Determinants of Mobile Money Adoption among Micro and Small Enterprises in Lusaka

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Abstract: The aim of the study was to understand the factors that influence the adoption of mobile money services for business transaction purposes by micro and small enterprises (MSEs) in Lusaka. The aim was divided into three specific objectives. These objectives were to determine the factors (demographic and economic factors and features available) that influence the use of mobile money by MSEs for business transaction purposes; to achieve this primary focus was given to three factors availability of savings and borrowing services on the platform, transaction costs and gender. Age and education were control variables. The study used cross-sectional primary data. The study employed a pragmatism research philosophy and a mixed research approach. The data was collected using a survey questionnaire administered by the researcher to respondents sampled using purposive sampling technique. The study had a sample size of 102 respondents. The binary logistic model was the regression model used. The empirical results showed that most businesses who use Airtel money started using it less than a year ago, consider the cost to be fair, save on the platform, are affected by insufficient space borrow on the platform and are also affected by the unavailability of agents. The regression results of the binary logistic model showed that savings and insufficient float have a statistically significant impact on the adoption of mobile money. Saving using mobile money increases the likelihood of using it to conduct business transactions and issues of insufficient float among agents constrain the probability of using it to conduct business transactions.

Keywords: Mobile money; Airtel money; MSEs, Float, Mobile money agents, insufficient float, save

I. INTRODUCTION

There has been a considerable increase in the use of mobile money services in Zambia. The increase in the adoption of mobile money has improved the level of financial inclusion in the country. The rapid spread of mobile money has been attributed to the low costs of delivering the product to the end-users as compared to other financial services, i.e., banking. The product has a higher penetration rate than other financial products among the low-income groups. In addition, it is relatively easier to use, available and accessible. However, there is still a need to assess the adoption of mobile money among Micro and Small Enterprises (MSEs). Mobile money offers an opportunity of including MSEs, which is an integrally large sector in the economy, in the financial market. This is an evaluation of the various factors that affect the adoption of mobile money services by MSEs in the Central Business District (CBD). The study focuses on Airtel mobile money.

II. LITERATURE REVIEW

2.1 Theoretical Literature Review

In this analysis, the guiding theories are the prevalent theories used in analyzing the adoption of the latest financial products, innovations and technologies. The five theories explained in this review are the Technology Acceptance Model (TAM), the Theory of Reasoned Action (TRA), the Theory of Planned Behaviour (TPB) and the Innovation Diffusion Model (IDM). The first three theories, TAM, TRA and TPB make up the three theories of technological acceptance that have been influenced by the field of psychology.

The Technology Acceptance Model (TAM) postulates that the adoption of information technology (IT) is influenced by its perceived usefulness and ease to use. (Liao, et al., 2018). The model is built on the idea that the use of financial products is dependent on their usefulness, easiness to use, the principles that guide the product and its efficiency (Tobbin & Kuwornu, 2011). ICTs have simplified financial transactions, by making them effortless. Thus, the TAM theories postulate that the adoption of financial products is dependent on their usefulness and easiness to use (Micheni, et al., 2013). The theory is widely used because it allows researchers to understand what hinders consumers from using a particular financial product or service. However, the limitation of the TAM is that it does not allow for a holistic approach. It is limited to easiness and usefulness (Chuttur, 2009).

The Theory of Reasoned Action is a more general theory than the TAM. The TRA assumes that consumer behaviour is voluntary. There is no irrational behaviour no special skills, and no fortunes and misfortunes (Hale, et al., 2003). The theory proposes that human activity is influenced by intentional behaviour. These actions are based on planned behaviour influenced by attitude, personality, demographic traits and perceived social norms (Brieger, 2006; Trafimow, 2009). The theory is used in the field of finance, with the understanding that individual behaviour to adopt financial services is influenced by the intentions guided by behavioural beliefs and normative beliefs. The behavioural beliefs, which are based on morality, address the fact of whether the services offered by the financial providers are morally permissible according to the customers. Then the subjective beliefs compare the different factors of the various mobile money services, ranking them according to importance, to intuitively

select one to use the service that is the best in what the client perceives as most important (Liebana-Cabanillas, et al., 2017).

Like, TAM, the Theory of Planned Behaviour (TPB) is an offspring of TRA. TPB is similar to TRA. It is also based on human behavioural intentions. The intention is the degree of willingness of the person to engage in an activity. Intentions are influenced collectively by attitudes, subjective norms and perceived reactions toward behavioural control (Ajzen, 1991). The sub-theory of perceived behavioural control is what distinguishes TPB from TRA (Godin & Kok, 1996). Perceived behaviour control states human behaviour is influenced by available resources and opportunities. Attitudes and subjective norms are likeable to behavioural beliefs and normative beliefs (Kan & Fabrigar, 2017). In this regard, attitudes are personal perceptions about one's behaviour, subjective norms are views about the behaviour of others and behavioural controls are self-value towards the behaviour (Ham, et al., 2015). The model assumes that consumers construct a cost-benefit analysis, compare all possible actions and choose the action that accrues the highest net benefits.

Another theory that has become popular in scholarly works is the theory of the Innovation Diffusion Model (IDM). In the words of Rogers (1995), "an innovation is an idea, practice or object that is perceived as new by an individual or another unit of adoption". Diffusion is the process by which an innovation is communicated through a particular network among individuals, households or institutions over time. For an innovation to be accepted there has to be channels of communication, time and a social system. The communication channel has five stages: knowledge, persuasion, decision, implementation and confirmation (Sahin, 2006). The degree of acceptance is dependent on the: Relative Advantage, Compatibility, Complexity, Trialability of the innovation and Observability (Tobbin & Kuwornu, 2011).

The relative advantage is the degree to which an innovation is perceived to be better than others, the compatibility is the easiness to which an innovation can incorporate into day-to-day living, and the complexity is entailed in how difficult the innovation is perceived to be. The trialability is how easily accessible the innovation is to customers and the ease they can use it. Observability is the degree to which an innovation is accessible and available to customers (Amos, 2016; Tobbin & Kuwornu, 2011).

2.2 Empirical Literature Review

Various pieces of literature were reviewed during the course of the research. These studies include Micheni, et al. (2013) analysis of transaction costs and facilitating conditions as indicators of the adoption of mobile money Services in Kenya. Adoption of mobile money services and the performance of SMEs in Zimbabwe by Masocha & Dzomonda (2018) and the adoption of mobile money transfer technology in Ghana by Tobbin & Kuwornu (2011). Additionally, several other pieces of literature were reviewed (Wamuyu, 2014; Koloseni & Mandari, 2017; Marumbwa, 2014; Kabala, et al., 2018; Kamande, et al., 2020).

Most of the studies (Kabala & Seshamani, 2016; Kamande, et al., 2020; Masocha & Dzomonda, 2018; Micheni, et al., 2013; Wamuyu, 2014; Tobbin & Kuwornu, 2011) established that mobile money services that there was continuance adoption of mobile money services because of their simplicity to use and usefulness in the transfer of money, affordability and accessibility. However, Koloseni & Mandari (2017) observed that improved trust could improve customer satisfaction and further boost the growth of financial services. They also advocated for psychological triggers, like behavioural control. Marumbwa (2014) had a different perspective and considered the effects of socio-demographic factors on the adoption of mobile money transfer services in Southern Zimbabwe.

One of the earliest studies on the phenomenon by Tobbin (2010) explored the factors that influence the use of mobile money services. The study was motivated by the rise in the ownership of mobile handsets amidst a significant fall in the price of mobile handsets. The study was supported by the Technology Acceptance Model (TAM) and the Innovation Diffusion theories. The data were analyzed using Structural Equation Modelling (SEM). The results supported the predictions of both of these theories. In particular, perceived ease of use, usefulness, trust, and risk were key determinants of the adoption of mobile money services. In line with the Innovation Diffusion Theory, the study also found that relative advantage, compatibility, trialability and observability were all key determinants of the adoption of mobile money services.

Kathinji and Gekara (2014) examined the factors that influenced the adoption of mobile money services among higher educational institutions in Kenya. The study employed a descriptive research design. The study collected both primary and secondary data from senior management members of staff at selected institutions in Nairobi County. The primary data were collected using self-administered questionnaires while the secondary data were collected from strategic plans and other institutional publications. The data were analyzed using regression analysis. The study found that the quality of alternative banking services, financial reporting requirements, and awareness of mobile money transfer services were the main factors influencing the adoption of mobile money services. It was recommended that institutions of higher learning should embrace mobile money solutions to make their revenue collections and expenditures more efficient and convenient.

Omol, et al. (2007) also examined the factors influencing the adoption of mobile money services in Kenya. The study focused on the role played by demographics, acceptance, perceived usefulness, ease of use and risk among small- and medium-scale enterprises (SMEs) in the central business district of Kisumu city. The study employed a descriptive correlational research design to identify the strength of the relationship between the aforementioned factors and the adoption of mobile money services. A sample of 271 SMEs was selected using simple random and purposive sampling. The primary data collection instrument was a questionnaire.

Descriptive analysis and multiple regression techniques were used to analyze the data. The study found that demographic factors, perceived benefits, perceived ease of use, and perceived risks were the main factors influencing the adoption of mobile money services. While the other factors propped up the adoption and use of mobile money services, perceived risk was negatively associated with the use of mobile money services.

III. PURPOSE OF THE STUDY

The purpose of the study is to understand the factors that influence the adoption of mobile money services for business transactions by micro and small enterprises in Lusaka.

IV. RESEARCH OBJECTIVE

To evaluate the factors that influence the use of mobile money for business transaction purposes by micro and small enterprises in Lusaka.

V. RESEARCH QUESTIONS

  i.   What impact does saving and borrowing have on the adoption of mobile money services by micro and small enterprises?
  ii. What is the effect of transaction cost on the adoption of mobile money by micro and small enterprises?
  iii. What is the effect of gender on the adoption of mobile money by micro and small enterprises?

VI. METHODOLOGY

The study methodology adopted is a quantitative research methodology through which the researcher administered questionnaire. The method was adopted because it provide objective, empirically proven, findings. The data for the quantitative method will be obtained using a survey. The qualitative method component of the study involved interviews with a selected number of respondents and Airtel money agents to understand what guides their decision. This provided nuance to the empirical findings. The research design used was a coherent strategy of integrating different aspects of the study.

Since this study employed a mixed research method, Within the quantitative approach, the study used a triangulation of an exploratory and explanatory research design. This was appropriate to identify the strength of the relationship between the identified independent variables and adoption of mobile money services. The qualitative method was useful in understanding human behavior and relationships with social, economic, and other phenomena (Palmer & Bolderston, 2006). The approach incorporated abstract theories to achieve the research objectives.

The population consisted of all members under investigation. In this case, it was all MSEs operating in Lusaka CBD. In the literature, there are where no current estimates of MSEs operating in the Lusaka CBD. There was also no disaggregation by district of Airtel Money users in Zambia.

VII. DATA ANALYSIS, PRESENTATION AND DISCUSSION

Table 1: Binary Logistic Model Regression Results

Variable	Coefficient	Standard Error	Test Statistic	P-Value
	(base outcome)			
Age	-0.007	0.0120	0.370	0.710
Gender				
_Male	-0.822	0.706	-1.170	0.244
Education				
_Junior Secondary	-1.165	0.968	-1.200	0.229
_Senior Secondary	-0.026	0.917	-0.030	0.977
_Tertiary	0.121	0.988	0.120	0.902
Transaction_Fees				
_Affordable	18.771	2459.583	0.01	0.994
_Fair	19.553	2459.583	0.01	0.994
_Expensive	16.278	2459.583	0.01	0.994
_Very_Expensive	1.972	4889.878	0.01	1.000
Insufficient Float	-1.412	0.733	-1.930	0.054
Saves	4.565	1.285	3.550	0.000
Borrows	-1.071	0.784	-1.370	0.172
Availability of Agents	0.467	0.787	0.590	0.553
Cons	-23.570	2459.584	-0.010	0.992
Pseudo R2	0.3721			
LR chi2(8)	51.90			
Prob>chi2	0.000			
Observations	102			

Source: Authors' Computation (2022)

To ascertain the impact of various factors on the decision to use mobile for business purposes, regression analysis was used. The Binary Logistic model was applied, and the results of the model are shown above.

From the above evidence, only two variables had a statistically significant impact on the decision to use mobile money for business purposes. The variables age, gender, education, transaction fees, borrows and availability of agents were statistically insignificant at 5% level of significance. The variables that were statistically significant are saves and insufficient float. The coefficient of the variable saves was 4.565 and was statistically significant at 5% level of significance. The results of the analysis showed that saving on mobile money increases the likelihood that the owner of a business will service mobile money for business purposes. The intuition is that having money in an Airtel Money account may compel the business owner to transact through the platform because of various reasons that may include lower transaction costs, unavailability of agents and efficiency.

Insufficient float or space also hinders people from adopting mobile money for person business. The odd ratio for the variable insufficient space was -1.412and it was statistically significant at 10%. This shows that insufficient float among the available agents lowers the likelihood of an MSE using mobile money for transaction puprposes. This is an indication that insufficient float among agents may limit the usage of mobile money by MSEs. Some respondents have encountered situations where they were supposed to send money but could not due to insufficient space among agents in their locality.

The regression analysis showed that when a person who uses mobile money is deciding to adopt the service in their business transactions, they usually are influenced by two elements savings and insufficient float to transact.

The direction of the relationship simply shows whether the effect of the factors on the likelihood to adopt mobile money is positive or negative. From the regression results, the two statistically significant variables save, and the insufficient float was found to have a positive and negative effect on the likelihood of adoption of mobile money by MSEs. The positive coefficient for savings entailed that savings increased the likelihood of a mobile money user adopting the service for business purposes. The negative coefficient for insufficient float implied that consistently finding that agents have insufficient float discouraged individuals with mobile money accounts from incorporating them into their businesses.

The negative impact of insufficient space on mobile money adoption by micro and small enterprises was consistent with what was theorized. The magnitude of the impact was less than that of the savings. Small floats inhibited mobile money operators from using the platform to transact using bigger amounts while larger floats stimulate their use. The business may be required to make orders that involve large amounts of money and the unavailability of floats among agents may limit them from doing so.

VIII. CONCLUSIONS

The purpose of this study was to investigate the factors that determine the adoption of mobile money for business purposes among micro and small enterprises. The objectives of the study were identified as to determine the factors that influence the adoption of mobile money, the relationship between the factors and the adoption of mobile money and the exact impact of the factors on the adoption of mobile money.

To attain the objectives of the study, a pragmatic research approach was adopted. The data used both an explanatory research design. The study used primary data collected using survey questionnaires from a study sample of 102 micro and small businesses operating in various types of businesses. The sample was collected using purposive or judgmental sampling due to the resistance to take part in the survey by other potential participants and the Covid-19 pandemic at the time of study. The respondents were found in the Central Business District of Lusaka. The choice of MSEs due to wide

acceptance of mobile money by low-income earners due to its affordability and easiness to use.

The empirical results of the Binary Logistic Model showed that savings and size of float among Airtel Money agents are main determinants of adoption of mobile money. The variable saves, representing savings, had a positive coefficient. An indication that saving, which is mostly used as a proxy for trust, positively influences the decision to use mobile money by businesses. Insufficient float, the variable, representing float size, had a negative coefficient. This was an indication that insufficient space among Airtel money agents to transact usually hinders the business from using the service. The regression results showed that mobile money is mostly influenced by the services offered on the platform.

The other variables were found to be statistically insignificant at 1%, 5% and 10% levels of significance. However, the exhibited various signs. Age and Gender had negative coefficient. Increase in age lowered the likelihood to use mobile money for business purposes. Transaction costs had a positive coefficient. Junior secondary and senior secondary education had a positive coefficient. Borrowing had a negative coefficient and availability of agents had a positive coefficient.

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