

Vol. 5, Iss. 1 (2024), pp 162 − 173, April 26, 2024. www.reviewedjournals.com, ©Reviewed Journals

ASSESSING SUSTAINABLE COMPETITIVE ADVANTAGE OF COMMERCIAL BANKS IN KENYA: AN APPRAISAL OF THE MOBILE BANKING INNOVATION

1* Fredrick Mwaiwa, ² Dr. Josphat Kwasira, PhD, ³ Dr. Rose Boit, PhD & ⁴ Dr. Joel Chelule, PhD

^{1*} PhD Student, Jomo Kenyatta University of Agriculture and Technology [JKUAT], Kenya ^{2,4} Doctor, Lecturer, Jomo Kenyatta University of Agriculture and Technology [JKUAT], Kenya ³ Doctor, Lecturer, Moi University, Kenya

Accepted: March 18, 2022

DOI: https://doi.org/10.61426/business.v5i1.192

ABSTRACT

Banking Institutions can achieve sustainable competitive advantage through adoption of innovative practices in its broadest sense by use of both new technologies and new ways of doing things. A firm's efforts in establishing and maintaining such advantages for a long-term period are based on the managers' ability to adopt strategic innovation practices with inimitable characteristics. While research has evidently shown that adoption of innovation practices has a share in its profitability and market share growth, it is not clear on the extent to which adoption of mobile banking has played a role in retaining a sustainable competitive advantage for commercial banks. This paper was therefore an appraisal of the mobile banking system to establish whether there exists a relationship with sustainable competitive advantage. Guided by the innovation of diffusion theory the paper focused on mobile banking as one of the major innovations that has recently shaped the banking industry. The study employed descriptive and explanatory research designs on a census sample of head of departments and branch managers drawn from commercial banks within Nairobi County. Questionnaire was the main tool of collecting data that saw analysis completed through descriptive and inferential statistics. Pearson product moment correlation analysis and linear regression analysis were employed to test the relationship between the mobile banking and sustainable competitive advantage. Correlation matrix indicated that mobile banking (r=.445, p=0.000) had linear relationship with sustainable competitive advantage. The linear regression results indicated a coefficient of 0.068 on mobile banking practices with corresponding p=0.042<0.05 depicting a positive and significant influence at 5% level. Coefficient of bank regulation, 0.205, as a intervening variable was significant, p = 0.000 < 0.05, in predicting the dependent variable. The findings of the study indicated that bank regulation was an intervening factor in the relationship between mobile banking and sustainable competitive advantage of Tier 1 commercial banks in Kenya. This paper contributes to theory, policy and practice by seeking to engage policy makers in the banking industry on the importance of embracing mobile banking as a tool to enhance competitive advantage in banks. To theory, this paper adds to the existing knowledge to inform future researchers on its practicability.

Keywords: Innovation, Banking, Mobile, Commercial Bank, Competitive Advantage, Adoption, Strategies.

CITATION: Mwaiwa, F. M., Kwasira, J., Boit, R., & Chelule, J. (2024). Assessing sustainable competitive advantage of commercial banks in Kenya: An appraisal of the mobile banking innovation. *Reviewed Journal International of Business Management*, 5 (1), 162 – 173. https://doi.org/10.61426/business.v5i1.192

INTRODUCTION

The trend of mobile banking (M-banking) has expanded rapidly, with global mobile phone penetration being more than the usage of personal computers (Zhou, 2011). According to Zhou (2011) a number of factors have led to the adoption of M-banking. Elements for initial acceptance of technology play a key role. However, for companies to survive, it is important to have both initial adoption and continued usage (Lin & Shih, 2008). The two emphasize on the importance of identifying factors that contribute to repeated use of technology, as well as those that cause discontinuance (Lin & Shih, 2008). Notably, mobile banking has been cited as one of the key reasons for efficiency in the banking sector (Tiwari & Buse, 2007), a trend that seems to be overtaking the physical banking in the industry.

This innovative practices have led to high shareholders value, cost efficiency, convenience and increased banking penetration (Price water house Coopers, 2014). In Nigeria for instance, adoption of various forms of innovation including mobile technology has largely influenced the content as well as quality of banking operations. Innovation has had a positive influence on Nigerian banking industry profitability and shareholders' value (Oyewole El-Maude, Gambo & Abam, 2013).

Locally, the cut throat competition within the banking sector coupled with the current collapse of Imperial Bank, Dubai Bank and Chase Bank and the concern on stability of the financial institutions has affected banks competiveness in Kenya. Banks in Kenya have continued to move their business outside the traditional banking halls to channels like Mobile banking, Agency and internet self-service banking. To therefore remain aboard amid tight regulation, competition and increased international watch, embracing innovation would be a key lever to sustainable competitive advantage for Banks in Kenya (Okiro, 2013). HFC bank in Kenya is currently capitalizing on investing in technology and system capabilities so as to offer more affordable and convenient products such as the internet banking, smart phone and tablet banking services to enhance service delivery to all customers wherever they are (Ndirangu & Nyamongo, 2015).

Objective of the Study

The main objective of the study was to determine the influence of mobile banking practices on sustainable competitive advantage of Commercial banks in Kenya. The study was guided by the following hypothesis:

H₀: Mobile banking practices have no significant influence on sustainable competitive advantage of Commercial banks.

Statement of the Problem

The new sustainable competitive paradigm in the 21stcentury should emphasize on value, time and mobility, knowledge and intellectual capital, flexibility, quickness and innovation. Usually a firm can create the sustainable competitive advantage whose managers apply its strategy based on characteristics that cannot be easily copied. Sustainable competitive advantage is guaranteed when banks adapt to innovation practices such as mobile banking and this is key for their survival (Jimenez & Sanz-Valle, 2011). Tidd et al. (2006) affirms that innovation practices have a positive influence on sustainable competitive advantage.

However, in developing countries there is limited evidence that suggest that innovation can lead to sustainable competitive advantage. Most scholarly research has placed much emphasis on the relationship between innovation and profitability in manufacturing industries and little on the banking sector (Youtie & Roper, 2008; Kalay & Lynn, 2015; Rosil & Sidek, 2013), with the industry being characterized by stiff competition and a highly regulated environment. Most Kenyan commercial banks have not yet fully exploited the innovation practices for their own benefit; and are not well placed to get through any current and future shocks to the sector. On mobile banking, it's only a few Tire one banks that are offering loans through their mobile platform (Central Bank of Kenya supervisory report, 2016). This paper therefore targets to address the aforementioned concern by assessing mobile banking for sustainable competitive advantage in Kenya's banking industry.

LITERATURE REVIEW

Diffusion of Innovation (DOI) Theory

The study was guided by the Diffusion of Innovation (DOI) Theory as developed by Rogers in 1962. The DOI theory originating in communication explains how, over time, an idea or product gains momentum and diffuses (or spreads) through a specific population or social system, people, as part of a social system. It refers to a specific group of people taking up a new idea, behaviour, or product often different from what has previously been experience or used. Anaeto et al. (2008) notes that DOI is the way new ideas and discoveries are spread to members of social system. It reports that there must be something new either innovation or information spread through communication channels to a particular society. This theory therefore relevantly applies to the diffusion of mobile banking in the industry particularly with the changing times that have seen people now seeking to go cashless in their transactions.

The theory is relevant because it explains customers' attitude towards mobile banking in terms of innovation attributes i.e. relative advantage, compatibility, trialability and observability which lead to the formation of attitude towards adoption of mobile banking. Because of its focus, this theory helps us understand the extent to which the demographics of bank customers can influence the ease with which they adopt the new technology of mobile banking as a complement to traditional banking. For instance, in comparison with branch banking, mobile banking is faster and free from queuing. It's convenient and available round the clock.

Al-Jabri and Sohail (2012) observed that observability, relative advantage and compatibility influenced mobile phone banking adoption in Saudi Arabia. Consequently, customers would therefore opt to adopt and use the mobile banking innovation practice because they perceive it to be beneficial. While the characteristics of the innovation influence its diffusion, so too do the aspirations of the banking industry. These include achievement of sustainable competitive advantage, reducing costs, and protecting the organization's strategic position. The organizational diffusion of innovation practices like mobile banking is promoted by the organization's desire to become superior in developing high ranking competencies within and attaining sustainable competitive advantage (Lundblad & Jennifer, 2003). The diffusion theory is relevant because it explains the reason why banks adopt to innovation practices like mobile banking. One of the reasons why banks adopt to innovation practices is to gain relevant advantage. This means that banks that adopt mobile banking have relatively better sustainable competitive advantages than those who do not.

In Kenya, a study by Ngumi (2013) used diffusion theory to study Effect of bank innovations on financial performance of commercial banks in Kenya. According to Ngumi (2013) the relationship between bank innovation and financial performance of commercial banks was not well elaborate. This study was therefore motivated by the desire to fill the void that seems to exist in the non-application of diffusion theory to study the influence of mobile banking on sustainable competitive advantage. However, critics of this theory profess that the theory pays too much attention to the individual without looking at the social context and the role the media plays in that social context.

Conceptual Framework

As depicted in Figure 1, the conceptual framework comprised mobile banking as the independent variable banking regulation created an intervening variable while sustainable competitive advantage was the dependent variable measured in terms of customer/brand loyalty, cost leadership, profitability and market share which was obtained from the commercial banks for a period of three years to check sustainability.

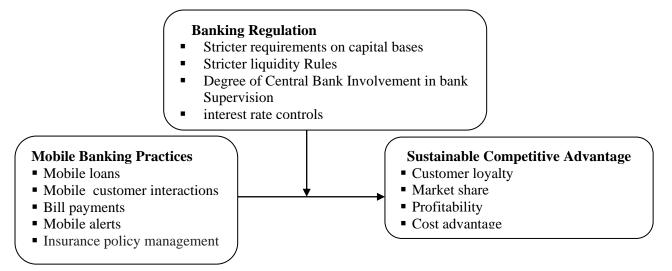


Figure 1. Conceptual Framework

Empirical Review

The history of M-banking dates back to the end of the 1990s a time when the German company Pay box, together with Deutsche Bank, launched the first service, which was deployed and tested mostly in European countries: Germany, Spain, Sweden, Austria, and the United Kingdom. Kenya was the first developing country to introduce a text-based M-banking service, M-Pesa, in 2007. By 2012, the number of registered M-Pesa users in Kenya stood at seven million.

A research by Veijalainen et al. (2006) denoted that the driving force for the speedy acceptance of small mobile devices is the ability they offer for obtaining services and running applications at any time and any place, including while on the move. In addition, various terms have been used to refer to mobile banking, comprising M-banking (Liu et al., 2009), Branchless banking (Ivatury & Mas, 2008), pocket banking (Amin et al., 2006), M-transfers-payments, M-finance (Donner & Tellez, 2008).

There has been unprecedented growth in the m-banking market in many nations. Research shows for instance that 30 % of households in the US use mobile phones to perform banking services. This is also the case in European and Asian countries where usage of mobile banking services is 80 per cent of households (Shih et al., 2010). Presently, mobile phones are the most popular means of communication technology in Africa (ITU, 2009). Mobile banking is an important aspect since the transaction costs of payments are greatly reduced when there is an electronically accessible store of value in most regulatory regimes (Karjaluoto, 2002). Mobile phone operators have found m-banking/m-payments systems to be a key potential service to providing customers, with increasing loyalty while generating fees and messaging charges (infoDEV, 2006). Mobile banking employ a technology known as Electronic Data Interchange (EDI) which can be defined as a computer to computer exchange of data sent in a form that enables for automatic processing with no manual intervention. It is usually done over a specialist EDI networks (Lucey, 2005).

The benefit which is driving most of the banks towards E-banking is the reduction of overall costs in two ways: cost of processing transactions is minimized and the numbers of branches that are required to serve an equivalent number of customers are reduced (Alafeef et al., 2011). Mobile banking has a number of benefits for both customers and banks. Customers can transact 24 hours in a day in any place thus guaranteeing customers convenience. Mobile banking enhances security of cash and is a key cash management strategy. Banks are also able to offer a range of banking services to both existing and new customers leading to (Lee et al., 2007). Mobile banking in Kenya has witnessed fast growth as evidenced by the countless advertisements in the media on the product/service offering by financial institutions. For instance, the major advertisements by banks seen in the media include; Kenya Commercial Bank's Mobi-bank; Barclays Bank of Kenya's Hello

Money; Co-operative Bank of Kenya's M-Banking; Family Bank's PesaPap; Equity Bank's M-Kesho and Eazzy 247; National Bank's SIM-ple banking; Commercial Bank of Africa's M-Shwari just but to mention a few.

Some of the services being offered include; Mobile loan processing, Mobile customer interactions, transfer of funds from bank account to mobile phone account; airtime top-up; change of mobile banking Personal Identification Number (PIN); banking services like account inquiry which includes balance inquiry and mini statement inquiry; funds transfer between accounts both own and other people's accounts, cheque book request; bill payment and viewing linked accounts, micro-payment services, handling mobile recharging investments such as portfolio management service, Real-time stock quotes, personalized alerts and notification on security prices (Njenga, 2011).

METHODOLOGY

Research design describes the methodological approach adopted hence illuminates the research plan, strategy, blueprint and framework used to carry out research (Serem et al., 2013). This study employed a combination of both descriptive and explanatory research designs to explain the influence of mobile banking practices on sustainable competitive advantage among commercial banks in Kenya.

The target population for the study constituted all head of departments and branch managers drawn from commercial banks within the county of Nairobi. At the time of the study, there were 44 licensed commercial banks all headquartered in Nairobi city. Accessible population also known as the study population is that part of target population which the study can particularly reach to choose a representative sample. The accessible population of the study as defined by Mugenda (2011) included 165 branch managers and 91 heads of departments restricted to the scope of the study.

The study adopted two main methods of collecting data as primary and secondary data. A questionnaire was the main instrument of data collection for the primary data and was designed for the management teams from three selected banks; A, B and C. These banks were selected because they all offered a package of mobile banking in line with the scope of the study. The questionnaire tool comprised of both open-ended and closed-ended items which require respondents to give their independent opinions and was self-administered. Secondary data was also collected and involved information collected from past published materials.

To ensure accuracy, the data process involved preparation (data cleaning to remove incomplete, erroneous and irrelevant responses) followed by coding and entry into the SPSS software application for analysis (Saunders et al., 2007). Both descriptive and inferential statistics (Cooper & Schindler, 2014) were performed and these are as presented in the next section.

Since the study had an intervening variable, moderated multiple regression (MMR) analysis was used to test the intervening effect of bank regulation on the relationship between independent variables and sustainable competitive advantage (Aguinis & Gottfredson, 2010). This was done to confirm the results of structural equation modeling (SEM). To see the interaction effects using moderated multiple regression, ordinary least square (OLS) equation and MMR model equations was created involving scores for predictor variable y, scores for predictor variable x and score for second predictor variable z hypothesized to be an intervener (Aguinis & Gottfredson, 2010).

To determine the presence of intervening effects of bank regulation on the relationship between independent variables and sustainable competitive advantage, OLS models was compared with the MMR models (Aguinis & Gottfredson, 2010). The intervening effects of the hypothesized relationship were tested using the following regression equations. Regressing the intervener on independent variables was depicted by equation 1:

OLS Equation $Y = \beta_0 + \beta_1 X_1 + \varepsilon$ Equation 1

MMR Equation $Y = \beta_0 + \beta_1 X_1 Z + \varepsilon$Equation 2

Where:

Y = sustainable competitive advantage

 β_0 = Is the constant or coefficient of intercept

 β_j =Coefficients for the independent variable

X1 = mobile banking

 \mathbf{Z} = Coefficients for Z observed scores

 $\varepsilon = \text{Error term (Disturbance factors)}$

The results relating to descriptive statistics are presented in graphs, pie charts and APA table formats. The findings are further interpreted and discussed in line with theory and prior empirical evidence. The pilot test sample was within the recommended range as the rule of the thumb suggests that 5% to 10% of the accessible population should constitute the pilot test (Cooper & Schilder, 2011). The proportionate sample size of 256 respondents was used for the study. Therefore 26 questionnaires were administered in pilot testing to test the degree of accuracy of the instrument used to collect data in locations in which the pilot survey took place.

Content validity was achieved through opinion from experts in banking and technology adoption. For the validity of the instruments, the authors ensured that the questions are in conformity with the study objectives. Construct validity was achieved by ensuring that the relationship between the operationalized variables is in accordance with the represented theoretical constructs as acquired in the literature review. The reliability test for mobile banking instrument was at 0.774 representing 5 question items.

RESULTS AND DISCUSSION

A total of 256 questionnaires were issued out of which 215 were received back disqualifying 5 questionnaires due to incompleteness while 36 questionnaires were not traced back from the respondents. This response rate was therefore 83.98% of the targeted total of 256 questionnaires therefore adequate for drawing conclusions. According to Saunders *et al.*, (2009), a response rate of 50 percent is adequate, 60 percent good and a response rate of 70 percent and above considered very good.

Descriptive Results

Table 1: Respondents' Demographics

	Frequency (n)	Percentage (%)
Gender		_
Female	107	49.8%
Male	108	50.2%
Age-Group		
26-30 Years	36	16.7%
31-35 Years	61	28.4%
36-40 Years	68	31.6%
41 Years and above	50	23.4%
Education Level		
College Certificate	17	7.9%
University Degree	86	40.0%
Masters	92	42.8%
PHD	20	9.3%
Distribution of Commercial Banks		
Bank A	71	33.0%
Bank B	61	28.4%
Bank C	83	38.6%

The results in Table 1 showed that majority of the respondents, 50.2%, were male while 49.8% were female. In addition, majority of the respondents were aged above 25 years with majority 68 (31.6%) of them being in the age group between 36 to 40 years whereas the lowest was in the age bracket of 26-30 years. From Table 1 above, the highest respondents were 92 (42.8%) had master's degree with the lowest number 17(7.9%) holding.

Mobile Banking Practices

To understand the bankers' view on the influence of mobile banking, the respondents were asked to rate their bank's views on various factor influencers. The responses were on a scale of 1-5, where 1=strongly disagree, 2=disagree, 3=Neutral, 4=Agree, and 5= strongly agree. The percentages, mean and standard deviation are shown on Table 2.

Table 2: Descriptive Statistics for Mobile Banking Practices

Mobile Banking Practices	SA (%)	A (%)	N (%)	D (%)	SD (%)	Min	Max	Mean	Std Dev
Our customers can make Mobile Loan applications and get disbursements though their mobile phone	37.0	31.6	18.6	1.9	0.9	1	5	4.22	0.877
Our customers are able to make enquires, lodge complains, and interact with our customer service personnel through a mobile phone	45.1	52.6	2.3	0.0	0	3	5	4.43	0.58
Through the mobile banking platform our customers can pay bills like rent ,electricity, DSTV etc	73.0	19.5	3.3	4.2	0	2	5	4.61	0.76
Our customers are able to get Alerts on any account activity through their phones	65.1	24.2	3.7	4.7	2.3	1	5	4.45	0.940
Mobile banking has been key in insurance policy management for my bank	60.9	35.3	1.9	0.9	0.9	1	5	4.54	0.674
Aggregate Score Valid N = 215								4.45	

Table 2 presents the percentage, means and standard deviations of respondents on their views on the influence of mobile banking on sustainable competitive advantage among commercial banks in Kenya. The findings indicated that the respondents agreed (Mean =4.61; Std. Dev. =0.76) that their customers can make Mobile Loan applications and get disbursements though their mobile phone. The findings further indicated that as a result of mobile banking (Mean =4.54; Std. Dev =0.674) has been a key in insurance policy management for their bank. The respondents were also in agreement (Mean =4.45; Std. Dev =0.0.940) that their customers we able to get Alerts on any account activity through their phones. Further, findings indicated customers (Mean =4.43; Std. Dev =0.58) are able to make enquires, lodge complains, and interact with their customer service personnel through a mobile phone, they were also in agreement (Mean =4.22; Std. Dev =0.877) that their customers can make Mobile Loan applications and get disbursements though their mobile phone. The aggregate mean score for the responses was 4.446 which indicated more agreement with the assertion that mobile banking has an influence on sustainable competitive advantage among commercial banks in Kenya.

Inferential Statistics

Correlation

Correlation between variables is a measure of how well the variables are related. The most common measure of correlation in statistics is the Pearson Correlation (technically called the Pearson Product Moment Correlation or PPMC). Correlation coefficient shows the strength as well as the direction of the linear relationship. Positive correlation indicates a direct influence i.e. an increase in one variable causes an increase in the other variable. A result of -1 means that there is a perfect negative correlation between the two values while a result of 1 means that there is a perfect positive correlation between the two variables. Result of 0 means that there is no correlation between the two variables (Gujarat, 2004). The results for Pearson's correlation coefficient for the study are shown in Table 3.

Table 3: Pearson's Correlation Coefficients

	SCA (Y)	$MB(X_1)$
SCA (Y)	1	
$MB(X_1)$	0.247*	1

Note:

SCA- Sustainable Competitive Advantages

MB- Mobile Banking

* - $P \le 0.05$

The results in Table 3 depict a positive linear relationship between mobile banking and sustainable competitive advantage.

Linear Regression

To analyze the strength and direction of relationship between mobile banking practices and sustainable competitive advantages, model specification was carried out and the results indicated in Table 4.

Table 4: Model Specification for Mobile Banking Practices

Model		Sum of Squares	df	Mean Square	F	Sig.	
1	Regression	7.748	1	7.748	52.716	0.000^{b}	
	Residual	31.305	213	.147			
	Total	39.052	214				

- a. Dependent Variable: Sustainable Competitive Advantages
- b. Predictors: (Constant), Mobile banking practices

The overall model was statistically significant (F (1, 213) = 52.716, p-value = .000). Based on the regression results, the results showed that the model fitted the data very well as depicted by p = 0.000 < 0.05.

The model 1 and model 2 summary for mobile banking practices without the intervener and with effect of intervener is shown in Table 5.

Table 5: Model Summary for Mobile Banking Services

Model	R	R Squared	Adjusted R Square	Std. Error Estimate	of	the
1	0.445 ^a	0.198	0.195	0.383		
2	0.559^{b}	0.312	0.306	0.356		

- a. Predictor (Constant), mobile banking practices
- b. Predictor (Constant), mobile banking practices * bank regulations

The summary model 1 showed a positive moderation linear relationship between mobile banking practices and sustainable competitive advantages (R = 0.445, $R^2 = 0.198$). The R^2 explained the variations in the dependent variable that could be explained by mobile banking services. R^2 of 0.198 indicated that 19.8% of the variations in sustainable competitive advantage could be attributed to mobile banking practices, while the remaining could be attributed to other factors not included in the model.

Model 2 showed that the results after the interaction of the intervener was introduced in the model (mobile banking practices*Bank regulations). The results showed there was a positive relationship between mobile banking practices and sustainable competitive advantage among commercial banks in the County of Nairobi with (R=0.559 and, R²=0.312). An R² of 0.312 indicated that 31.2% of the variations in the sustainable competitive advantage could be accounted by mobile banking practices*Bank regulations. The adjusted R-square was a modified version of R-squared that has been adjusted for the number of predictors in the model. The adjusted R-squared increased only if the new term improved the new model and it was always lower than the R-square.

Table 5 showed that the R-square of 0.198 for model 1 and 0.312 for model 2 was a clear evident that the intervener improved our model. The inclusion of the interaction term resulted in a R² change of 0.114 which indicated that the intervening effect explained 11.4% of the variation in the sustainable competitive advantage above and beyond the variation explained by mobile banking practices.

The significance test results for mobile banking practices are depicted in Table 6.

Table 6: Significance Test Results for Mobile Banking Practices

Mo del	Unstandar Coefficient			Standardized Coefficients	T	Sig.	
		В	Std. Error	Beta			
1	(Constant)	2.731	0.220		12.413	.000	
	Mobile practices	banking 0.399	0.055	0.445	7.226	.000	
2	(Constant)	1.896	0.249		7.628	.000	
	Mobile practices	banking 0.295	0.054	0.329	5.438	.000	
	Bank regulation	ons 0.305	0.052	0.357	5.902	.000	

Equation 3 and 4 showed the regression equations:

OLS Model1: SCA = 2.731 + 0.399MBP...

3

MMR Model 2: $SCA = 1.896 + 0.295MBP + 0.305BR \dots 4$

Model 1 indicated that relationship between mobile banking practices and sustainable competitive advantage was positive and significant (p = 0.000). Equation 4.1 showed that the regression equation for model 1, for every unit increase in mobile banking practices (MBP); sustainable competitive advantage (SCA) is predicted to increase by 0.399.

Model 2 showed that the intervening effect of influence of bank regulations (BR) on the relationship between mobile banking practices (MBP) and Sustainable competitive advantage (SCA) was significant (p = .000).

The null hypothesis stated that mobile banking practices have no significant influence on sustainable competitive advantage of commercial banks. The findings under the regression analysis led to the rejection of the null hypothesis. This was regression output provided the coefficient of mobile banking practices of 0.068

while the corresponding p = 0.042 < 0.05 as shown in Table 4 and 6 respectively. This implied that the coefficient was significant at 5 percent level.

The findings were consistent with those of Zhou (2011) who observed that the trend of mobile banking (M-banking) had expanded rapidly, with global mobile phone penetration being more than the usage of personal computers. Also, the finding was consistent with those of Shih et al. (2010) who observed that in European and Asian countries usage of mobile banking services increased by 0.8 of households who were using mobile baking services.

The study concluded that mobile banking was a critical driver to sustainable competitive advantage among commercial banks in Kenya. In line with Sekaran (2013), the conclusion was that the null hypothesis was rejected and thus a conclusion was made that mobile innovation has a positive effect on the sustainable competitive advantage among commercial banks in Kenya.

CONCLUSION AND RECOMMENDATION

Mobile banking services had a positive relationship with sustainable competitive advantage of Commercial banks in Kenya with a standardized coefficient estimate of 0.066, a standardized error of 0.068 and a *t* statistic of 0.874. Consequently, the null hypothesis was rejected. The study therefore concluded that mobile banking services had a statistically positive and significant influence on sustainable competitive advantage of Commercial banks. Mobile banking practices have to a large extent increased the banks' customer outreach leading to increased market share and a loyal customer base; hence have improved their sustainable competitive advantage.

Mobile banking services had a positive relationship with sustainable competitive advantage of Commercial banks in Kenya. This study recommended adoption of more innovative mobile banking practices in order to realize more sustainable advantages. Banks should also continue to create more sustainable linkages and collaborations with mobile service providers as well as other stakeholders such as power companies, water companies and other service providers in order to tap into the full potential and create more value through mobile banking. Commercial banks should explore more ways of maximizing their utilization and returns from mobile banking and internet banking.

REFERENCES

- Adewoye, J. (2013). Impact of mobile banking on service delivery in the Nigerian commercial banks. *International Review of Management and Business Research*, 4 (7), 145-160.
- Aguinis, H., & Gottfredson, R. (2010). Best-practice recommendations for estimating interaction effects using moderated multiple regression. *Journal of Organizational Behavior*, 31, 776-786.
- Akturan, U., & Tezcan, N. (2012). Mobile banking adoption of the youth market: Perceptions and Intentions. *Marketing Intelligence & Planning*, 30 (4), 444 459.
- Alafeef, M., Singh, D., & Ahmad, K. (2011). Influence of demographic factors on the adoption level of mobile banking applications in Jordan. *Research Journal of Applied Sciences*, 6 (6), 373 377.
- Al-Jabri, I.M. & Sohail, M.S. (2012). Mobile banking adoption: application of diffusion of innovation theory. *Journal of Electronic Commerce Research*, 13, 379-391.
- Amin, H., Hamid. M. R. A., Tanakinjal, G. H., & Lada, S.(2006). Undergraduate attitudes and expectations for mobile banking. *Journal of Internet Banking and Commerce*, 11(3), 1-10.
- Anaeto, S. G., Onabajo, O. S., &Osifeso, J. B. (2008). *Models and theories of communications*. Maryland: African Renaissance Books Incorporated.

- Bittner, J. R. (2003). Mass communication: An introduction (5thEd.). New Jersey: Prentice Hall Inc.
- Cooper, D. R., & Schindler, P. S. (2014). *Business research methods* (12thEd.). Boston: Irwin McGraw Hill International.
- Donner, J., & Tellez, C.A. (2008). Mobile banking and economic development: Linking, adoption, impact, and use. *Asian Journal of Communication*, 18(4), 318 332.
- Fourie, B. (2007). The role of strategic leadership in strategy implementation. (Unpublished PhD thesis) Johannesburg.
- Gakure, R. &Ngumi, P. (2013). Do bank innovations influence profitability of commercial banks in Kenya? *Prime Journal of Social Science (PJSS)* 2(3), 237-248.
- ITU (2009). Telecommunication/ICT Market Trends in Africa 2007. Kigali: International Telecommunications Union.
- Ivatury, G., &Mas, I. (2008). The Early Experience with Branchless Banking. CGAP focus note no. 46, April 2008.
- Karjaluoto, H. (2002). Selection criteria for a mode of bill payment: Empirical investigation among Finnish bank customers. *International Journal of Retail & Distribution Management*, 30(6), 331-339.
- Kathuo R. W., Rotich, G, & Anyango, W. (2015). *Effects of mobile banking on the financial Performance of banking institutions in Kenya*, (Unpublished MBA Thesis), University of Nairobi.
- Kombo, D.K., & Tromp, D.L.A. (2006). *Proposal and thesis writing*. Nairobi, Kenya: Paulines Publication Africa.
- Lee, K. S., Lee, H. S., & Kim, S. Y. (2007). Factors Influencing the Adoption Behavior of Mobile Banking: A South Korean perspective. *Journal of Internet Banking and Commerce*, 12 (2), 1-9.
- Lin, Y. M. & Shih, D. H. (2008). Deconstructing mobile commerce service with continuance intention. *International Journal of Mobile Communications*, 6 (1), 67-87.
- Liu, Y., Si, S., &Takala, J. (2009). Comparing Operational Competitiveness Strategy in China and Finland. In *Proceedings of the 18thInternatonal Conference on Management of Technology* IAMOT 2009 5-9 April 2009.
- Lucey, T. (2005). Management information systems. London: Book Power Press.
- Lundblad, B., & Jennifer, P. (2003). A review and critique of Rogers' diffusion of innovation theory as it applies to organizations. Research Agenda, National Bureau of Economic Research (NBER) Working Paper Series, Working Paper16780.
- Ngumi, P. M. (2013). *Effect of bank innovations on financial performance of commercial banks in Kenya*. (Unpublished Ph.D. Thesis), Nairobi: Jomo Kenyatta University of Agriculture and Technology Press.
- Njenga, A.D.K. (2011). Mobile phone banking: Usage Experiences in Kenya.pdf. Retrieved 9th April 2016.
- O'Hare W.P. (2019). *The Importance of Census Accuracy: Uses of Census Data. In: Differential Undercounts in the U.S. Census.* SpringerBriefs in Population Studies. Springer, Cham. https://doi.org/10.1007/978-3-030-10973-8_2
- Porter, M. (1998) *Competitive strategy: Techniques for analyzing industries and competitors*. New York: Free Press.
- Rijamampianina, R., Abratt, R., & February, Y. (2003). A framework for concentric diversification through sustainable competitive advantage. *Management Decision*, 41(4), 362-371.

- Salzman, M. and Palen, L. & Harper, R. (2001). Mobile communications: understanding users, adoption, and design. In: CHI EA '01 CHI '01 Extended Abstracts on Human Factors in Computing. ACM, New York, pp. 481-482. doi.org/10.1145/634067.634343
- Saunders, M. L., Lewis, P., &Thornhill, A. (2009). Research methods for business students. London: UK, Financial Times Prentice Hall Inc
- Sekaran, U. and Bougie, R. (2009) Research Methods for Business: A Skill-Building Approach. (5th Ed.)John Wiley and Sons Inc., Hoboken.
- Sekaran, U. & Bougie, R. (2013). Research methods for business: A skill-building approach. 6th edition, wiley, new york.
- Serem, D. K., Boit, J. M., & Wanyama, M. N. (2013). *Understanding Research: A simplified Form*. Eldoret: Utafiti Foundation publishers.
- Serfontein, J. J. (2010). The impact of strategic leadership on the operational strategy and performance of business organizations in South Africa. (PhD Thesis), University of Stellenbosch, Business Management.
- Shih, K. H., Chang, C. J., & Lin, B. (2010). Assessing knowledge creation and intellectual capital in banking industry. *Journal of Intellectual Capital*, 11(1), 74–89.
- Tiwari, R., & Buse, S. (2007). The mobile commerce prospects: A strategic analysis of opportunities in the banking sector. Hamburg: Hamburg University Press.
- Veijalainen, J., Terziyan, V., & Tirri, H. (2006). Transaction management for m-commerce at a mobile terminal. *Electronic Commerce Research and Applications*, 5(3), 229 245.
- Zhou, T. (2011). An empirical examination of users' post-adoption behavior of mobile services. *Behavior & Information Technology*, 30 (2), 241-250.