Mobile Banking Adoption, Technological Efficiency and Financial Performance of Small and Medium Enterprises in Kajiado County, Kenya

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Abstract

Despite the widespread availability and adoption of mobile banking technology, research on its specific impact on the financial performance of Small and Medium Enterprises (SMEs) is lacking. The effective utilization of mobile banking by SMEs to enhance financial performance and the factors influencing its effectiveness remain unclear. This study aimed at examining the relationship between mobile banking adoption and the financial performance and the moderational effect of Technological efficiency of SMEs in Kajiado county, Kenya. A descriptive research design was adopted targeted a population of fifty-eight (58) licensed SMEs in Kajiado County, Kenya. The study was guided by Technological Acceptance Model which is widely adopted theory for examining the behavioral intention of using computers by the users. Data was collected using self-administered, structured questionnaires and items were grounded on a five-point Likert scale with data analysis being done using descriptive and inferential statistics. The hypotheses of the study were tested using multiple regression models and Hayes process macro. The results showed that Mobile banking adoption significantly predicts SME's financial performance ($\beta=0.140$, $p < 0.05$) and this relationship is partially mediated by Technological efficiency ($\beta = .239$, $p < .001$, CI=0.029, 0.112). Theoretically, the study supported the incorporation of the key Mobile banking adoption, and Technological Efficiency, where the outcome of the results indicated the significant relationship in achieving financial performance of SMEs. Finally, there is need to undertake similar studies covering other geographical locations to make generalization of this study.

Keywords: Mobile banking adoption, technological efficiency, financial performance

INTRODUCTION

Small and Medium Enterprises commonly referred to as SMEs, are lifeblood and engine of every country's economic growth and development, and are deliberated to be private businesses with less than 250 employees (Berisha & Pula, 2015). SMEs represents more than 60% of gross domestic product as well as more than 70% of jobs in developing countries, more so they account for more than 95% of jobs and over 70% of GDP in middle income economies (Zafar & Mustafa, 2017).

The current situation with many Organizations is that they are relentlessly discovering new methods of reducing expenditures and working more competitively (Johansson et al., 2015). Due to this, they have tremendously been moving towards adopting technologies and their usage for financial and management and constantly aspiring to stay competitive in their particular businesses by exploiting pertinent instruments to attain their aims (Johansson et al., 2015). Kenya in particular, is becoming abundantly evident that to sustain, compete globally, and achieve constant growth, SMEs need to adopt a digital payment system that reduces the financial and non-financial cost such as

time and energy (Mwavali, 2021). This paradigm shift in payment systems happened due to the advancement of the Internet, increased use of mobile phones, and changes in the economy, global market demands, and the proliferation of social networks. The mobile payment system allows businesses to process payments through mobile devices, including smartphones and tablets (Busch & McCarthy, 2021). As customers are increasingly becoming aware and are demanding effective and faster services challenging, SMEs and Corporate organizations to position themselves in ways to response to the current demands (Mathew et al., 2014). Moreover, the availability of digital payment technologies such as mobile money and the Internet banking including the credit cards, has gradually increased in developing countries and is a basis for financial inclusion initiatives (Ligon et al., 2019) and indeed the advantages of the adoption of MPS include the independence of time and place, queue avoidance, availability, and the possibility of remote payments. However, the disadvantages include complexity, perceived risk, premium pricing, and lack of critical mass. Masocha, & Dzomonda, (2018) assert that mobile payments transaction services are of outmost importance to SMEs because a transaction can be done anytime even after hours as compared to banking hours.

Financial performance is a complete evaluation of a company's overall standing in categories such as assets, liabilities, equity, expenses, revenue, and overall profitability. It is measured through various business-related formulas that allow users to calculate exact details regarding a company's potential effectiveness(Jayeola et al., 2022). According to Okafor et al. (2021), financial performance means a firm's overall financial health over a given period of time. By adopting new technologies, SMEs can improve their efficiency, reduce costs, and increase their competitiveness. This can lead to stronger financial performance and contribute to the overall success of the business. There are many different ways that technology can impact the financial performance of SMEs (Talom & Tengeh, 2019). Financial institutions in Kenya are now partnering with mobile and utility administrative suppliers with the purpose of administering Mobile banking services (Buse & Tiwari, 2007). Mobile banking has exhibited the guarantee to leverage mobile technology to widen financial services to huge sections of unbanked poor people fundamentally because it is rapidly turning into a pervasively deployed technology, even among the poor in society(Bernacki,. et al 2020).

The essential role of economic development, poverty reduction, and job establishment is attributed to SMEs as underscored in Kenya's Vision 2030 and Big Four agenda in the industrialization objective and long-term development blueprint. Despite the widespread availability and adoption of mobile banking technology, there is still minimal research on how it specifically impacts the financial performance of SMEs. Furthermore, it is not clear how mobile banking can best be utilized by SMEs to improve their financial performance, and what factors may influence the effectiveness of mobile banking in this context. This study sought to fill this gap in knowledge by investigating the relationship between mobile banking adoption and the financial performance and the mediating effect of technological efficiency on SMEs in Kajiado county, Kenya.

THEORETICAL REVIEW

Technology Acceptance Model is the grounding theory for this study. It is a widely adopted theory for examining the behavioral intention of using computers and other technological devices by the users. According to Omar, (2021), Technological acceptance model, cited that the perceived usefulness and perceived ease of use were

major determinants for using technological sevices. According to the Economist, in Kenya, the country in which Mobile Money has flourished more than in any other, as such there are more active mobile money accounts than adults in the population (Paul et al 2020). According to the Central Bank of Kenya, the total value of transactions during 2017 was of the order of $57 billion, almost three-quarters of the GDP of the country, from $24 billion in 2013. The surge for the platform is not unique to Kenya, although it highlights one of the success stories. It has been suggested that more people have registered Mobile Banking accounts than bank accounts in Kenya. The dramatic proliferation of Mobile Banking accounts was made possible only by the swift formulation and implementation of regulations that are conducive to enabling people to use the system and the formation of sound partnerships among relevant stakeholders (Rathee et al., 2021). According to this theory, users are more likely to adopt mobile banking services if they perceive them to be useful and easy to use. Maruping & Matook (2020) asserts that if users believe that mobile banking provides a more convenient way to access their accounts or perform transactions, they are more likely to adopt it. Similarly, if users find mobile banking to be easy to use and navigate, they are more likely to adopt it. Overall, Technology Acceptance Model can help financial institutions and mobile banking providers understand the factors that influence mobile banking adoption and develop strategies to promote its adoption. By focusing on perceived usefulness and ease of use, providers can design mobile banking services that better meet the needs and preferences of users, leading to increased adoption and usage (Shaikh., et al 2021). Mobile Banking Service adoption has helped businesses streamline their operations in line with new technologies in Kenya. A study by Souiden et al. (2021) on the effect of mobile banking adoption on the performance of small and medium enterprises in Nairobi County, revealed that ease of use, cost effectiveness; security of the service, accessibility and diversity has enabled SMEs to continue to use mobile banking services.

Conceptual framework

A conceptual framework is a figure which the researcher uses to best explain the natural advancement of the phenomenon being studied (Chukwuere, 2021). It describes the connection between the core concepts of a study. This research seeks to study the moderational effect of Technological efficiency on the relationship between mobile banking adoption and the financial performance of SMEs in Kajiado County, Kenya.
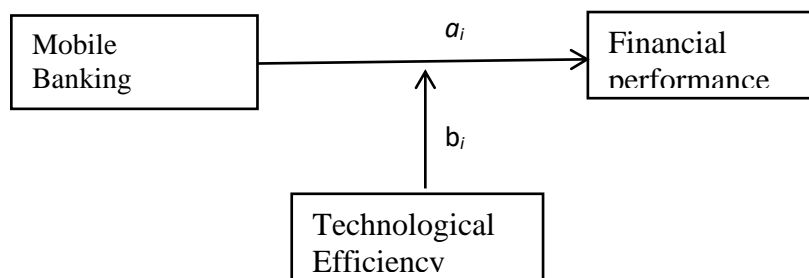
Figure 1: **Conceptual Framework**

METHODOLOGY

The study embraced descriptive research design to select the SMEs. Data were collected by use of a closed-ended questionnaire which was self-directed to a sample

size of 58 respondents which represented the whole population of the registered SMEs in the County of Kajiado, Kenya. This study used a positivism research philosophy. Positivists argue that there exist cause-effect association in nature between phenomena, which are predictable with certainty (Nickerson, 2022).

Regression models
For direct effect with control variables

$$FP = \beta_0 + \beta_1 MBA + \varepsilon \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots.1$$

Moderation model for the indirect effect

$$FP = \beta_0 + C + \beta_1 MBA + \beta_2 TEC + \varepsilon \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots.2$$

Where;

β_o is the Constant; *FP* is Financial Performance (DV); *MBA* is Mobile Banking Adoption (IV); *TEC* is the Technological Efficiency (moderator variable).

Measures

Financial performance
This is the act of determining the outcomes of a firm's rules and operations in monetarist terms within a certain time frame (Jayawardhana., et al 2019). Six items were used in measuring the financial performance adopted from Al-Matari, *et al.* (2022) with a few adjustments to suit the present research. Every problem was measured on a Likert scale of 1–5 ranging from 5- Strongly agree to 1 - Strongly disagree. The items encompassed; profitability of new ventures, knowledge, and ability of staff to use the mobile banking services, the current financial responsibilities of the firm, assets being financed by the owners, assets being financed by debt, part of the total revenue generated by the firm goes to pay interest.

Mobile Banking adoption
Eight statements relating to the impact of mobile banking adoption on the financial performance of small and medium-sized enterprises (SMEs) were adopted and modified to suit this study. The first statement, resulted that Using mobile banking services has improved my SME's financial performance, Mobile banking adoption has enabled me to make transactions faster and more efficiently. Furthermore, Mobile banking adoption has helped me to reduce transaction costs for my SME and Mobile banking adoption has enabled me to access financial services and products that were previously unavailable to me. In addition, using mobile banking services has helped me to improve my SME's cash flow management. The Mobile banking adoption has enabled me to make more informed financial decisions for my SME. Finally, using mobile banking services has improved my SME's access to credit and financing. In addition, Mobile banking adoption and user services had a standard deviation ranging from 0.701 to 0.908 and skewness and kurtosis suggested that normality of the data ranged from -1.96 to + 1.96.

Technological Efficiency
Six items were used to measure Technological Efficiency variable adapted from Bolenz & Pachur (2022) and also adapted two items from Efendi & Kusuma, (2021) with a few adjustments to suit the present study. Each problem was measured on a Likert scale of 1–5; 5- Strongly agree, 1- Strongly disagree. These items include our firm uses technological efficiency to run the business. Also, Mobile banking has enabled me to make transactions faster and more efficiently due to technological efficiency, further on the same, we have developed more ability to apply continuous improvement and customer focus concepts due to technological efficiency. Besides,

our business keeps track of successful product and service ideas due to improved technology and We have developed more ability to understand the interconnection of Mobile banking adoption with other disciplines as a result of technological efficiency. In addition, Technological efficiency has enabled me to make more informed financial decisions for my SME. In general, the summation of technological efficiency had a mean of 4.3093 and standard deviation of 0.40589. The implication is that the SMEs have made efforts towards Technological efficiency.

RESULTS

From the results, 60.3% (34) of the respondents were male, 39.7% (23) of them were female and there was no transgender. The results indicate that there was no bias in terms of employment since male, female and transgender individuals were given a chance to share their knowledge and experience in the targeted manufacturing firms. In terms of age, most 27.6% (16) of the respondents were within the bracket of 47 to 56 years, followed by 25.9% (15) which is 37 to 46 age brackets. Those who were between the age of 27 and 36 were 22.4% (13). The 5.2% (3) respondents were above 56 years, lastly, 19% (10) are above between 19 and 26 years. Overall, the bulk of the respondents are between 19 to 56 years of age. Furthermore, most organizations use education as an indicator to know the qualifications of the employee in terms of skills or productivity (Benson, Finegold, & Mohrman, 2004). This study therefore, deemed it important to establish if the educational level of the respondents bearing in mind performance of SMEs in Kajiado county. From the results, 58.6% (33) of the respondents have a Bachelor degree, 12.1% (7) Diploma, 5.2% (3) of the respondents have Certificate level of education, 5.2% (3) have other qualifications and finally 19% (11) have O-level certificate. It is evident that the management possesses the requisite skills to perform their duties effectively.

The numbers of employees were also ascertained by the researcher. Basing on the findings, 50% (29) of the respondents stated that there are above 29, 15.52% (9) of them noted that there are below 10 employees while 34.48% (19) of them were of the opinion that there are more than 10 but less than 29 employees in the small and medium enterprises.

The study further sought to find out the number of years the SMEs had been in operation. The study found out that the number of years; the SMEs have been in operation varied from one (1) year to 20 years. The findings indicated that, 25% (14) of the respondents noted that the firms have operated for a period of 1-5 years. The study further shows that 33% (19) of them noted that the SMEs firms have operated for a period ranging from 6 to 10 years, 29% (16) is between 11 to 15 years, and finally 16% (8) between 16 and 20 years. On average, the lion's share of SMEs firms has operated for 6 to 10 years.

Statistical analysis
Table 1 below summarizes the means; standard deviations; reliability and correlation results for the variables of this study. The findings show that financial performance has the uppermost mean of 4.39, standard deviation being .606 and the technological efficiency has the smallest mean of 4.04 while the standard deviation is .678. Besides, the scale reliability was within the accepted value, since the Cronbach' Alpha was above .7 for all the variables. The results on correlation disclosed that mobile banking adoption was positively linked with financial performance with the highest relationship of r = .750, p < .01, the Technological Efficiency was also positively and significantly related to the financial performance with r= .663, p < .01.

Table 1: Reliability, Means, Standard Deviations, and Correlation results

N=58				Correlation		
Variable	Reliability.	*M.*	*SD.*	1	2	3
FPAVE	0.802	4.3895	.60573	1		
MBAVE	0.733	4.1012	.54193	0.750**	1	
TECAVE	0.757	4.0433	.67791	0.663**	0.691**	1

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

Hypothesis testing

The hypotheses tested the effect of Mobile banking adoption on financial performance of Small and Medium Enterprises. The findings in Table 2 showed that the predictors explained 51.7% of the variations on Financial Performance, R-squared = 0.517, Adjusted R-squared = .508. The results also demonstrated that the coefficient of determination was significant as shown by F = 103.79, p <0.001.

> H_{o1} *Mobile banking adoption has no significant effect on Financial Performance of Small and Medium Enterprises.*

From the results in Table 2 below, the null hypothesis is rejected. The findings reveal that Mobile banking adoption actually positively and significantly affected achievement of financial performance, β=0.129, p < 0.001, where (p-value = 0.000 which is below α = 0.05). Since there is the low p-value associated with the t ratio, the null hypothesis is rejected.

Table 2: Coefficients of estimates

	|Unstandardized Coefficients|		|Standardized Coefficients|			Collinearity Statistics	
	β	S. Error	Beta	T	Sig.	Tolerance	VIF
(Constant)	2.368	.136		17.454	.00		
FPAVE	.144	.052	.129	2.797	.005	.683	1.463
Summary statistics							
R	.719						
R Square	.517						
Adjusted R Square	.508						
Std. Error of the Estimate	.424						
Durbin-Watson	1.996						
ANOVA (F stat)	103.79						
Sig	.000						

Dependent Variable: Financial Performance

Moderation Analysis

The results revealed that there is a negative and significant moderating effect of Technological efficiency on the relationship between Mobile Banking adoption and financial performance. The outcome of the results indicated that it yields a beta value (β= -.2483, ρ<0.05). This implies that Financial Performance was significantly associated with Mobile banking services, and this relationship was enhanced by Technological Efficiency.

CONCLUSION AND RECOMMENDATION

The outcomes from this study disclose that Technological Efficiency has a partial moderational effect on the link between Mobile banking adoption and financial performance of the small and medium enterprises. This was brought about by the fact that the investors benchmark on the previous high rate of return achieved in the market to estimate the future return on investment which is the main motivating factor for investing in SME market. Furthermore, the investors respond quickly to change in mobile banking adoption basing on the changes in technological efficiency pattern and also do research to know the trend of business before investing in a portfolio. Mobile banking adoption, results in significant increase in trading volumes Arum et al. (2021), which in turn increases the financial performance of the firm. This came out of the observation that decision-makers tend to solve problems by forming a-priori estimates of what the answer might be. Hanna et al. (2020) results showed that investors tend to be optimistic in bull market and pessimistic in bear market. In the absence of solid information, investors set stock's price in relation to past price. These results agree to Ahmad et al. (2021) who suggested that there is a relationship between Mobile banking adoption and financial performance and that investors at times may apply simple rules that seem to work for them instead of applying complex models in decision making. The regression results therefore, established that Mobile banking adoption has a positive and significant effect on financial performance. The adoption of mobile banking services has a significant positive effect on the financial performance of SMEs. The study results showed that SMEs that adopted mobile banking services had better financial performance compared to those that did not adopt the services. This suggests that SMEs that adopt mobile banking services can improve their financial performance and gain a competitive advantage in the market.

Theoretically, the study supported the incorporation of the key Mobile banking adoption, and Technological Efficiency, where the outcome of the results indicated the significant relationship in achieving financial performance of SMEs.

Public financial institutions, including central banks, development banks and public pension funds, can play an important role in developing and promoting the adaption of mobile banking techniques to promote financial performance of organizations. The future researchers ought to focus on the challenges that the investors face in the process of implementing the technological innovations. Finally, there is need to undertake similar studies covering other geographical locations to make generalization of this study.

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