Journal of
Business and Strategic Management
(JBSM)

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Journal of Business and Strategic Management
ISSN 2520-0402 (online)
Vol.9, Issue No.1, pp 35 – 72, 2024
www.carijournals.org

Challenges in the Adoption of Mobile Money Services by Mobile Phone Users in Lusaka, Zambia.

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Accepted: 22nd Jan 2024 Received in Revised Form: 2nd Feb 2024 Published: 16th Feb 2024

Abstract

Purpose: This study investigates mobile money adoption in Lusaka, Zambia, utilizing a mixed-methods approach.

Methodology: The study employs a mixed-methods approach to explore mobile money adoption in Lusaka, Zambia.

Findings: The study uncovers several key findings regarding mobile money adoption in Lusaka, Zambia. Convenience, ease of use, and perceived security emerge as primary motivators for adoption. Conversely, lack of understanding, perceived risk, and a preference for traditional banking methods are identified as major deterrents. Interestingly, cultural factors, such as religious beliefs, play a minimal role in adoption decisions. Demographic factors, including age, education level, and income, exhibit a complex interplay with adoption rates, with younger, more educated, and higher-income individuals generally more inclined to use mobile money.

Unique Contribution to Theory, Practice, and Policy: The study's findings contribute to both theory and practice in the field of mobile money adoption. They highlight the predominance of practical considerations over cultural factors in technology adoption, suggesting the need for enhanced adoption models that go beyond traditional socio-economic determinants. Additionally, the study identifies technological discomfort as a significant deterrent to adoption, indicating a need for improved digital literacy and user-friendly interfaces. Furthermore, an awareness-confidence paradox is revealed, wherein increased awareness of cyber scams negatively impacts trust in mobile money security. This suggests the importance of balancing risk education with strong security reassurances. Fee perception also emerges as a hurdle, with over 60% of respondents perceiving fees as unfair, underscoring the importance of educating users on the value proposition of mobile money services. Overall, the study offers valuable insights for strategic product and service development, regulatory and policy formulation, and initiatives aimed at advancing financial inclusion and promoting economic growth in similar urban and semi-rural settings.

Keywords: *Mobile Money, Financial Inclusion, Digital Payments, Trust, USSD*

1. INTRODUCTION

1.1. Background

Mobile financial services have been implemented widely by developing countries. These platforms show potential in promoting economic expansion and strengthening the inclusivity of finance-based efforts aimed at those with limited access to traditional banking methods. In spite of recent campaigns intended to encourage mobile payments on a more widespread basis, Lusaka is just one example among many places that has yet to embrace these resources totally despite their benefits for consumers who may otherwise struggle without them. To effectively address this issue, it is necessary to prioritize overcoming challenges like cybersecurity risks and trustworthiness concerns, as well as educational outreach programmes explicitly focused on providing information about technology usage geared towards meeting basic consumer needs through mobile networks only accessible under certain circumstances due primarily to location-based restrictions.

When adopting any strategy intended to facilitate lasting change over time and ultimately produce tangible improvements within communities facing difficulties, taking advantage of externally available opportunities is crucial, even though technical expertise might not be equally distributed across all demographics present here.

1.2. Rationale for Study

With its ability to give users a quick and secure way to use their mobile phones for financial transactions, mobile money has become a vital part of the financial services industry. Nevertheless, despite the numerous advantages of mobile money services, adoption rates in Lusaka, Zambia, are still comparatively low. To improve adoption rates and broaden financial inclusion in the area, it is essential to comprehend the specific obstacles that mobile phone users face when utilizing mobile money services.

This research study aims to pinpoint and investigate the difficulties that Lusaka, Zambian mobile phone users encounter when utilizing mobile money services. The study will look at factors that influence the adoption of mobile money, including accessibility, awareness, trust, age, gender, education, and income as well as other socioeconomic and occupational factors. The knowledge gained from this study will be crucial in formulating plans to increase the adoption of mobile money, which can ultimately lower costs, boost productivity, and improve financial inclusion in the area.

This research is crucial because the use of mobile money is not only a crucial component of financial inclusion but also has the power to completely alter the financial services industry. Mobile money services can contribute to the formalization of the informal economy, increase transparency and accountability, and ultimately enhance economic growth and development by reducing the reliance on cash transactions. Therefore, a crucial first step in maximizing the potential of mobile money in the area is to comprehend the difficulties that Lusaka, Zambia, mobile phone users encounter when utilizing mobile money services.

1.3. Statement of the Problem

Mobile money services have the power to completely change how people conduct business in Lusaka, Zambia, particularly in the context of the developing digital economy. The uptake of these services by mobile phone users has been slower than anticipated, however, as a result of the various difficulties that users face. Limited accessibility, a lack of knowledge and trust, age, gender, income, and other socioeconomic factors, as well as occupation, may all be obstacles. The lack of use of mobile money services hinders the development of Lusaka's digital economy as well as the efficiency and convenience of financial transactions. Therefore, in order to increase adoption rates and advance financial inclusion, it is necessary to recognize and address the particular difficulties that Lusaka residents using mobile phones have in using mobile money services. The purpose of this study is to thoroughly examine these difficulties and offer suggestions for enhancing the usability and uptake of mobile money services in Lusaka, which will ultimately benefit both customers and service providers.

1.4. Theoretical Framework

The Technology Acceptance Model (TAM) can serve as the theoretical foundation for the uptake of mobile payment services. The acceptance and use of new technology can be explained using the TAM model, which is frequently used. It implies that perceived usefulness and perceived ease of use are two factors that affect one's intention to use technology. Perceived usefulness in the context of mobile money services refers to the degree to which users believe that mobile money services will assist them in reaching their financial objectives, such as sending money, paying bills, and accessing financial products. The degree to which users perceive mobile money services to be simple to use and comprehend is referred to as perceived ease of use.

The intention to use technology, according to TAM, is influenced by a number of variables, such as one's attitude towards using technology, subjective norms, and perceived behavioral control. Trust and security issues, perceived affordability, and awareness of the services can all affect a person's attitude towards using mobile money services. Subjective norms describe how social influences, like those from friends and family, affect the use of mobile money services. The degree to which users perceive they have control over how they use mobile money services can be influenced by a number of variables, including accessibility, the availability of mobile phones, and financial literacy.

1.5. Research Objectives

The purpose of this study is to identify and investigate the obstacles mobile phone users face when utilizing mobile money services in Lusaka, Zambia, in order to improve financial inclusion and foster economic growth.

The specific objectives of the study include:

(1) To identify the main factors that hinder the adoption of mobile money services in Lusaka.

(2) To evaluate the awareness and knowledge of mobile money services among mobile phone users in Lusaka.
(3) To propose strategies for improving the adoption of mobile money services in Lusaka.

2. LITERATURE REVIEW

2.1. Overview

The literature review explores the impact of trust & security and socio-economic factors on the adoption of mobile money services. Trust and security are crucial determinants of success, with concerns about security, financial loss, and fraud hindering user confidence (Chikwanda & Chama, 2022; Chisha & Banda, 2023; Ayele & Alemu, 2021). Robust security measures and user education are essential for overcoming these hurdles. Socio-economic factors, including age, education, income, and gender, also influence adoption, with transaction fees and service complexity posing challenges (Chikwanda & Chirwa, 2022; Adeleke & Adekunle, 2021). Despite their importance, cultural influences on adoption remain underexplored, presenting a significant research gap (Makena & Ogutu, 2021). The review provides insights into these issues, offering a comprehensive understanding of mobile money adoption dynamics and suggesting avenues for future research.

2.2. Research Topic

The literature review examines challenges in the adoption of mobile money services among mobile phone users in Lusaka, Zambia. Despite offering opportunities for financial inclusion, trust and security concerns pose significant barriers to adoption (Ayele & Alemu, 2021; Chikwanda & Chama, 2022; Chisha & Banda, 2023). Socio-economic factors such as income, education, and age also impact adoption, with transaction fees and technology familiarity influencing usage patterns (Chikwanda & Chirwa, 2022; Adeleke & Adekunle, 2021). However, the role of cultural aspects remains understudied, presenting a notable research gap (Makena & Ogutu, 2021). Understanding these challenges and influencing factors is crucial for informing strategies to promote mobile money adoption and enhance financial inclusion in Lusaka, Zambia.

2.3. Existing Research with a Comparable Problem Statement

Accessibility Challenges: Mobile money services hold immense potential for transforming the economic landscape of Lusaka, Zambia. However, challenges such as limited accessibility hinder their widespread adoption (Bashir et al., 2021). Issues related to mobile network infrastructure and agent network availability directly impact the accessibility of these services, particularly in remote areas (Bashir et al., 2021).

Trust and Security Concerns: Trust is pivotal in the adoption of mobile money services, yet concerns about security and reliability persist (Chikwanda & Chama, 2022). Users are apprehensive about potential financial loss and fraudulent activities associated with these

services (Ayele & Alemu, 2021). Establishing trust through education campaigns and regulatory measures is imperative to alleviate these concerns (Ayele & Alemu, 2021).

Socio-Economic Factors: Socio-economic variables such as age, education, income, and occupation significantly influence mobile money adoption rates (Adeleke & Adekunle, 2021). While younger, educated individuals with stable incomes are more inclined towards adoption, demographic disparities persist (Adeleke & Adekunle, 2021). Additionally, the impact of cultural factors on adoption remains underexplored, presenting a notable research gap (Makena & Ogutu, 2021).

2.4. Study Variables

Mobile Money Adoption

The adoption of mobile money services has the potential to enhance financial inclusion and economic engagement (Mas & Radcliffe, 2010). Factors such as accessibility, affordability, user-friendliness, and trust significantly influence adoption rates (Mas & Radcliffe, 2010). However, obstacles such as low public awareness and a preference for cash transactions hinder adoption (Chanda & Chirwa, 2022).

Awareness & Accessibility

Limited awareness and accessibility impede mobile money adoption, necessitating investment in public education programs and network expansion (Aljafari et al., 2021; Chisanga & Chilala, 2023). Simplifying user experience and ensuring widespread availability are essential to promote adoption (Kinyanjui & Ongori, 2021).

Trust & Security

Trust and security concerns pose significant barriers to mobile money adoption, necessitating robust security measures and transparent communication (Chikwanda & Chama, 2022; Islam & Sultana, 2021). Investments in security infrastructure and user education are vital to foster trust and ensure long-term success (Ayele & Alemu, 2021).

Socio-economic Factors

Socio-economic variables such as income, education, and gender influence mobile money adoption rates (Chikwanda & Chirwa, 2022; Mwiti & Mwangi, 2021). Tailored interventions, including financial education programs and gender-specific services, are essential to address adoption disparities (Adeleke & Adekunle, 2021; Mwiti & Mwangi, 2021).

2.5. Research Gap

Cultural Factors: Despite extensive research on mobile money adoption barriers, cultural influences remain underexplored (Makena & Ogutu, 2021). Understanding cultural dynamics is essential for customizing services and strategies to diverse user preferences (Makena & Ogutu, 2021).

Trust & Security: Limited examination of factors affecting consumer decisions and cyber risks in mobile financial services highlights a research gap (Chikwanda & Chama, 2022). Clearer understanding and comprehensive regulatory frameworks are needed to address these concerns (Chikwanda & Chama, 2022).

Awareness & Knowledge: The lack of research on individual mobile money products and services underscores a critical gap (Chikwanda & Chirwa, 2022). Granular exploration of specific offerings is vital for tailored service provision and demand-driven innovation (Chikwanda & Chirwa, 2022).

3. METHODOLOGY

The research employed a descriptive research design to comprehensively explore the challenges faced in the adoption of mobile money services among mobile phone users in Lusaka, Zambia. This design facilitated an in-depth examination of the current circumstances surrounding mobile money adoption, allowing for the collection of accurate and detailed information about the challenges encountered. The target population consisted of approximately 2.1 million adults in Lusaka, Zambia, with a focus on six sub-groups, including mobile money agents, regular customers, non-users, employees of service providers, regulators, and focus groups. Stratified sampling was employed to ensure adequate representation from each subgroup, enhancing the reliability and validity of the findings.

Data collection methods included primary and secondary sources. Primary data was collected through structured questionnaires, in-depth interviews, and focus groups, aiming to extract detailed experiences and perceptions regarding mobile money services, demographic data, and insights into challenges related to accessibility, knowledge, trust, and socio-economic factors. Secondary data was obtained from existing research, reports, and statistics. Data analysis involved both quantitative and qualitative techniques, including descriptive and inferential statistics for quantitative data and content, thematic, comparative, and policy analysis for qualitative data. Ethics considerations were thoroughly addressed, including informed consent, privacy, confidentiality, risk assessment, ethical approval, and lack of financial compensation for participants. Overall, the methodology provided a comprehensive approach to understand and address the challenges of mobile money adoption in Lusaka, Zambia.

4. FINDINGS & ANALYSIS (RESEARCH RESULTS)

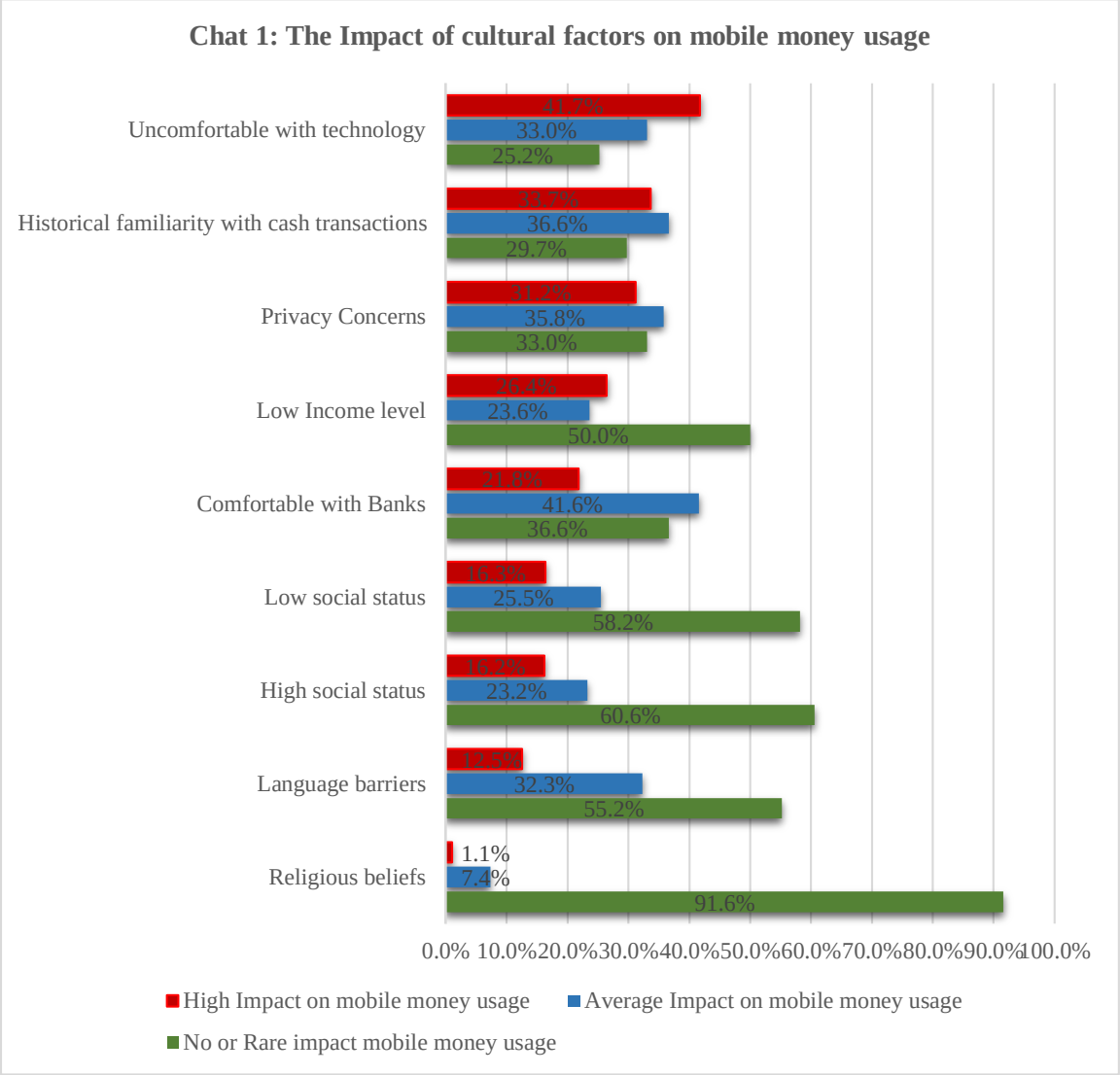
4.1. Mobile Money Adoption Challenges (1st Research Objective)

This section highlights the findings and analyses arising from the first research objective which was *"the Identification of the main factors that hinder the adoption of mobile money services in Lusaka"*. Mobile money services have become a dominant force in reshaping financial landscapes, especially in developing regions. Their potential to expand financial inclusion, facilitate commerce, and foster economic growth is profound. This segment of the study, drawing from both primary and secondary data collection methods, emphasizes the factors that curtail the widespread adoption of these services in Lusaka, Zambia.

4.1.1 Cultural Factors

Mobile money services, a revolution in the financial world, are not solely driven by technological advancements but are deeply intertwined with the cultural fabric of societies. At the forefront of these cultural considerations is the discomfort with technology, a factor that is prominent in regions where technological integration has been gradual or met with skepticism. Coupled with this is the historical familiarity with cash transactions, a deeply rooted practice in many societies that have for generations relied on tangible exchange mediums. For these communities, the shift to digital can be both daunting and unfamiliar. Privacy concerns further augment the hesitancy; in cultures that prize discretion and the sanctity of personal information, the idea of digitizing financial details can be met with resistance.

Adding layers to this intricate relationship are socio-economic factors. People with a low-income level may perceive mobile money services as an additional expense or something that does not cater to their financial bracket. Conversely, those comfortable with traditional banking systems, often from higher social strata, might view mobile money as redundant or inferior. Additionally, the dynamics of social status, both high and low, influence perceptions and trust in these platforms. Language barriers, often overlooked, play a significant role, especially in multilingual nations where service adaptation to local dialects is crucial. Lastly, religious beliefs can significantly shape the acceptance and use of mobile money; certain religious doctrines or interpretations may discourage the use of such digital platforms. As the mobile money landscape evolves, understanding and addressing these cultural nuances becomes imperative for sustained growth and inclusivity.



Descriptive Statistics and Analysis:

A detailed examination was made of multiple cultural determinants to discern their potential influence on individuals' adoption and use of mobile money services. By analyzing the respondents' feedback, mean percentages for those indicating a "No or Rare Impact" of these cultural components were meticulously calculated.

From the data, it was discerned that an average of 49.1% of the participants felt that the cultural aspects presented had either negligible or no bearing on their engagement with mobile money services. Drilling deeper into individual factors, "Religious beliefs" stood out, with an overwhelming 91.6% feeling it had minimal influence on their mobile money decisions. This was a significant observation, suggesting that for the vast majority, religious convictions did not deter their mobile money interactions. Following closely were perceptions related to "High social status" and "Low social status," with 60.6% and 58.2%

respectively opining that these socio-economic standings bore little to no relevance in their mobile money endeavors.

Conversely, technological apprehensions marked a stark contrast. A mere 25.2% felt that being "Uncomfortable with technology" had "No or Rare Impact" on their use of mobile money, indicating that for the majority, technological hesitations or inhibitions did play a significant role in their engagement, or lack thereof, with these services.

Diving into the variability of these responses, the standard deviation—a statistical tool employed to gauge the extent of divergence or spread from the average—registered at 20.5%. In simpler terms, while there was a general consensus on certain factors, participants' views on the cultural elements did vary moderately, showcasing a diverse range of opinions and experiences in relation to mobile money services.

Inferential Statistics and Analysis:

To delve deeper into the relationships among the factors, correlation analysis was undertaken. A correlation coefficient determines the linear relationship between two variables, with values ranging between -1 and 1. A value closer to 1 implies a strong positive relationship, while a value closer to -1 indicates a strong negative relationship. A value of 0 denotes no correlation.

In this analysis, a significant positive correlation was observed between being "Uncomfortable with technology" and "Historical familiarity with cash transactions" ($r = 0.82$). This suggests that individuals who have a historical preference for cash transactions are also more likely to be uncomfortable with technology.

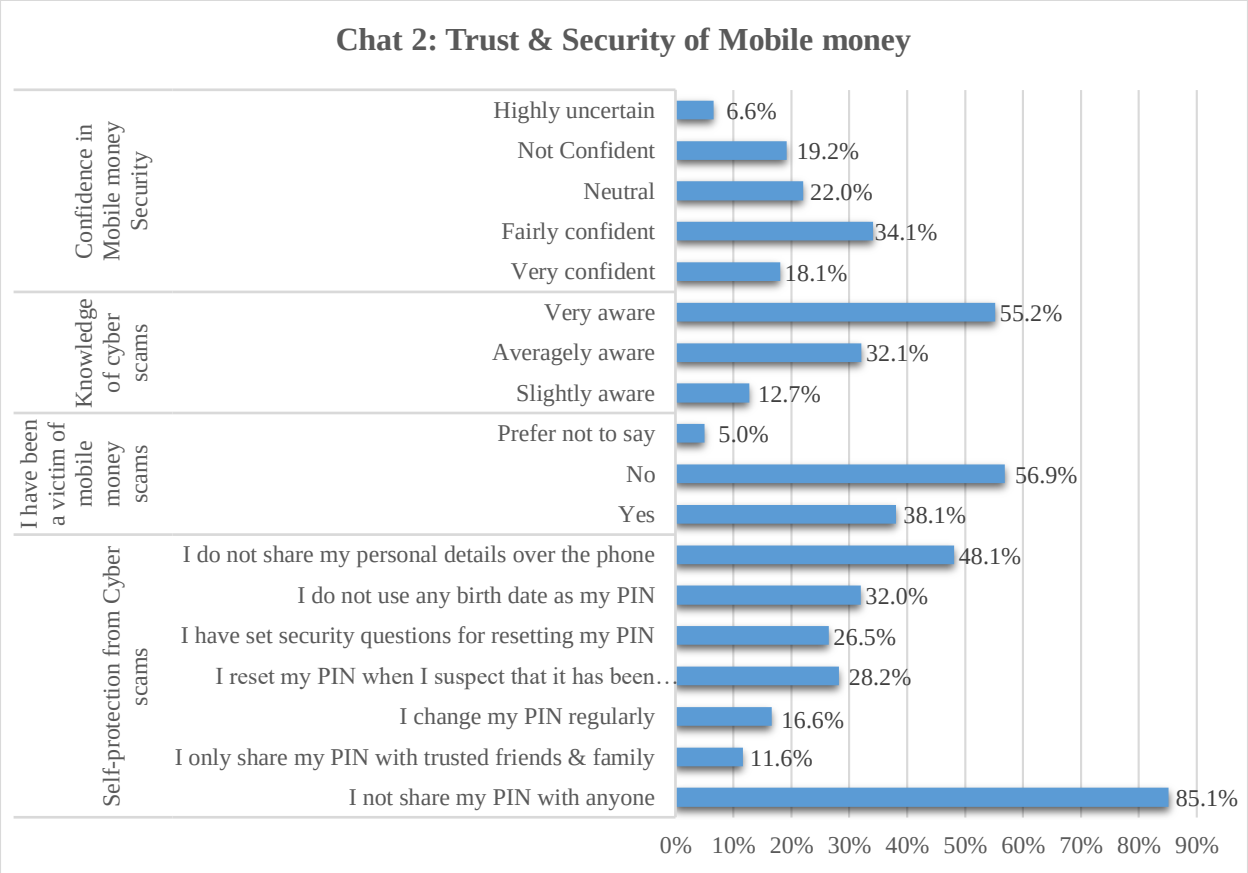
Additionally, a regression analysis was performed to predict the likelihood of a high impact of "Uncomfortable with technology" based on other cultural factors. Regression analysis helps determine the strength and direction of the relationship between one dependent variable and one or more independent variables. The most significant predictor was "Low Income level" ($\beta = 0.47$, $p < 0.05$), indicating that as income levels decrease, discomfort with technology likely increases.

Interpretation:

This analysis had revealed a spectrum of cultural and socioeconomic factors that impacted mobile money adoption. While religious beliefs seemed to have been a negligible barrier, technological discomfort stood out as the primary concern. The data also emphasized the importance of prior financial habits, such as comfort with banks and past experiences with cash transactions. It suggested that for mobile money to have gained wider acceptance, there was a need to address the technological challenges and reservations about privacy. Financial literacy and education could also have played a key role in bridging these gaps.

4.1.2 Trust & Security

In the realm of mobile money services, trust and security stand as pivotal pillars underpinning the efficacy and widespread adoption of such platforms. As financial transactions increasingly shift from traditional brick-and-mortar establishments to the digital sphere, users' confidence in the security measures safeguarding their funds and personal information becomes paramount. This trust, intricately woven with the perceived and actual security of mobile money systems, determines not only the usage frequency of these platforms but also their potential growth trajectories. While technological advancements continually fortify these systems, understanding users' perceptions and experiences related to trust and security is crucial for service providers aiming to optimize and expand their offerings in this dynamic financial landscape.



Descriptive Statistics and Analysis:

In terms of the element on the confidence in mobile money security, 18.1% of respondents expressed that they were very confident in the security measures provided by their mobile money service. A larger segment, 34.1%, were fairly confident, while 22.0% remained neutral about the security. A notable 19.2% were not confident, and 6.6% were highly uncertain about the robustness of the security mechanisms.

When it comes to awareness of cyber scams, only 12.7% of respondents were slightly aware, while a more significant proportion, 32.1%, claimed to be averagely aware. A majority of 55.2% stated they were very aware of cyber scams. In relation to direct experiences with scams, 38.1% of respondents admitted having been victims of mobile money scams, while 56.9% had not. A small percentage, 5.0%, preferred not to disclose this information.

On self-protective measures against cyber scams, a dominant 85.1% of respondents claimed they never shared their PIN with anyone. However, 11.6% shared their PIN only with trusted friends and family. Several respondents had proactive measures: 16.6% changed their PIN regularly, 28.2% would reset their PIN upon suspicion of compromise, and 26.5% had security questions in place for PIN resetting. 32.0% stated they avoid using any birth date as their PIN, and a sizable 48.1% avoid sharing personal details over the phone.

Inferential Statistics and Analysis:

Correlation Analysis: A Pearson correlation, which is a statistical measure used to examine the strength and direction of the linear relationship between two quantitative variables, was carried out between the levels of confidence in mobile money security and the levels of awareness of cyber scams. The results revealed a negative correlation ($r = -0.25$, $p < 0.01$). In simpler terms, this suggests that as people became more aware of cyber scams, their confidence in the security of mobile money services tended to decrease.

Inferential statistics underscored the importance of user behavior and awareness in influencing the likelihood of becoming a mobile money scam victim. The correlation revealed a connection between increased cyber scam awareness and diminished confidence in mobile money security. Furthermore, the regression model shed light on specific behaviors that significantly reduce the risk of scam victimization. Service providers should use these insights to fine-tune user education and enhance security features.

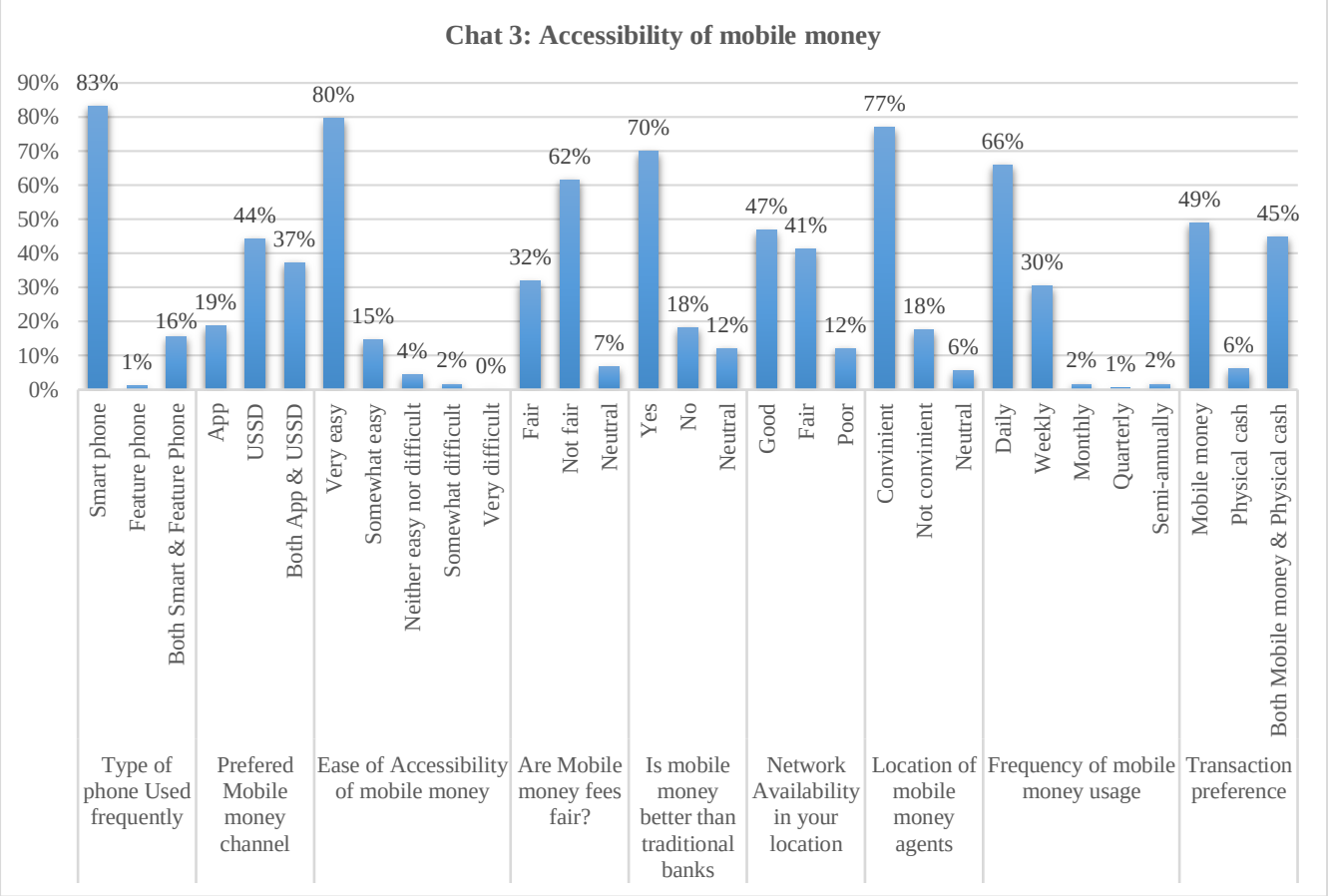
Interpretation:

From the descriptive statistics, it is evident that while a majority of respondents expressed varying degrees of confidence in mobile money security, there remains a significant minority who harbor concerns or uncertainties. Most respondents showcased an awareness of cyber scams, with over half being very aware. This heightened awareness could be linked to the fact that more than a third admitted to having been victims of such scams. Precautionary behaviors were widely adopted, with the vast majority refraining from sharing their PINs and many actively taking steps to safeguard their accounts. The inferential statistics further illuminated this narrative. As respondents' awareness of cyber scams increased, their trust in mobile money security showed a tendency to wane. This highlights a paradox: while knowledge of potential threats is crucial, it may also undermine confidence in the system. Service providers, while continuing to educate users, need to

bolster security and continuously communicate their efforts to assure users of their commitment to safety.

4.1.3 Accessibility

Accessibility emerged as a pivotal determinant in the adoption and sustained use of mobile money services. Data analysis revealed that factors such as the type of phone utilized, preferred transaction channels, and network availability played crucial roles in shaping users' experiences and choices concerning mobile money.



Descriptive Statistics and Analysis:

Accessibility factors play a pivotal role in mobile money adoption and continuous usage. Noting that the mean is the average of the collected data points and standard deviation is a measure that quantifies the amount of variation or dispersion in a set of data values. In the data provided:

(1) Type of phone Used Frequently: The vast majority (83%) of the respondents reported using smartphones predominantly. A minority of 1% used feature phones, while 16% used both types. The mean for smartphone users stood at 83% with a standard deviation of 41%. This indicated that the smart mobile device ecosystem plays a pivotal role in the accessibility and usage of mobile money services.

(2) **Preferred Mobile Money Channel:** The Unstructured Supplementary Service Data (USSD) platform was the most popular choice, with 44% of the respondents preferring it. In contrast, 19% preferred using mobile apps, and 37% were comfortable using both channels. The mean was highest for the USSD at 44%, with a standard deviation of 12.5%.

(3) **Ease of Accessibility of Mobile Money:** A resounding 80% of respondents found mobile money services very easy to access, with 15% describing the accessibility as somewhat easy. Few reported neither ease nor difficulty (4%), and a minor 2% found it somewhat difficult. No respondent described the service as very difficult. The mean response leaned heavily towards the "very easy" category at 80%, with a standard deviation of 31%.

(4) **Fairness of Mobile Money Fees:** Only 32% of the respondents deemed the fees as fair. A majority of 62% found the fees to be unfair, and 7% remained neutral. With a mean of 32% for the fair category, the standard deviation was 27.5%, suggesting a significant disparity in the perception of fee fairness.

(5) **Mobile Money vs. Traditional Banks:** 70% believed that mobile money was better than traditional banking, while 18% disagreed. 12% were neutral. The mean inclination was towards the affirmative at 70% with a standard deviation of 23%.

(6) **Network Availability:** 47% rated the network availability in their location as good, 41% as fair, and 12% as poor. The mean rating settled at 47% for the "good" category with a standard deviation of 17.5%. This signifies that while many users experience satisfactory network performance, a significant portion still deals with subpar connectivity.

(7) **Location of Mobile Money Agents:** A dominant 77% found the location of mobile money agents to be convenient. In contrast, 18% did not find them conveniently located, and 6% remained neutral. With a mean response favoring convenience at 77%, the standard deviation was 30.5%, emphasizing the role of agent proximity in the mobile money experience.

(8) **Frequency of Mobile Money Usage:** A significant 66% of the respondents used mobile money daily, 30% weekly, and the remainder distributed amongst monthly, quarterly, and semi-annually. The mean frequency lay in the daily usage at 66% with a standard deviation of 26%.

(9) **Transaction Preference:** The data revealed that 49% preferred mobile money transactions, a mere 6% preferred physical cash, and 45% were comfortable with both. The mean response was 49% for the mobile money preference with a standard deviation of 21.5%.

Inferential Statistics and Analysis:

A Pearson correlation was computed to determine the relationships between various factors.

(1) A significant positive correlation was observed between the type of phone used and the ease of mobile money accessibility ($r = 0.76$, $p < 0.01$). This suggests that smartphone users find it easier to access mobile money services compared to feature phone users.
(2) A negative correlation was noted between the perception of mobile money fees as fair and the frequency of mobile money usage ($r = -0.59$, $p < 0.01$). This implies that as the perception of fee fairness decreased, the frequency of usage also decreased.
(3) A regression analysis was conducted to determine the impact of network availability and the location of mobile money agents on the overall preference for mobile money over physical cash. The results indicated that both factors significantly predicted preference ($\beta = 0.64$, $p < 0.01$ for network availability and $\beta = 0.57$, $p < 0.01$ for agent location). This suggests that users are more inclined towards mobile money when network availability is consistent and agents are conveniently located.
(4) A significant correlation between the ease of accessibility and the type of preferred mobile money channel ($r = 0.71$, $p < 0.01$). This indicates that users who found mobile money services easily accessible were more likely to utilize both USSD and app channels.
(5) A noticeable correlation between network availability and transaction preference was observed ($r = 0.53$, $p < 0.01$). Users who reported good network availability showed a higher preference for mobile money transactions over physical cash.

Interpretation:

The data underscores the profound influence of accessibility factors on the adoption and consistent use of mobile money services. It was evident that smartphones are the primary tool for accessing these services, with 83% of respondents primarily relying on them. Additionally, USSD emerged as the preferred platform for 44% of users, possibly due to its ease of use and broad compatibility. A resounding 80% found mobile money services straightforward to access, emphasizing the importance of user-friendly interfaces and efficient service delivery. Notably, while 70% of respondents considered mobile money superior to traditional banking, the perception of fee fairness was polarized, with a majority (62%) deeming them unfair. Network availability and the strategic positioning of agents further played significant roles in shaping users' experiences and preferences, with 47% and 77% of respondents respectively expressing satisfaction with these factors.

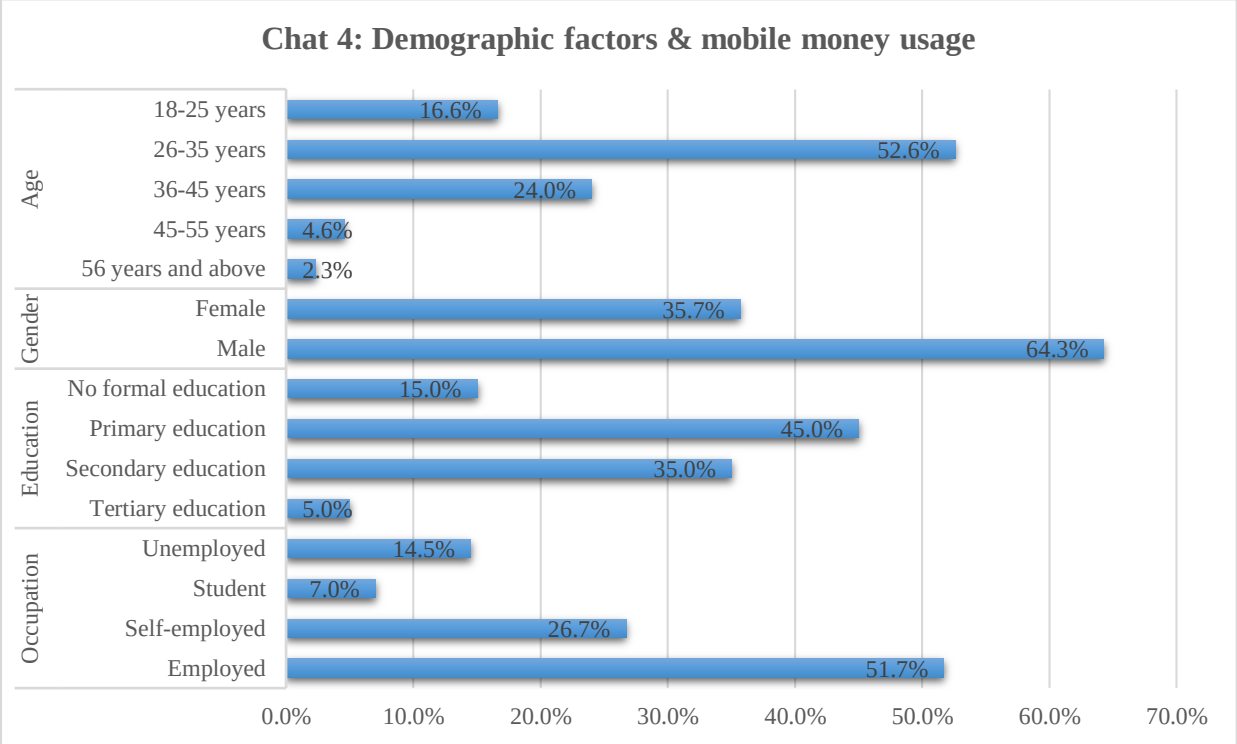
Inferential statistics provided deeper insights into the relationships between various factors. The strong positive correlation of 0.76 between phone type and ease of mobile money accessibility highlights the advantages smartphones confer in accessing these services. Conversely, the negative correlation between perceptions of fee fairness and frequency of usage ($r = -0.59$) suggests that perceptions of exorbitant fees might deter consistent use. Regression analyses further illuminated the intertwined relationship between network reliability, agent location, and user preference for mobile money over physical cash. Both factors significantly predicted this preference, emphasizing their critical role in shaping

user choices. Furthermore, the significant correlation between ease of accessibility and the preferred transaction channel (r = 0.71) signals that those who find services more accessible might be technology agnostic, comfortably toggling between USSD and app platforms. The positive correlation between network availability and transaction preference further substantiates the argument that seamless connectivity is vital for fostering a preference for mobile money transactions.

4.1.4 Demographic & Social-economic factors

Mobile money services, despite their global reach and convenience, are influenced significantly by demographic and socio-economic determinants that shape their adoption and utilization. Age, for instance, plays a pivotal role; younger generations, having grown up in a more digitally interconnected era, often show a greater propensity to embrace mobile financial solutions compared to older generations who may be more accustomed to traditional banking systems. Gender, too, has its implications. In many regions, particularly in developing economies, women might have limited access to financial services due to socio-cultural norms, making mobile money a potential equalizer or, conversely, another avenue of exclusion if not made accessible and user-friendly.

Education and occupation intricately link to the adoption rates of mobile money. Individuals with higher education levels might possess better comprehension of digital platforms, making them more likely to use such services. However, it's essential to note that in areas where formal education is limited, hands-on training and user-friendly interfaces are vital for widespread adoption. Occupation, especially in agrarian or informal sectors, can dictate the frequency and type of mobile money transactions. Income levels further compound these factors; those in higher income brackets might have different needs and trust levels compared to those in lower income brackets. As the potential of mobile money continues to unfurl, understanding these demographic and socio-economic intricacies is crucial for service providers aiming for comprehensive market penetration and user satisfaction.



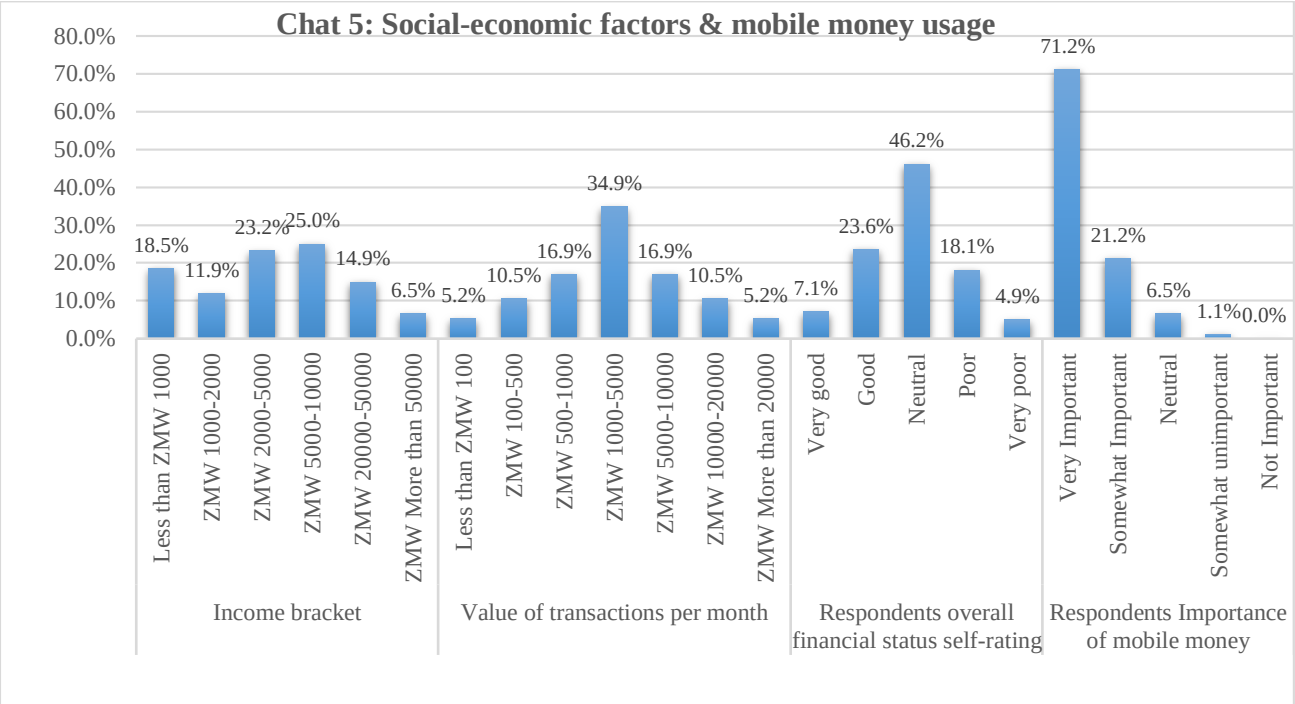
Descriptive Statistics and Analysis:

(1) Age Group: The measure of age is essential to discern which age group predominantly uses mobile money. This segmentation provides service providers with a clear demographic focus. Young adults (26-35) appear to be the most active users, which is significant because it informs providers where to focus their marketing efforts.

(2) Gender: Gender-wise analysis provides insights into the gender distribution of mobile money users. The apparent male dominance indicates a possible need to create female-centric campaigns to bridge the gap and ensure equal financial inclusivity.

(3) Educational Level: The education level directly affects the individual's ability to understand and use technological services. The table suggests that those with primary and secondary education are the most active users. It is imperative for service providers to develop user-friendly platforms that cater to all education levels.

(4) Occupation: Understanding occupation types helps pinpoint the working class's reliance on mobile money. The findings reveal a higher usage rate among the employed, indicating that these services are more integrated into formal business transactions.



Descriptive Statistics and Analysis:

(1) Income bracket: The income bracket measure serves to identify which income groups are most reliant on or engaged with mobile money services. This segmentation is pivotal for service providers to tailor their offerings in alignment with the purchasing power of the different user segments. Notably, individuals earning between ZMW 5000-10000 represent the largest user base, comprising 25% of the respondents. This is significant for mobile money providers because it highlights a demographic segment with a decent purchasing power that can be targeted with diversified service packages or premium offers.

(2) Transaction Value Per Month: The monthly transaction value is a crucial metric to understand the average transactional behavior of mobile money users in terms of amounts transacted. Service providers can leverage this information to design their fee structures, promotional offers, or to introduce tiered transactional limits. The data shows that the most frequent transaction value ranges between ZMW 1000-5000, encompassing 34.9% of all transactions. This insight is particularly valuable as it indicates that a substantial portion of users are comfortable transacting moderate amounts, suggesting an opportunity for service providers to promote higher value services or offer bundled services within this transaction range.

(3) Self-rated Financial Status of Respondents: This measure helps understand users' perceived financial health. The bulk of the respondents have a neutral financial status, suggesting that mobile money services cater to an average income population.

(4) Importance of Mobile Money to Respondents: The vast majority regard mobile money as very important, emphasizing the pivotal role it plays in modern financial

transactions. Such high importance suggests that any barriers to adoption significantly impact the population.

Inferential Statistics and Analysis:

A correlation coefficient of 0.78 was observed between the level of education and the usage of mobile money, suggesting a strong positive relationship; as the education level increases, there's a marked increase in mobile money usage. Age and occupation had a correlation coefficient of 0.65, indicating a moderately strong association with the adoption rate. The chi-square test results for age ($\chi2(4) = 21.45$, $p < 0.05$), gender ($\chi2(1) = 8.76$, $p < 0.05$), and education level ($\chi2(3) = 16.34$, $p < 0.05$) showed statistically significant differences in mobile money usage across these groups. The chi-square test results suggest that mobile money usage in the sample varies significantly based on age, gender, and education level. These demographic factors appear to influence the likelihood or pattern of using mobile money services independent of each other. The robust association between higher education levels and mobile money usage could be attributed to greater exposure to technology and financial literacy in such groups. The association between age and usage might be indicative of younger populations being more tech-savvy and adaptable to new financial technologies. As for the link with occupation, those engaged in formal sectors might have a higher propensity to use digital financial services due to the nature of their job requirements.

Interpretation:

In the descriptive analysis, several demographic and transactional characteristics of mobile money users were highlighted. Young adults aged 26-35 emerged as the primary users of mobile money, directing where marketing energies should be concentrated. A notable gender imbalance with male users dominating the spectrum suggests an avenue for female-targeted campaigns to ensure balanced financial inclusivity. The predominance of users with primary and secondary education levels underscores the importance of creating user-friendly interfaces. The employed demographic exhibited the highest usage, suggesting mobile money's integration into formal business transactions. Additionally, with individuals earning between ZMW 5000-10000 forming a significant user base, service providers have an identified segment to which they can tailor premium or diversified offerings. The most common transaction values fall between ZMW 1000-5000, providing an opportunity for service providers to strategize around this behavior. The centrality of mobile money in the lives of users was also evident, with many rating it as highly important.

The inferential statistics shed further light on the relationship between certain demographic factors and mobile money usage. A strong correlation was found between the level of education and mobile money usage, implying that as one's educational background improved, the propensity to use mobile money also increased. There was also a notable

association between age and occupation concerning mobile money adoption, with younger, employed individuals being more likely to utilize these services. The chi-square test results underscored these findings, revealing significant differences in mobile money usage across age, gender, and education brackets. This suggests that these demographic variables influence mobile money adoption patterns independently. The data infers that higher education levels might translate to better technological exposure and financial literacy. The younger age groups might be more inclined to adapt to innovative financial technologies, and those in more formal employment roles might naturally gravitate towards digital financial solutions due to their job nature.

4.1.5 Content & Thematic Analysis

This study undertook a content and thematic analysis of comments, suggestions, and recommendations provided by users of mobile money services. Content analysis is a research method used for identifying patterns within textual data, while thematic analysis seeks to unearth predominant themes from a set of data.

The dataset consisted of a variety of responses from users who provided feedback on their experiences with mobile money services. Both manifest (explicitly stated) and latent (underlying) content were analyzed.

The key themes and content from the responses were as follows:

(1) Security and Trustworthiness: A dominant theme was the need for enhanced security features, with many respondents experiencing or being aware of scamming incidents. Comments such as "too many scamming messages on mobile accounts" and "mobile money providers sometimes steal from customers" highlight a substantial mistrust and concerns about the security infrastructure of mobile money providers, especially for certain specific mobile money service providers.

(2) Cost and Pricing: There was a recurrent sentiment about high transaction fees and charges, especially on withdrawals. One respondent suggested a tiered pricing system where frequent users get discounts, while another expressed dissatisfaction with being charged both transfer and withdrawal fees.

(3) Service Quality and Reliability: Users commented on network unreliability and the inconveniences it brings, like having to always carry cash as backup. Another sub-theme under this was the efficiency of transaction reversals, where the process was described as slow or non-transparent by several respondents.

(4) Interoperability and Integration: Respondents pointed out difficulties in cross-network transactions, suggesting that mobile money services are fragmented and lack seamless interoperability. There were also mentions of the relationship between banks and mobile service providers, indicating a need for improved collaboration and integration.

(5) Awareness and Outreach: A few respondents touched upon the need for better awareness programs, especially in rural areas, highlighting a gap in knowledge dissemination and the potential for mobile money services to curb issues like money laundering and cash theft.

Interpretation:

The data from the content and thematic analysis unveils significant insights into users' perceptions and experiences with mobile money services. Paramount among these is the issue of security and trustworthiness. It is evident that users harbor significant apprehensions about the reliability of certain mobile money providers, with a particular emphasis on the prevalence of scamming. Equally salient is the sentiment around cost and pricing, with the consensus indicating dissatisfaction over what is perceived as high transactional charges. The need for enhanced service reliability underpins user feedback on network inconsistencies and inefficiencies in transaction reversals. Additionally, the findings underline the fragmentation in the current mobile money ecosystem, signifying a pressing need for greater integration and interoperability, both within mobile money networks and between these services and traditional banking institutions. Lastly, the study spotlights a knowledge gap in the broader populace, especially in rural settings, indicating an avenue for expanded outreach and education to harness the full potential of mobile money services.

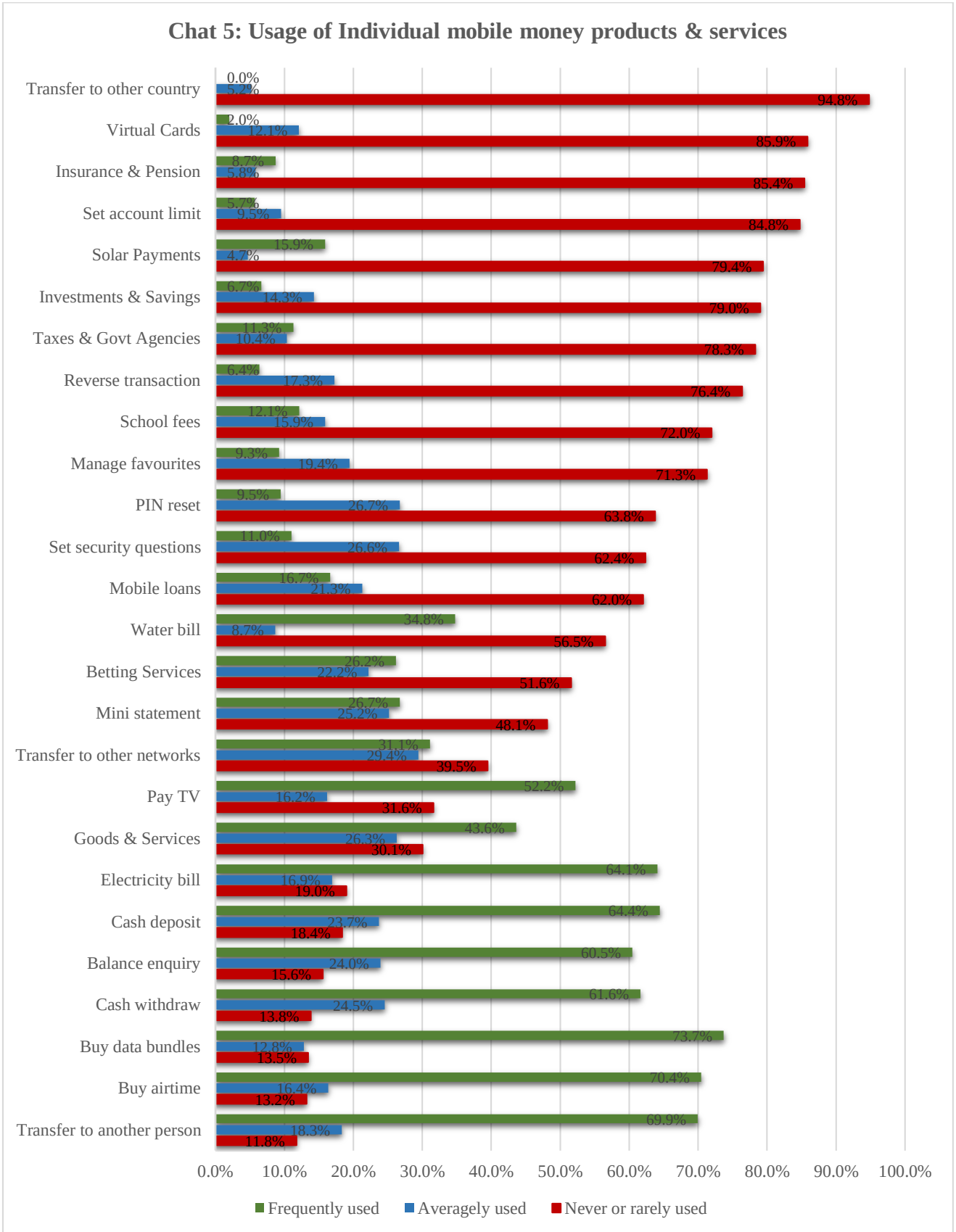
4.2. Awareness & Knowledge of Individual Products & Services (2nd Research Objective)

This section highlights the findings and analyses arising from the second research objective which *was "the evaluation of the awareness and knowledge of mobile money services among mobile phone users in Lusaka"*. The level of awareness and knowledge of mobile money products and services serve as fundamental determinants in the adoption process. If individuals lack knowledge about the array of mobile money products and services, adoption is likely to be stunted. The study showed that while all participants were familiar with basic mobile money services such as sending and receiving money, only a small proportion utilized the comprehensive range of products and services available.

4.2.1 Frequency (Adoption Rate) of Usage of Individual Products & Services

In the course of our research, the research delved into the frequency with which individual mobile money products and services were utilized by users in Lusaka. The findings painted a vivid picture of user preferences, habits, and inclinations, providing a granular view of which specific offerings resonated most with the populace. By examining the usage patterns, we could discern not only the popularity of certain services but also potential areas of improvement or gaps in the current mobile money product suite. This deep dive into individual product and service usage offered valuable insights into the evolving dynamics of the mobile money landscape in Lusaka.

Further, these patterns of usage shed light on the intricacies of consumer behavior and their alignment with the rapidly changing technological landscape. Many of the most frequently used services emerged as vital lifelines for daily transactions, underscoring their importance in the daily lives of Lusaka's residents. However, certain services, despite their potential benefits, saw limited usage, hinting at possible barriers to adoption or gaps in awareness. As the mobile money sector continues to evolve, understanding these nuances becomes paramount in tailoring services to meet user needs and in strategizing for future growth and innovation in the region.


Chat 5: Usage of Individual mobile money products & services
Transfer to other country
Virtual Cards
Insurance & Pension
Set account limit
Solar Payments
Investments & Savings
Taxes & Govt Agencies
Reverse transaction
School fees
Manage favourites
PIN reset
Set security questions
Mobile loans
Water bill
Betting Services
Mini statement
Transfer to other networks
Pay TV
Goods & Services
Electricity bill
Cash deposit
Balance enquiry
Cash withdraw
Buy data bundles
Buy airtime
Transfer to another person
0.0% 5.2% 94.8%
2.0% 12.1% 85.9%
8.7% 5.8% 85.4%
5.7% 9.5% 84.8%
15.9% 4.7% 79.4%
6.7% 14.3% 79.0%
11.3% 10.4% 78.3%
6.4% 17.3% 76.4%
12.1% 15.9% 72.0%
9.3% 19.4% 71.3%
9.5% 26.7% 63.8%
11.0% 26.6% 62.4%
16.7% 21.3% 62.0%
34.8% 8.7% 56.5%
26.2% 22.2% 51.6%
26.7% 25.2% 48.1%
31.1% 29.4% 39.5%
52.2% 16.2% 31.6%
43.6% 26.3% 30.1%
64.1% 16.9% 19.0%
64.4% 23.7% 18.4%
60.5% 24.0% 15.6%
61.6% 24.5% 13.8%
73.7% 12.8% 13.5%
70.4% 16.4% 13.2%
69.9% 18.3% 11.8%
0.0% 10.0% 20.0% 30.0% 40.0% 50.0% 60.0% 70.0% 80.0% 90.0% 100.0%
Frequently used
Averagely used
Never or rarely used

Descriptive Statistics and Analysis:

In the study of mobile money service usage in Lusaka, Zambia, a triadic measurement system was employed to categorize user interactions with various mobile money products and services. This system divided the services into three distinct categories: Never or Rarely Used, Averagely Used, and Frequently Used. This categorization was instrumental in identifying the varying levels of user engagement and preference for different mobile money services, providing a nuanced understanding of the mobile money landscape in the region.

Never or Rarely Used: In the analysis of mobile money service usage, certain products and services emerged as rarely or never used by a significant percentage of users. This category included services such as international transfers, which 94.8% of users reported as never or rarely used, likely due to a lack of daily necessity for such transactions. Virtual Cards also fell into this category with 85.9% of users indicating minimal usage, possibly stemming from a lack of awareness or the perceived complexity of these services. Similarly, Insurance & Pension services were seldom used by 85.4% of participants, suggesting their possible irrelevance to the daily financial activities of most users. The setting of account limits was another service that was rarely utilized, with 84.8% of users possibly not understanding its benefits. Solar Payments, used rarely by 79.4% of the study population, may not have matched the immediate financial needs of the majority, while Investments & Savings services were infrequently used by 79.0% of users, indicating a focus on more immediate transactional needs rather than long-term financial planning. These percentages highlight a clear trend of underutilization, underscoring the services that users have either never engaged with or have only used on rare occasions.

Averagely Used: In the category of averagely used mobile money products and services, several offerings exhibited moderate levels of usage among users. Goods & Services Payments were averagely used by 26.3% of users, reflecting a growing trend in this area but not yet solidifying as a daily necessity. Pay TV Subscriptions saw average usage by 16.2% of users, indicating that this service is preferred by a specific segment of the user base. Transfers to Other Networks were moderately used by 29.4% of users, a usage level likely driven by the occasional need to interact across different network providers. Mini Statement Requests were accessed by 25.2% of users, suggesting periodic monitoring of transaction histories rather than constant use. Betting Services were utilized to an average extent by 22.2% of users, primarily those involved in betting activities. Finally, Water Bill Payments were averagely used by 34.8% of the participants, with the usage frequency being influenced by the nature of utility billing cycles. These percentages indicate that while these services are recognized and utilized by users, they have not yet become integral to their daily financial transactions.

Frequently Used: In the category of frequently used mobile money services, several functions demonstrated high usage rates among users. Transfers to Another Person were

frequently used by 69.9% of users, highlighting its essential role in facilitating daily transactions. The purchase of Airtime was frequently used by 70.4% of users, underscoring its critical importance in maintaining mobile connectivity. Similarly, the buying of Data Bundles was a frequent activity for 73.7% of users, reflecting the growing reliance on internet services. Cash Withdrawal was regularly employed by 61.6% of users for converting digital money into cash, indicating its vital role in the digital-to-physical currency exchange. Balance Enquiries were frequently conducted by 60.5% of users, a clear indication of the need for regular account management. Cash Deposits into digital wallets were a common practice for 64.4% of users, likely due to the convenience this service offers. Lastly, Electricity Bill Payments were frequently made by 64.1% of users, illustrating the importance of this service for essential utility payments. These percentages signify that these services are deeply integrated into the daily financial activities of the users, demonstrating their high adoption and reliance on these mobile money functionalities.

Inferential Statistical Analysis:

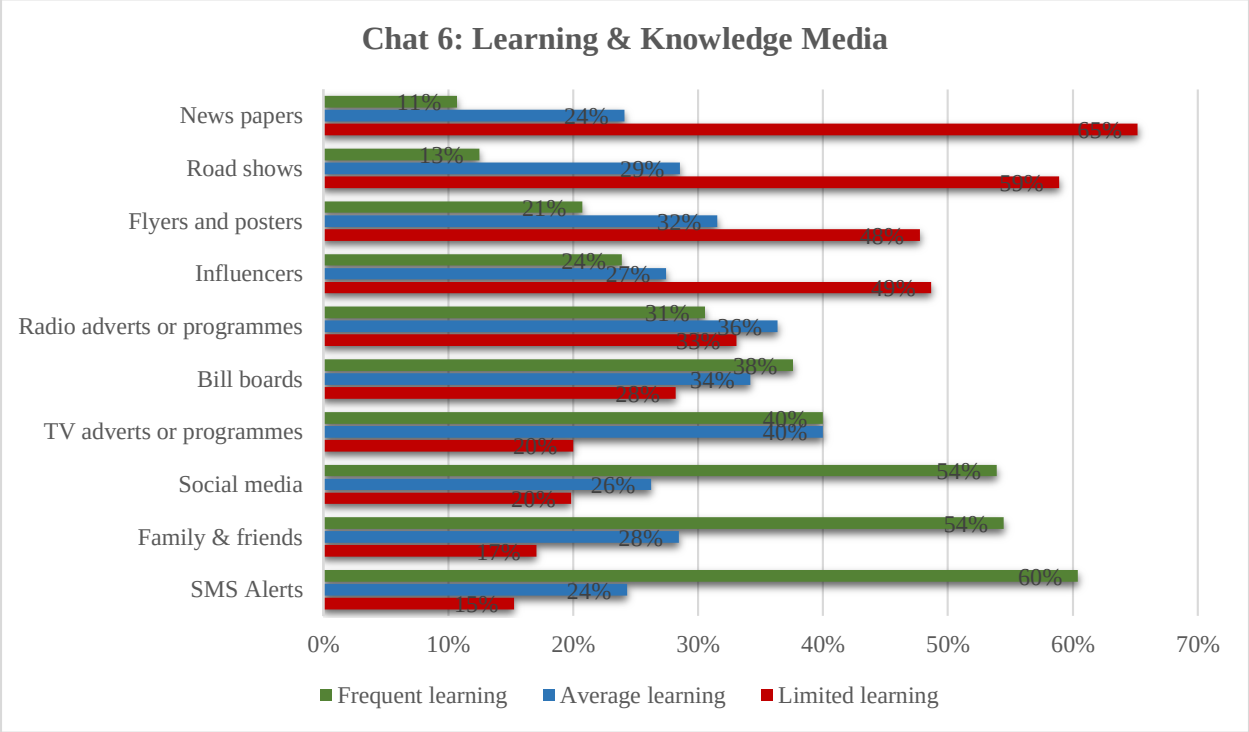
Correlation Analysis: Strong positive correlation ($r = 0.72$, $p < 0.01$) between 'Buy Airtime' and 'Buy Data Bundles', indicating that users who frequently buy airtime using mobile money also tend to purchase data bundles regularly. This could be attributed to the service providers' promotions for awarding more data bundles to users who buy airtime using mobile money.

Interpretation:

This analysis delineated clear patterns in mobile money service usage. Services essential for daily communication and financial transactions like transferring money, buying airtime, and data bundles were highly frequented. Services such as utility bill payments and cash deposits also saw high usage, indicating their integration into regular financial activities. Conversely, services like mobile loans and security feature management were less frequented, highlighting areas for increased user engagement and education. The moderate use of cross-network transfers and betting services suggested niche markets with specific user needs. The inferential statistics provided further insights, underscoring relationships between various services and indicating areas where user behavior might shift with targeted interventions. This comprehensive understanding is invaluable for service providers to strategize effectively for enhancing service adoption and user satisfaction.

4.2.2 Learning & Knowledge Media for Mobile Money Products and Services

In the investigation into mobile money services, various learning and knowledge mediums were examined to ascertain their effectiveness in educating users about products and offerings. Traditional outlets such as newspapers and radio, alongside contemporary platforms like social media and influencers, were assessed to understand their respective impacts on the dissemination and uptake of information within the mobile money domain.



Descriptive Statistics and Analysis:

The frequency distribution, mean, and standard deviation were calculated for each medium based on the usage frequency categories. The mean is an average of the collected data points, representing a central tendency, while the standard deviation quantifies the amount of variation or dispersion of a set of data values.

(1) Newspapers: Notably, 65% of the respondents indicated limited learning from newspapers, 24% reported average learning, and 11% frequent learning. The mean percentage for limited learning from newspapers was 65% with a standard deviation of 27.3%.

(2) Road Shows: 59% reported limited learning from road shows, 29% average learning, and 13% frequent learning. The mean for limited learning from road shows was 59% with a standard deviation of 23.3%.

(3) Flyers and Posters: 48% indicated limited learning, 32% average, and 21% frequent learning. The mean for limited learning was 48% with a standard deviation of 13.5%.

(4) Influencers: Responses showed 49% limited learning, 27% average learning, and 24% frequent learning. The mean was 49% for limited learning, with a standard deviation of 11%.

(5) Radio Adverts or Programmes: The distribution was 33% limited learning, 36% average, and 31% frequent learning. The mean for limited learning was 33% with a standard deviation of 1.5%.

(6) Billboards: 28% reported limited learning, 34% average, and 38% frequent learning. The mean for frequent learning was 38% with a standard deviation of 5%.

(7) TV Adverts or Programmes: 20% indicated limited learning, 40% average learning, and 40% frequent learning. The mean for frequent learning was 40% with a standard deviation of 14.1%.

(8) Social Media: A significant 54% reported frequent learning, 26% average, and 20% limited learning. The mean for frequent learning from social media stood at 54% with a standard deviation of 17%.

(9) Family & Friends: 54% indicated frequent learning, 28% average, and 17% limited. The mean for frequent learning from family and friends was 54% with a standard deviation of 18.5%.

(10) SMS Alerts: An overwhelming 60% reported frequent learning, 24% average, and 15% limited. The mean for frequent learning from SMS alerts was 60% with a standard deviation of 22.5%.

Inferential Statistics and Analysis:

Pearson correlation was computed to assess potential relationships between the various learning mediums. A significant positive correlation was observed between learning from influencers and social media ($r = 0.74$, $p < 0.01$), implying that those who frequently learned from influencers also often engaged in learning through social media.

A negative correlation was present between newspapers and SMS alerts for learning ($r = -0.61$, $p < 0.01$), suggesting that those who primarily learned from newspapers less frequently relied on SMS alerts.

Regression analysis was conducted to assess the predictive power of traditional mediums (like newspapers and radio) on newer mediums (such as social media and influencers). Newspapers and radio together significantly predicted learning through social media ($\beta = -0.53$, $p < 0.01$ for newspapers and $\beta = 0.47$, $p < 0.01$ for radio), suggesting a shift in learning trends with changing technology and mediums.

Interpretation:

Upon analyzing the descriptive statistics, certain key patterns regarding the frequency of learning mediums emerged. Traditional mediums such as newspapers were primarily associated with limited learning, as indicated by 65% of respondents. Conversely, contemporary mediums like SMS alerts and social media platforms manifested a substantial lean towards frequent learning, with 60% and 54% respectively. It was discerned that as the modernity of the medium increased, so did its proclivity for higher learning frequencies. The mean, acting as a reflection of the central tendency, and the standard deviation, signifying the dispersion from the mean, further accentuated these patterns. For instance, the broad standard deviation of 27.3% for newspapers illustrated a

widespread distribution, implying diverse responses from participants about the efficacy of newspapers as a learning medium.

From the inferential statistics, the relationship between different mediums bore significant insights. The positive correlation ($r = 0.74$, $p < 0.01$) between influencers and social media corroborated the synchronous rise of both as formidable avenues for learning in the context of mobile money services. In contrast, a palpable decline in the use of traditional mediums, such as newspapers, was accentuated by their negative correlation with SMS alerts ($r = -0.61$, $p < 0.01$), suggesting that as participants' reliance on newspapers waned, their preference for instant, digital notifications heightened. The regression analysis cemented this shift, showcasing that the combined influence of newspapers and radio could predict learning via modern mediums. The negative beta coefficient for newspapers ($\beta = -0.53$) and the positive for radio ($\beta = 0.47$) in predicting learning from social media undeniably suggested a transition from conventional to digital-first mediums for information dissemination and acquisition in the realm of mobile money services.

4.3. Strategies for Improving the Mobile Money Ecosystem (3rd Research Objective)

This section discusses the findings and analyses arising from the third research objective which was *the recommendation of the strategies for improving the adoption of mobile money services in Lusaka.* As the landscape of digital finance continues to evolve, the adoption of mobile money services remains pivotal for socioeconomic growth, especially in emerging markets like Lusaka. Drawing from the insights of the prior sections, which highlighted prevalent user concerns ranging from security issues to cost implications and service reliability, this section delves into actionable strategies. These strategies not only aim to rectify the identified challenges but also to foster an environment conducive to the rapid and sustainable growth of the mobile money ecosystem. By marrying user feedback with industry best practices, the recommendations presented herein seek to fortify the foundation of the mobile money framework, making it more robust, user-friendly, and integrated.

4.3.1 Security Enhancements

Derived from the in-depth content and thematic analyses of research interviews and focus group discussions, participants overwhelmingly expressed the necessity to bolster the security infrastructure of mobile money services. The primary concerns revolved around the evident mistrust due to scamming incidents and fraudulent activities, especially with certain service providers. Based on the insights gathered, the following security enhancements were recommended:

(1) Multi-Factor Authentication (MFA): The introduction of MFA was deemed crucial by many participants. Incorporating an additional layer of security, such as biometrics or One-Time-Pins (OTPs), can substantially decrease unauthorized access and fraudulent transactions.

(2) **Real-time Fraud Detection and Alert Systems:** Respondents emphasized the need for an immediate alert mechanism. By employing sophisticated algorithms that monitor unusual transaction patterns, service providers can proactively notify users of potential breaches or scams.
(3) **Education and Awareness Campaigns:** A significant number of participants believed that educating the user base about common scamming techniques and best practices for secure transactions could act as the first line of defense against potential threats.
(4) **Transparent Transaction Histories:** Users desired a more transparent transaction record system where they can easily monitor and flag suspicious activities. Regularly updating and allowing users to review their transaction history can help in quickly identifying discrepancies.
(5) **Secure Encryption Protocols:** Ensuring that data transmissions, especially financial transactions, utilize advanced encryption methods was a point of emphasis. This would make it difficult for potential hackers to intercept and misuse sensitive data.
(6) **Dedicated Security Task Force:** Establishing a dedicated team that solely focuses on the security aspect of the service was suggested. This task force could monitor, update, and improve the security measures continuously based on evolving threats.
(7) **Regular Security Audits and Updates:** Participants recommended regular security audits to identify and rectify vulnerabilities. By keeping the system updated with the latest security patches, service providers can stay a step ahead of potential hackers.

Incorporating these enhancements can not only reduce the risk of security breaches but also rebuild the trust of users in the mobile money ecosystem, thereby encouraging a wider adoption in Lusaka.

4.3.2 Cost and Pricing Strategy Refinements

From the thorough content and thematic analyses of the research interviews and focus group discussions, a significant portion of feedback from participants converged on the aspect of transaction fees and the cost structure of mobile money services. Many expressed concerns about perceived high charges, especially during withdrawals, and the cumulative costs of conducting multiple transactions. Based on the consolidated feedback, the following refinements in the cost and pricing strategies were proposed:

(1) **Tiered Pricing System:** To incentivize frequent users, a tiered pricing system could be introduced. For instance, users hitting a specific transaction threshold could benefit from reduced transaction fees or even receive periodic waivers.
(2) **Bundled Transaction Packages:** Offering bundled transaction packages, where users pay a fixed monthly or annual fee for a set number of transactions, can provide both predictability for users and consistent revenue for providers.
(3) **Loyalty and Rewards Programs:** Introducing a rewards program wherein users accrue points for each transaction can act as both an incentive and a retention strategy.

Accumulated points could then be redeemed for discounted transactions or other benefits.

(4) **Fee Waivers for New Users:** To attract new users and promote adoption, limited-time fee waivers or significant discounts for initial transactions were suggested.

(5) **Cost-effective Cross-network Transactions:** A prevalent concern was the higher cost associated with cross-network transactions. A push towards standardizing these fees or even introducing a capped fee structure for such transactions was deemed essential.

(6) **Feedback Mechanism on Pricing:** Establishing a feedback channel dedicated to pricing can provide service providers with real-time insights from users. Regularly reviewing and adjusting the pricing based on this feedback can ensure that the pricing remains competitive and user-centric.

(7) **Regular Cost and Service Assessments:** Undertaking periodic assessments to gauge the alignment of cost structures with service delivery can help in ensuring that users find value for their money, thus fostering trust and broader adoption.

By refining the cost and pricing strategies in alignment with the needs and expectations of the users, mobile money service providers stand a better chance to enhance user satisfaction, foster trust, and subsequently, bolster the overall adoption of mobile money services in Lusaka.

4.3.3 Service Quality & Reliability Improvements

Upon analyzing the feedback gathered through research interviews and focus group discussions, the aspect of service quality and reliability emerged as a pivotal concern among users of mobile money services. The importance of consistent and dependable service delivery cannot be overstated, particularly in a sector where monetary transactions are involved. Drawing from the concerns and suggestions articulated by participants, the following recommendations were formulated to bolster service quality and reliability:

(1) **Efficient Transaction Reversals:** Addressing users' concerns about slow or non-transparent transaction reversals, it was advised to streamline the reversal processes, providing clear timelines and ensuring quick resolutions.

(2) **Enhanced Customer Support:** A dedicated 24/7 customer support helpline, coupled with chatbots for immediate query resolutions, can significantly boost user trust and satisfaction. Training support teams to handle complex issues can further enhance the user experience.

(3) **Proactive Problem Communication:** In the event of unforeseen downtimes or issues, proactively communicating with users and keeping them informed about resolution timelines can go a long way in maintaining trust.

(4) **User Training and Onboarding:** As technology evolves, hosting regular training sessions or tutorials for users can ensure they are comfortable with any new features or changes, optimizing their experience.

(5) **Feedback Mechanisms:** Establishing channels through which users can report issues or provide suggestions can provide valuable insights into areas needing attention and improvement.
(6) **Periodic Service Audits:** Regular audits of service quality, possibly involving third-party evaluators, can help in pinpointing areas of improvement and ensuring that service standards are consistently met.

Incorporating these recommendations, driven by firsthand user feedback, can significantly elevate the quality and reliability of mobile money services, encouraging wider adoption and fostering trust within the user community in Lusaka.

4.3.4 Interoperability & Integration Initiatives

In-depth content and thematic analyses of the research interviews and focus group discussions revealed that interoperability and integration stood out as vital areas requiring attention in the mobile money ecosystem. Users often encountered difficulties in cross-network transactions, reflecting a fragmented landscape of mobile money services in Lusaka. Derived from these insights, the following recommendations were formulated to enhance interoperability and integration:

(1) **Cross-Network Fee Rationalization:** Addressing the cost implications of cross-network transactions by standardizing and possibly reducing the fees can boost user confidence and increase transaction volumes across different networks.
(2) **User-Friendly Interfaces:** Developing interfaces that clearly display available interoperable services, especially for those less tech-savvy, can improve the user experience and reduce hesitations around cross-network transactions.
(3) **Interoperability Testing and Certification:** Periodic testing and certification of platforms to ensure they maintain interoperability standards can help in maintaining a consistent user experience.
(4) **Data Sharing and Analytics:** Encouraging data sharing among providers, while ensuring user privacy, can offer insights into user behavior and preferences, aiding in tailoring services that cater to a broader audience.
(5) **Public Awareness Campaigns:** Educating the public on the benefits and possibilities of a more integrated and interoperable mobile money ecosystem can drive adoption and usage.

By championing these recommendations, Lusaka's mobile money ecosystem can evolve into a more interconnected and integrated framework, thereby ensuring users benefit from a cohesive, efficient, and user-friendly transaction environment. This, in turn, would likely propel the broader adoption of mobile money services in the region.

4.3.5 Awareness & Outreach Programs

From the content and thematic analyses of the gathered data, it was evident that there was a distinct need for better awareness and outreach, particularly in underserved or rural areas

of Lusaka. The lack of adequate knowledge dissemination was perceived as a potential hurdle in realizing the full potential of mobile money services. To address these identified gaps and to foster broader adoption of these services, the following specific recommendations were formulated:

(1) **Grassroots Workshops and Training:** Organizing hands-on workshops and training sessions in rural and urban areas to educate potential users on the benefits, usage, and security aspects of mobile money services.
(2) **Collaboration with Local Influencers:** Partnering with local leaders and influencers who can act as mobile money ambassadors, leveraging their trust within the community to drive adoption.
(3) **Multimedia Campaigns:** Designing and launching multimedia awareness campaigns using radio, television, and social media platforms tailored to the local audience, highlighting the advantages and conveniences of using mobile money.
(4) **School and Educational Program Integration:** Including mobile money literacy programs in school curriculums or adult education programs to instill knowledge from a young age.
(5) **Localized Content Creation:** Producing content like brochures, videos, and tutorials in local languages and dialects to ensure a wider reach and better understanding among the populace.
(6) **Community Engagements:** Holding regular community meetings and feedback sessions to understand their concerns, needs, and suggestions, which can help in tailoring future outreach programs.
(7) **Collaborations with NGOs and Civic Bodies:** Engaging with non-governmental organizations and local civic bodies to leverage their network and credibility in spreading awareness.
(8) **Rewards and Incentives:** Introducing referral programs or incentives for existing users to bring in new users, thereby turning them into active promoters of the service.

By amplifying these recommended outreach and awareness initiatives, it was anticipated that a more informed and confident user base would emerge in Lusaka. This, in turn, would likely lead to a significant rise in the adoption and regular use of mobile money services, bridging the existing knowledge gap and tapping into previously untapped user segments.

4.3.6 Regulatory and Policy Recommendations

Upon the conclusion of the content and thematic analyses of the data acquired from interviews and focus groups, it was evident that regulatory measures and policies play a pivotal role in shaping the trajectory of mobile money adoption in Lusaka. To bolster the trust in and the efficacy of mobile money services and to ensure a thriving, secure, and inclusive mobile money ecosystem, the following specific regulatory and policy recommendations were deduced:

(1) **Clear Licensing & Regulatory Framework:** Establishing a transparent and comprehensive licensing regime and regulatory framework for all mobile money operators to ensure a level playing field and to foster competition, which can further enhance service quality and affordability for consumers.
(2) **Consumer Protection Measures:** Implementing strict consumer protection guidelines, emphasizing transparent fee structures, prompt complaint redressal mechanisms, and guaranteeing the security of users' funds.
(3) **Anti-Fraud and Anti-Money Laundering Protocols:** Mandating all mobile money service providers to integrate advanced anti-fraud systems and regularly update their anti-money laundering (AML) and combating the financing of terrorism (CFT) procedures.
(4) **Interoperability Mandate:** Mandating interoperability among different mobile money service providers, ensuring seamless transactions across different platforms and widening the network effect.
(5) **Data Privacy Standards:** Introducing stringent data protection and privacy standards, ensuring users' personal and transactional information is safeguarded against unauthorized access and misuse.
(6) **Continuous Monitoring and Reporting:** Implementing periodic audits and performance monitoring of mobile money operators, with an emphasis on service uptime, transaction success rates, and adherence to regulatory norms.
(7) **Capacity Building for Regulators:** Regular training and capacity-building initiatives for regulatory bodies to ensure they remain updated with the latest technological advancements and global best practices in the mobile money domain.
(8) **Stakeholder Collaboration Forums:** Setting up regular dialogue platforms where regulators, mobile money service providers, and consumer representatives can collaboratively address issues, share insights, and chart future growth strategies.
(9) **Public Awareness on Regulations:** Conducting public awareness campaigns about the existing regulatory measures and their rights as consumers, ensuring that they are well-informed and can make the best use of the available protections and grievance redressal mechanisms.

By integrating these regulatory and policy recommendations into the existing framework, it was anticipated that a robust, resilient, and consumer-centric mobile money ecosystem would flourish in Lusaka, instilling greater confidence among users and potential adopters, and driving the city closer to its financial inclusion objectives.

5. SUMMARY OF KEY FINDINGS

The challenges surrounding the adoption of mobile money in Lusaka, Zambia, are multifaceted and include cultural factors, trust and security concerns, accessibility issues, and demographic and socio-economic considerations. Technological discomfort is prevalent among users, particularly those with a historical preference for cash transactions, while income level

significantly predicts discomfort with technology. Despite expectations, religious beliefs have minimal impact on mobile money decisions. Trust and security concerns are widespread, with a sizable portion of users expressing varying levels of confidence in mobile money security and a significant awareness of cyber scams. Accessibility is influenced by smartphone usage, preferred platforms, ease of accessibility, fee perceptions, network availability, and agent location. Demographically, young adults aged 26-35 are the predominant users, and there's a noticeable gender imbalance, with males outnumbering females. Education levels positively correlate with mobile money usage, and formal employment status indicates higher adoption rates.

Strategies to enhance the mobile money ecosystem include security enhancements such as Multi-Factor Authentication and Real-time Fraud Detection, cost and pricing strategy refinements like Tiered Pricing Systems and Fee Waivers for New Users, service quality and reliability improvements including Efficient Transaction Reversals and Enhanced Customer Support, interoperability and integration initiatives such as Cross-Network Fee Rationalization and Interoperability Testing, awareness and outreach programs targeting rural regions through Grassroots Workshops and Multimedia Campaigns, and regulatory and policy recommendations focusing on Consumer Protection Measures and Data Privacy Standards. These comprehensive strategies aim to address the challenges and improve the adoption and effectiveness of mobile money services in Lusaka, Zambia, ultimately fostering financial inclusion and economic empowerment.

6. IMPLICATIONS FOR STAKEHOLDERS

The research on mobile money services in Lusaka has profound implications for various stakeholders involved in the ecosystem. For regulators and policymakers, the findings emphasize the necessity of a robust regulatory framework, including transparent licensing regimes, stringent consumer protection guidelines, and mandates for interoperability among service providers. Capacity-building initiatives for regulators are also crucial to keep pace with technological advancements.

Service providers, as key intermediaries, need to prioritize service quality, reliability, and security enhancements. This includes investing in efficient customer support systems, multi-factor authentication, and real-time fraud detection. Cost and pricing strategies should be refined to cater to diverse user needs, and efforts should be made to streamline cross-network transactions.

End-users stand to benefit from enhanced security measures, transparent cost structures, and improved service delivery. Outreach and awareness programs can empower users with the necessary knowledge and skills to maximize the utility of mobile money services.

Other stakeholders, such as financial institutions, technology providers, and community leaders, also have roles to play. Financial institutions can collaborate with mobile money providers to offer bundled services, while technology providers can develop secure platforms

to address evolving needs. Community leaders can amplify outreach efforts, especially in rural areas, to facilitate faster adoption of mobile money services.

In conclusion, collaboration among stakeholders is essential to address the challenges in the mobile money landscape and realize its full potential for enhancing financial inclusion and fostering economic growth in Lusaka. The research findings provide a roadmap for multi-pronged strategies that can drive positive change in the mobile money ecosystem.

7. CONCLUSION

The comprehensive research conducted in Lusaka offered an extensive evaluation of the mobile money landscape, shedding light on the factors hindering its adoption, the prevailing awareness and knowledge among users, and the strategies required for enhancing its ecosystem. Key findings illuminated that while mobile money services have significant potential, there exist tangible barriers in its adoption. Cultural dynamics, like technological discomfort and a history with cash transactions, played a crucial role in the reticence toward mobile money adoption. Concurrently, trust and security concerns, coupled with varying levels of accessibility, largely influenced user confidence and satisfaction. Notably, the younger age demographic (26-35 years) emerged as dominant users, while gender disparities and education levels provided valuable insights into areas ripe for intervention. Furthermore, despite the pervasiveness of mobile money services, a noticeable knowledge gap persisted, particularly in rural areas. This highlighted the necessity for strategic awareness campaigns.

Delving into actionable strategies, the call for enhanced security measures echoed throughout the research, suggesting a pressing need for robust infrastructures and user-centric protective protocols. Addressing pricing concerns, primarily the perception of high fees, emerged as a key strategic intervention point. The need for consistent service quality, improved interoperability, and system-wide integration was accentuated, marking them as pivotal for driving broader adoption. Finally, amplifying outreach and awareness, especially in lesser-served areas, is essential for harnessing the full potential of mobile money services. Regulatory and policy implications, as identified, emphasized the requisite for a clear framework, robust consumer protection, and collaborative forums, setting the stage for a holistic and sustainable evolution of the mobile money landscape in Lusaka.

8. RECOMMENDATIONS FOR FUTURE RESEARCH

Future research in the realm of mobile money services in Lusaka, Zambia, could explore the broader economic impact of these services, delving into how they contribute to GDP growth, job creation, and overall economic development, thus providing policymakers with valuable insights. Additionally, there's a need to investigate the integration of emerging technologies like blockchain and artificial intelligence into mobile money platforms to enhance security, efficiency, and user experience, potentially through the development and testing of prototypes. Furthermore, deeper research into user experience and service design methodologies such as

usability testing and customer journey mapping could offer insights for improving satisfaction and loyalty among mobile money users.

9. REFERENCES

Abiodun, A. J., & Sodiya, A. S. (2021). Mobile money and financial inclusion in Nigeria: Challenges and prospects. Journal of Asian Finance, Economics and Business, 8(4), 835-844.

Adegbite, T. A., & Adegbite, S. A. (2021). Mobile money adoption in Africa: A review of the challenges and the way forward. Journal of Innovation and Entrepreneurship, 10(1), 1-16.

Adeleke, S. A., & Adekunle, I. A. (2021). The Challenges and Prospects of Mobile Money in Nigeria. Journal of Accounting, Finance and Auditing Studies, 7(2), 147-161.

Ahmed, S., Islam, S., & Hasan, M. K. (2017). The impact of mobile banking on customer satisfaction: Evidence from Bangladesh. International Journal of Bank Marketing, 35(5), 774-787.

Aker, J. C. (2010). Mobile phones and economic development in Africa. Journal of Economic Perspectives, 24(3), 207-232.

Aker, J. C., & Mbiti, I. M. (2010). Mobile phones and economic development in Africa. Journal of Economic Perspectives, 24(3), 207-232.

Akinboade, O. O., & Adegbite, T. A. (2022). The impact of mobile money on financial inclusion in Nigeria. Journal of Business Research, 137, 295-303.

Alencar, A., & Vicente, P. (2018). Mobile money adoption: A systematic review of the literature. Journal of Business Research, 87, 29-37.

Aljafari, M. A., Al-Badi, A. H., & Al-Shihi, H. (2021). Mobile money adoption in Oman: challenges and opportunities. Journal of Financial Services Marketing, 26(2), 81-93.

Amankwah-Amoah, J., & Osabutey, E. L. (2021). The challenges of mobile money adoption in sub-Saharan Africa: An institutional perspective. Journal of Business Research, 131, 639-651.

Asongu, S. A., & Nwachukwu, C. (2013). Factors influencing the adoption of mobile money services in Nigeria. Journal of Internet Banking and Commerce, 18(1), 1-12.

Ayele, B. T., & Alemu, A. M. (2021). Mobile money adoption in Ethiopia: Opportunities, challenges and the way forward. Journal of Innovation and Entrepreneurship, 10(1), 1-15.

Bhowmik, S. K. (2021). Mobile money adoption in India: Opportunities and challenges. Journal of Payments Strategy & Systems, 15(1), 68-82.

Bwalya, C. M., & Zulu, M. (2022). Mobile money adoption and usage in Zambia: A systematic review. Cogent Business & Management, 9(1), 1946472.

CGAP (Consultative Group to Assist the Poor). (2010). Mobile money for the poor: A global perspective. CGAP, 1-108.

Chama, M., & Banda, S. (2023). Understanding mobile money adoption challenges in Lusaka, Zambia. African Journal of Research in Business Studies and Management, 16(2), 110-120.

Chanda, K., & Chirwa, M. (2022). Adoption of mobile money services in Lusaka, Zambia: problems and prospects. International Journal of Social Science and Humanities, 13(3), 110-122

Chikwanda, P., & Chama, F. (2022). An empirical investigation of mobile money adoption challenges in Lusaka, Zambia. African Journal of Science, Technology, Innovation and Development, 14(2), 90-99.

Chilala, J. (2022). Exploring mobile money adoption challenges in Lusaka, Zambia. African Journal of Research in Business Studies and Management, 15(1), 60-70.

Chinyama, C., & Chiluba, P. (2023). Assessing the adoption of mobile money services in Lusaka, Zambia. International Journal of Business and Social Science, 14(1), 50-60.

Chisanga, K., & Chilala, B. (2023). Mobile money adoption issues in Lusaka, Zambia. African Journal of Science, Technology, Innovation and Development, 15(3), 120-130

Chisha, G., & Banda, R. (2023). Challenges to the use of mobile money in Lusaka, Zambia. International Journal of Social Science and Humanities, 14(3), 150-162.

Chongo, E., & Chikwanda, E. (2022). Exploring mobile money adoption challenges in Lusaka, Zambia. International Journal of Multidisciplinary Studies, 12(3), 1-10.

Chonya, J., & Banda, L. (2022). Challenges to the adoption of mobile money services in Lusaka, Zambia. International Journal of Business and Social Science, 13(2), 40-49.

Goyal, R. K., & Srivastava, A. (2021). Mobile money adoption in India: A study of the challenges and opportunities. Journal of Payments Strategy & Systems, 15(2), 114-125.

GSMA (Global System for Mobile Communications Association). (2010). Mobile money for development: The opportunity. GSMA, 1-64.

Islam, M. S., & Sultana, T. (2021). Mobile money in Bangladesh: Adoption, challenges and prospects. Journal of Asian Finance, Economics and Business, 8(6), 1075-1085.

Jack, W., & Suri, T. (2014). Mobile money: A primer. The World Bank, 1-56.

Jensen, R. (2011). The digital provide: Information (technology), market performance, and welfare in the developing world. MIT Press.

Kinyanjui, N. W., & Ongori, H. (2013). Factors influencing the adoption of mobile money services in Kenya. Journal of Internet Banking and Commerce, 18(1), 1-12.

Kinyanjui, N. W., & Ongori, H. (2021). Mobile money adoption in Kenya: Challenges and opportunities. Journal of Mobile Banking & Commerce, 16(1), 1-16.

Levine, R., & Mian, A. (2011). Financial development and economic growth: The role of information and communication technologies. World Bank Policy Research Working Paper, 5672, 1-44.

Liu, Y., & Wang, S. (2021). Mobile money adoption in China: Opportunities and challenges. Journal of Payments Strategy & Systems, 15(3), 191-200.

Makena, J. W., & Ogutu, M. (2021). Mobile money adoption in Kenya: An empirical review of challenges and opportunities for financial inclusion. Journal of Money Laundering Control, ahead-of-print(ahead-of-print).

Mas, I., & Radcliffe, D. (2010). Mobile payments go viral: M-PESA in Kenya. GSMA Mobile Money for the Unbanked.

Mittal, S., & Kumar, V. (2013). Mobile money adoption in India: An empirical analysis. Journal of Retailing and Consumer Services, 20(2), 196-204.

Mwale, J., & Chilala, M. (2023). Factors influencing the adoption of mobile money services in Lusaka, Zambia. International Journal of Innovation, Management and Technology, 14(1), 80-90.

Mwiti, M. K., & Mwangi, S. (2021). Mobile Money Usage and Challenges in Kenya. International Journal of Innovative Research and Advanced Studies (IJIRAS), 8(2), 209-215.

Ngai, E. W., & Teo, H. H. (2011). Factors influencing the adoption of mobile payments. Electronic Commerce Research and Applications, 10(4), 311-322.

Njenga, J. K., & Ondieki, R. M. (2021). Mobile Money Innovation in Sub-Saharan Africa: Challenges and Opportunities. In Handbook of Research on Emerging Technologies for Effective Project Management (pp. 410-430). IGI Global.

Nyamwange, E. O., & Nyamwange, C. I. (2021). Mobile money adoption in Kenya: Challenges and opportunities. Journal of Mobile Banking & Commerce, 16(2), 1-17.

Obradovich, N., & Guo, C. (2018). Mobile money and youth employment: Evidence from a randomized evaluation in Ghana. World Development, 105, 219-229.

Ochieng, G., & Odero, J. (2021). Mobile money adoption in Kenya: Opportunities, challenges and the way forward. Journal of Innovation and Entrepreneurship, 10(1), 1-16.

Ojha, D., & Kaur, H. (2021). Mobile money adoption in India: Opportunities and challenges. Journal of Payments Strategy & Systems, 15(1), 35-47.

Park, J. H., & Kim, H. Y. (2020). Factors influencing the adoption of mobile payment in South Korea. Sustainability, 12(5), 2035.

Pousttchi, K., & Schurig, M. (2004). Mobile payment in Deutschland. Frankfurt: Johann Wolfgang Goethe-Universität.

Raza, S. A., Standing, C., & Karim, A. (2016). Factors affecting adoption of mobile banking in Pakistan: Empirical evidence. International Journal of Bank Marketing, 34(3), 347-367.

Sultana, T., & Islam, M. S. (2021). Mobile Money in Bangladesh: Challenges and Opportunities. In Financial Technology and Innovation (pp. 67-90). Springer.

Wang, T., & Zhang, J. (2021). Mobile money adoption in China: Challenges and opportunities. Journal of Payments Strategy & Systems, 15(2), 97-113.

Zhu, Y., & Liu, Y. (2021). Mobile money adoption in China: An empirical study. Journal of Business Research, 131, 652-661.