rate is only 2% and that means that this would have never influenced the outcome of the responses. The findings were also skewed to the right in terms of employment status to lead to a suspicion that financial inclusion could be higher among respondents with the status “employed” than those with the status “No” and “Maybe”. To be sure of the strength of the relationships among these variables is to perform a cross tubulation test and in this instance Table 5 below shows significant relationships among the variables of 0 on income level and whether one is employed and also on whether they own a mobile money account.

The correlation between being employed and income level is very weak (-.023), and it's not statistically significant (p = .550). This suggests that there's hardly any linear relationship between employment status and income level. The correlation between employment status and mobile phone ownership is weak but statistically significant (.076), suggesting a slight positive relationship. This means that being employed might slightly increase the likelihood of owning a mobile phone. There's a statistically significant positive correlation between mobile phone ownership and having a mobile money account (.146), indicating that individuals who own a mobile phone are more likely to have a mobile money account. Interestingly, there's no statistically significant correlation between income level and mobile phone ownership or income level and having a mobile money account.

Table 4.6 Crosstab

a) Are you employed? * b) Select your income level * c) Do you have a mobile phone? Crosstabulation

c) Do you have a mobile phone?			b) Select your income level: Between K40001-K10,000	Below K1001-K2000	Above	Between 2001-K4000	Total
No	a) Are you employed?	No	0	4	12		16
		Yes	1	2	7		10
		Maybe	0	1	0		1
	Total		1	7	19		27
Yes	a) Are you employed?	No	34	61	102	43	240
		Yes	58	154	91	109	412
		Maybe	5	5	2	7	19
	Total		97	220	195	159	671
Total	a) Are you employed?	No	34	65	114	43	256
		Yes	59	156	98	109	422
		Maybe	5	6	2	7	20
	Total		98	227	214	159	698

Having a mobile phone and a higher income bracket indicates in Table 4.5 above that the relationship is more significant, and this shows that one with a higher income bracket and employed is likely to have a mobile money account, and indicative of a higher literacy level when this is related to financial literacy.

The table above shows the numbers of individuals falling into each combination of employment status, income level, and mobile phone ownership. For example, in the row where respondents answered "No" to being employed, in the column where income is "Between K40001-K10,000," there is 1 respondent who has a mobile phone and 0 respondents who don't have a mobile phone. Most respondents are employed. Mobile phone ownership is widespread across all income levels and employment statuses. There's a higher count of mobile phone ownership among those with higher income levels, regardless of employment status. The "Maybe" category for employment status seems to have the lowest counts overall, indicating it might be a smaller subset of respondents or possibly indicating uncertainty in employment status.

5.0 Conclusions

In Zambia, FinTechs are playing a transformative role in advancing financial inclusion by expanding access to financial services, particularly in underserved and remote areas, through mobile money platforms and innovative digital solutions. These initiatives empower unbanked individuals and small businesses, fostering economic participation and growth. However, challenges such as digital literacy, affordability, trust, and regulatory hurdles persist, hindering widespread adoption. Addressing these issues through collaborative efforts among stakeholders, promoting digital literacy, enhancing regulations, and fostering innovation is essential for leveraging FinTechs to drive inclusive economic development, reduce poverty, and build a resilient financial ecosystem.

6.0 Recommendations

The future of fintech will continue to be defined by customer demand for speed, convenience and choice. Traditional business models are being challenged. With apps increasingly serving as the entry point for services, the market for financial services has opened to non-traditional competitors.

Stake holders need to ensure the following issues are addressed:

i. Curb the rise in scamming as this scare the citizens from using financial products and services which will in turn reduce investment in the Fintech space and make the country lag behind
ii. Address the issue of cost. Cost was identified as one item that discouraged usage of financial products and services. The recently proposed introduction of tax on mobile airtime is one critical example that has the capacity to slow down financial inclusion and set civilisation in reverse.
iii. Clamp down on cases of fake massages and scams. This has the potential to scare away citizens from using financial products and services as no one wants to lose their hard-earned money.
iv. Address the cost on internet connection. This is huge hinderance to financial inclusion as seen in many countries where internet is erratic. Promote Digital Literacy Initiatives: Implement comprehensive digital literacy programs aimed at educating individuals across all demographics about the benefits and safe usage of fintech solutions.
These initiatives can be conducted through partnerships between fintech companies, government agencies, educational institutions, and civil society organizations to ensure widespread awareness and understanding of digital financial services.
v. Foster Regulatory Clarity and Innovation: Establish clear and conducive regulatory frameworks that promote innovation while ensuring consumer protection and financial stability. Regulators should engage with fintech stakeholders to understand their business models, risks, and potential impact on financial inclusion, and tailor regulations accordingly to foster responsible innovation in the sector.
vi. Expand Access to Affordable Connectivity: Address infrastructure challenges by expanding access to affordable and reliable internet connectivity, particularly in rural and underserved areas. Collaborate with telecom providers and other stakeholders to

invest in expanding network coverage and reducing the cost of data services, making it easier for individuals to access fintech solutions on their mobile devices.

vii. Support Micro, Small, and Medium Enterprises (MSMEs): Develop targeted fintech solutions that cater to the unique needs of MSMEs, which play a crucial role in Zambia's economy. Provide access to digital payment platforms, affordable credit, and financial management tools tailored to the specific requirements of small businesses, empowering them to thrive and contribute to economic growth.

viii. Strengthen Consumer Protection Measures: Enhance consumer protection frameworks to safeguard the rights and interests of users of fintech services. This includes measures to ensure transparency, fair treatment, data privacy, and recourse mechanisms in case of disputes or fraudulent activities. Collaborate with fintech companies, consumer advocacy groups, and regulatory bodies to develop and enforce robust consumer protection standards that build trust and confidence in digital financial services.

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