Digitization Strategies on Performance of Commercial Banks in Kenya

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ABSTRACT

The study's overarching goal looked at the impact of Kenyan commercial banks' digitization policies on their performance. The financial industry has been undergoing technological advancements which effectively hinders their ability to cope with market forces which threaten their profitability and growth, financial inclusivity, competitiveness and survival. Kenyan commercial banks are in the process of executing various digitization strategies to enable them fight against increased competition and new market demands hence each individual bank has to provide services that meets these needs. The study provides an analysis and evaluation of the influence of education level on performance, influence of cost of services on performance, the influence of users' age and gender on performance and to establish the effect of customers' security concerns on performance of commercial banks in Kenya. The data was examined using descriptive statistics, and the connection between the independent variables of education, age, cost, and security concerns and the dependent variable of success assessed using linear regression analysis. For ease of comprehension, data was presented as frequency tables, bar graphs, and pie charts. According to the findings, cost and security concerns was an important factor with a substantial impact and positive influence on digitization strategies that influence performance of commercial banks in Kenya. Moreover, the findings revealed that education, age and gender of customers did not have a tremendous impact on the performance of Kenyan commercial banks though adoption of digitization. This was evident from the results showing that both male and female customers from all ages are well educated to understand the convenience of digital banking and prefer using digital platforms to transact. The study concluded that through digitization strategies, education, age, gender, cost and security concerns enhanced performance in Kenyan commercial banks. The research revealed that commercial banks, through their leadership, appreciate digitization strategies to boost performance through adoption of cost effective and secure platforms that target banking products targeting age and gender. The commercial banks should ensure that their digital platforms are well secured, cost effective and well marketed to their customers of all ages who clearly understand the importance of these platforms.

Key Words: *Bank Performance, Digitization Strategies, Costs Management, Bank Security, Education*

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1.0 Introduction

Banking institutions in Kenya are the pillar for development and continued advancement of the economy. In this regard, banks are always striving in order to improve their overall performance efficiency and productivity while facing competition from other actors in the financial segment. This perceived performance is fueled by digitization where financial institutions drawn across various regions agree in unison that it greatly leads to higher impact on existing business models. In a 2014 study conducted by Ernst and Young, the international financial transactions data gathered from thirty two thousand retail banking clients in forty three countries indicated that Customers identified five areas in which banks should change, including fee transparency, operating costs charged to customers, delivery of Omni channel customer experience, better financial literacy advisory services, encouraging enhanced use of information and digital platforms to inspire consumers and enhance interactions in order to solve problems.

In the banking world, the strive for performance improvements have led to advances in information technology which has greatly led to creation of more flexible payment means and customer centric banking amenities (Abofaied, 2017). The incredible progress made in making cell phones more accessible across the globe have led to a consistent progress in the improvement of performance through continuous improvements from adoption of these modernized technological initiatives. The Kenyan mobile landscape has been characterized by a rapid acceptance of various banking services, especially mobile-based services. Digital strategies as well as transformations in the digital space has further grown through innovation which has increasingly rendered itself in widespread methods which is spread over many segments of the economy. A suitable environment in the financial sector is considered an anchor as well as a catalyst for sustainable development (Carrothers, 2015). According to Ogden (2014), the developing wave of information driven economy in the Kenyan financial system is working to improve its efficiency by incorporating digitization strategies. The banking patterns have been recurrently expanded and modernized in response to the changing need for convenient ways to access financial services outside the traditional norms. And, given the high demand for financial services, institutions other than traditional commercial banking institutions have entered the discussion in an effort to get a portion of the industry's perceived cake of prospect and growth.

Performance in the banking sector involves the improvements on how data assets are collected, stored, transferred, processed and converted to business opportunities. In today's world, mobile phones and technologies are incredibly strong and effective tools for information management developments. Since the inception of its revolution, digital strategies and transformations have entered the scene in the Kenyan banking sector; but has become noticeable over the previous five years. (Venkatesh, 2013). The banking sector in the Kenyan economy is well established which includes a number commercial banks categorized as tier one, two and three. The competitiveness within such financial institutions is high which is fanned by the increased demand for banking services. The constant requirement to enhance value delivery towards customer satisfaction ensures that the banks stay competitive in the sector. It is common practice for banks to increase branches in their areas of operation as an incentive to overcome the competition however, the new inclination is to ensure service delivery is improved through harnessing of technology (Jones & Hill, 2009).

Financial institutions are increasingly providing special services which includes value-added services, hence improving convenience, expanding into a wider market, service delivery improvement and reduced cost. In previous occasions, bank clients had to visit the physical branches to access services like loans, account status enquiry, pay bills and funds transfer. This led to an inconvenience in service delivery and turn-around-time in executing processes. Whenever there is a high demand for such services, including at school opening times, towards end of month, and other peak periods, long lines result in poor service to customers, who, in the current Kenyan market, have the option of going to rivals, leading to a reduction in revenues and thus takes away business opportunities. With any other bank competing on the basis of convenience, speed, and greater efficiency, as well as improved access to up-to-date information, banks must find a way to improve their organizational performance to their customers. (Shu & Strassmann, 2015).

2.0 Literature Review

2.1 The Theory of Diffusion Innovation

E.M Rogers proposed the diffusion invention principle in 1962. The theory aims to understand and illustrate how modern technologies, like online banking, automatic teller machines, point of sale devises, digital wallets are just a few examples, are implemented and succeed. The theory goes on to say that not all inventions are successfully adopted. He further proclaimed that change aversion may be a stumbling block to innovation diffusion, through just slowing it down rather than halt it. Rogers identified five key features that have a big influence on adoption rates. Some of these include relative benefit, interoperability, complexity, and information quality. According to Rogers, how a company views the relative benefit, complexity, trialability, observability, and compatibility will all be factors in determining the winner's pace at which new technologies are adopted. This theory applies to the topic at hand. If a bank in Kenya, specifically in Nairobi County, sees the advantages of digital banking, they will follow it, assuming other considerations and requirements as the accessibility of required services are fulfilled. These banks would go to great lengths to establish themselves in the industry and fill a gap that technologies fill.

This principle is important because it promotes the implementation of technologies, which would be quicker in organizations with internet connectivity and IT sections than in financial institutions that have none. Diffusion innovation theory, on the other hand, has a pro-innovation bias in that it encourages new ideas. This theory is important because it explains why banks with internet connectivity and IT departments would implement technologies faster than those without. Additionally, education natures continued innovation towards improved performance of the banking industry because of long-life learning. According to Vousinas (2018), learning is a continual activity which activates advanced approaches and strategies established by educational research to work. This theory acknowledges that people encourage how others around them will reply to and accept the innovation based on the level of education they have.

This theory also determines the approach to cost effectiveness of the financial institutions processes towards service delivery. Halton (2019) in his article on industrialization and development indicated that innovations are established to create cost savings to attract widespread adoption. Innovation has brought about more efficient and cheaper ways of meeting the customer needs for example online marketing, structured customer support and online banking services. The modern Kenyan population have been very keen to technological innovations tailored to improve access to services which has contributed to a decreased reliance to brick and motor banking halls. Innovations has contributed to development of Alternative Banking Channels (ABCs) to enable customers access banking services outside banking hours as well as within their own convenience.

2.2 Assimilation Theory

Festinger (2015) suggested the assimilation principle, which states that consumers make a cognitive connection between product perceptions and actual product results. Assimilation theory was used to integrate this understanding of the customer's valuation into the fulfilment literature. Clients, according to Anderson (2009), have a propensity to avoid dissonance by trying to change their opinions of a commodity in order to make it more standardized. Clients appear to reduce the uncertainty caused by a disparity between product results and expectations by either changing their prospects to match product performance or growing their degree of contentment by lowering the relative importance. The fault in this theory, as anticipated by Payton (2014), is that it establishes a connection but fails to understand how disconfirming an expectation differs from fulfillment causes gratification or displeasure.

This theory applies to the bank's ability to package their products to attract customers based on age and gender. With digitization strategies adopted by the bank, customers are able to cognitively go for the products they require without any support from the bank staff. According to Gitau (2018), targeted customer satisfaction approaches has also been made possible through this theory from the ability to use digitalization to satisfy customers based on age or gender. Customers are more cognitive to security concerns that comes with digitization therefore posing new challenges to financial institutions to address this matter. Njuguna et al (2016) outline that customers are now able to understand the importance of security placed by banks on their personal information and data. This is determined by the identity confirmations required to access technological infrastructure to access banking services. This hypothesis is important to the research because it suggests that customers are inspired enough to change their attitudes or expectations about a product's results. Several studies have shown that accounting for real product results will result in a positive relationship between customer satisfaction and expectation. As a result, disappointment is impossible to achieve except for the evaluative methods designed to commence with negative client prospects.

2.3 Empirical Review

A study by (Algoma, 2018) states that, since electronic banking is among the most technologically advanced frameworks in terms of technology, it's critical to comprehend how these technologies can profit and be adopted by customers. According to previous studies, a well-informed society is more likely to embrace emerging digital banking innovations. Rapid shifts in the financial services climate, intensified competition from non-banking players in the sector, globalization, innovations and technical growth have resulted in a market where consumers are fighting for their money. Service providers are becoming more interested in improving their knowledge of customer behavior trends in order to meet the challenges. According to Venkatesh and Davis (2000), traditional electronic banking customers are young, wealthy, and highly educated. In terms of embracing and using numerous new mobile and technological devices, the countries of Northern Europe are among the most developed. These countries have been fast to introduce technological innovations in banking services. (Schmidt, Drews & Schirmer, 2016).

During trust may be described as a subjective conviction or the degree of confidence one desires from the other party in an electronic commerce transaction (Berman, 2012). Consumers will ultimately conclude that online services are useful, even though they originally trust their e-vendors and have faith in that acceptance of online services will advance job efficiency or lifestyle.

In particular, Venkatesh and Davis (2000) discovered that confidence is an antecedent of apparent practicality in an on-line shopping situation. A consumer's performance expectancy to use a service is often influenced by their level of trust. Financial institutions that have struggled to provide profitable services to poor clients across conventional channels see digital banking facilities as a type of branchless banking, reducing the costs of servicing customers (King, 2016). Service providers have been able to expand their offerings and give consumers greater flexibility as a result of technological advancements.

2.4 Conceptual Framework

As conversed in the literature review besides illustrated in Figure 2.1 below, the conceptual structure outlines the variables. It aids in the comprehension of the relationship between the study's variables.

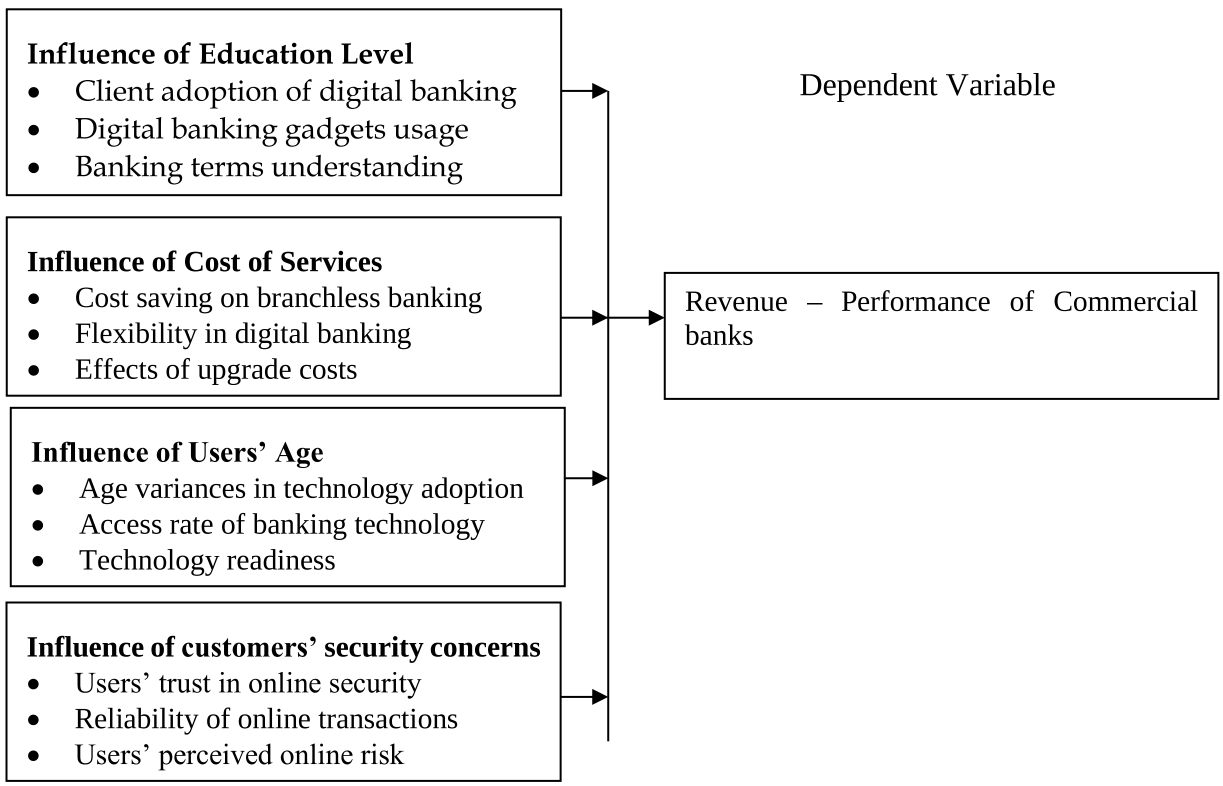

Figure 1: Conceptual Framework for the Factors Affecting Digitalization of Banking

3.0 Research Methodology

The subject matter of the study was investigated using descriptive research grounded on a detailed examination of problem-solving scenarios that are applicable to the research problem. The overarching concept would be to choose a few specific cases in which an in-depth review would identify potential solutions for responding to the research questions centered on the current solution used in the case study. Employees in management made up the research population. This is because the management are solely responsible for making of day-to-day management decisions and strategies. The target population for this paper were senior managers or employees of 39

Commercial Banks. The study population was composed of 10 members of senior staff at management level from each commercial bank. This will give a total number of employees as 390. Employees in management positions will be chosen because they have relevant knowledge of the impact of response strategies on their respective commercial bank's results. A pilot test was conducted with four bank employees from the finance department in four different ministries commercial banks to assess the instrument's validity and reliability, and the findings revealed that the instrument was a good fit. The researcher then gathered primary and secondary data and performed descriptive analysis as well as inferential statistics.

4.0 Research Findings and Discussions

A sample of 117 people were interviewed utilizing a standardized questionnaire for this study. The data was used for analysis once a response rate of 93 percent (109 respondents) was attained. As a result, the study is appropriate for drawing conclusions and making suggestions. A rate of response of 30 to 60 percent in a study, according to Creswell (2005) is sufficient for drawing findings and providing suggestions.

4.1 Influence of Education Level on Performance

Table 1: Education Level on Performance

Statements	Mean	SD
In our bank training is required for customers and staff on digital solutions.	2.90	0.84
In our bank customers have the ability to use internet and mobile banking to handle their own everyday financial needs.	4.47	0.50
In our bank customers have the knowledge to use internet banking to allow them to pay their bills, manage their accounts, and manage their assets without having to visit the bank.	4.07	0.82
Customers education levels enable more usage of digital solutions.	3.53	1.13
Trained customers better use digital services in buying financial products or services online.	3.86	0.90
Training customers on digitization has helped our bank to reach other financial markets without physically being present in those markets.	4.49	0.50
Though education, our bank improves customer’s ability to conduct financial transactions, minimizing the requirement for interaction between bank workers and consumers.	4.12	0.77
Our bank uses customer education level as a strategic tool to promote digital services.	3.03	0.82
Education has brought about technologies creating possibility of internet meetings with banks customers.	2.00	0.87
Customer education levels has made it easier for bank personnel to approach consumers easier to market digital products.	3.54	0.50
Aggregate	**3.60**	**7.65**

The findings in Table 1 show that statements on Education Level on Performance had an overall mean of 3.60 and standard deviation of 7.65. The findings also reveal that all statements had means of 3.6 and above and the highest was means of 4.47 and the lowest mean score at 2.0. These findings show that education level plays a big part in financial performance of commercial banks.

4.2 Influence of Customers' Security Concerns Performance

Table 2: Influence of Customers' Security Concerns Performance

Statements	Mean	SD
In this bank users of mobile banking are faced with the challenge of insecurity	2.02	0.83
With the rise of digitization, there has been a surge in account hacking and other sorts of internet-based crime	3.34	1.09
Because of cybercrime and insecurity, banks and customers are hesitant to implement digital business tactics	1.97	0.78
Our bank lacks necessary resources to design and implement their digital business strategies	1.40	0.49
Except if there is a direct financial impact, our bank does not manage data in real time	1.52	0.50
Through digitalization our banks face deteriorating connection with their consumers	1.49	0.50
Our bank is grappling with client intimacy concerns as a result of digitization	1.53	0.50
Our clients find it difficult to access information in an easy and comfortable manner as a result of digitalization	3.01	1.48
Our bank lacks the infrastructure to carry out the digital business plan	1.47	0.50
Our bank's aesthetic appeal of a webpage is also a key motivator of usage and adoption	1.54	0.50
Our bank's aesthetics is an important aspect of service quality and a motivator of happiness	1.99	0.82
Our bank is faced with the challenge of limited capacity of human resource	2.54	0.50
Our bank lacks the necessary levels of technology to establish and implement digital business strategy.	1.90	0.79
Our bank lacks the funds to engage in human resource training	1.50	0.50
Aggregate	**19.29**	**7.17**

The findings in Table 2 show that statements on influence of customers' security concerns on Performance had an overall mean of 3.60 and standard deviation of 7.65. The findings also reveal that all statements had means of 3.6 and above and the highest was means of 4.47 and the lowest mean score at 2.0. These findings show that education level plays a big part in financial performance of commercial banks.

4.3 Influence of Users' Age and Gender on Performance

Table 3: Effects of Influence of Users' Age and Gender on Performance

Statements	Mean	SD
Digital banking utilization is dependent on gender of customers	1.55	0.50
Gender determines the developments of the bank's products and services	2.00	0.77
Adaptation of technologies is based on the age of customers	3.40	1.09
The bank delivers digital financial solutions based on the gender of customers	2.48	1.15
The banks performance can be attributed to the digital adoption based on age and gender	1.48	0.50
Aggregate	**2.18**	**4.01**

As the discoveries portray, digital banking utilization is dependent on gender of customers as indicated from an overall mean of 2.18 and standard deviation of 4.01. The findings show that users' age and gender has little impact on the utilization digitization strategies therefore having little impact on performance of commercial banks.

4.4 Influence of Cost of Services on the Performance

Table 4: Influence of Cost of Services on the Performance

Statements	Mean	SD
Cost of accessing banking services is important to usage of the channels	3.96	0.83
My bank is able to absorb costs related to development of digital solutions	3.44	1.18
Our customers require cost effective services to use digital solutions	2.97	0.79
The bank is able to recoup its costs of doing business from the revenues generated	4.19	0.67
The increased utilization of digital solutions will ensure the bank improves its performance	4.47	0.50
Aggregate	**3.81**	**3.97**

The findings indicate an overall average of 3.81 and a standard deviation of 3.97 on the question on the influence of costs of services on performance. The findings also reveal that all statements had means of above 2.5 and above and the highest was means of 4.5 and the lowest mean score at 3.0. This shows that cost of services play a key role in the performance of commercial banks in Kenya.

4.5 Regression Analysis

In the investigation, a regression model was used in an effort to institute a statistical link between the independent and dependent variables where variable relationships and their significance were shown by the statistical process.

Table 5: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the estimate
1	0.735[a]	0.541	0.5177	0.6973

a Predictors: (Constant), Education Level, Security Concerns, Age and Gender, Cost

Table 5 designates the model summary where, the R-Squared (R^2) which is the coefficient of determination that indicates the dissimilarity of the performance of commercial banks in Kenya being the dependent variable is enlightened by the independent variables being Education Level, Security Concerns, Age & Gender and Cost. As from the findings, the assessment of R-Squared is 0.541 which suggests a 54 percent variation of the commercial banks in Kenya performance as a result of Education Level, Security Concerns, Age and Gender, Cost.

Table 6: ANOVA

	df	Sum of Squares	Mean Square	F	Significance F
Regression	4	147.58	36.79	148.75	0.000
Residual	104	257.21	2.47		
Total	**108**	**404.79**			

a Dependent Variable: Performance of Commercial Banks in Kenya
b Predictors: (Constant), Education Level, Security Concerns, Age and Gender, Cost

An Analysis of variance test was utilized to confirm the relationship between digitization techniques and commercial bank performance in Kenya, with the findings described in Table 4.7 above. The table indicates that the P-Value was 0.000 and the computed F was 148.75, indicating that the significance of the model in explaining the effect on the dependent variable when the P-Value was less than 0.05 at the 95 percent level of confidence.

Table 7: Regression Coefficients

	Model	Unstandardized Coefficients		Standardized Coefficients		
		B	**Std. Error**	**Beta**	**t**	**Sig.**
1	(Constant)	2.187	0.982		0.222	0.002
	Education Level	0.397	0.194	0.043	2.046	0.001
	Security	0.098	0.254	0.700	0.386	-0.000
	Age and Gender	-0.161	0.134	0.235	-1.194	-0.000
	Cost	0.9	0.127	0.942	0.072	0.000

The regression coefficients are provided in Table 4.8 above, where the established regression equation was; $\mathbf{Y = 2.187 + 0.397X_1 + 0.098X_2 + -0.161X_3 + 0.009X_4 + \varepsilon}$

From the regression model, it was recognized that a unit upsurge in education level lead to influence of commercial banks performance by 39.7 percent, a unit increase in security level will lead to commercial banks influence of performance by 10 percent, a unit increase of age and gender lead to a decline in commercial banks performance by 16 percent and a unit increase in cost lead to increased commercial banks performance by 90 percent. Digitization strategies facilitated performance of commercial banks through ensuring customers are well educated of these strategies to enable using them to handle their own daily banking transactions and issues. This will enable the customers access these services at their own convenience and also ensure that they are served even outside the normal operating hours of most commercial banks. The knowledge will also enable customers use these digitization strategies can cover their costs, manage their finances, and administer their assets without having to go to the bank or other institutions to pay for their own utilities like power, pay television, mobile phone airtimes among others.

5.0 Conclusions and Recommendations

5.1 Conclusions

As a goal, the research was to determine the impact of digitalization techniques on the performance of Kenyan commercial banks. Grounded on the findings, it is clear that education level and cost of services were significant strategic determinants that affected the performance of Kenyan commercial banks. Digitization strategies facilitated performance of commercial banks through ensuring customers are well educated of these strategies to enable using them to handle their own daily banking transactions and issues. This will enable the customers access these services at their own convenience and also ensure that they are served even outside the normal operating hours of most commercial banks. The knowledge will also enable customers use these digitization strategies can cover their costs, manage their finances, and administer their assets without having to go to the bank or other institutions to pay for their own utilities like power, pay television, mobile phone airtimes among others. Performance of commercial banks was also ascertained through training customers on digitization which has facilitated the banks to reach other financial markets without physically being present in those markets. The has greatly abled rise in agency banking where the commercial banks' agents are able to fully transact in supporting the commercial banks through account opening, deposits and withdrawals among many other services that are available at the main commercial bank.

With these digital strategies, the commercial banks are also able to grow their customer base and increase number of transactions leading to growth in revenues associated hence improved performance. The advent of Covid-19 has greatly improved usage of the digital strategies which has enabled improvement of customer's ability to conduct financial transactions, minimizing the prerequisite for collaboration between bank workers and consumers. Commercial banks further have a responsibility to availing the digital solutions to their customers within a secure and cost effective framework. The cost of accessing these services will ensure increase in utilization of these digital solutions which present great convenience to the customers. From the revenues realized, the banks are able to absorb costs related to development of digital solutions hence giving an opportunity to continuously improve on it. The study further concluded that it is very clear that the increased utilization of digital solutions will ensure the bank improves its performance in the future. Inside of our banks hacking into accounts as well as other forms that belongs to internet-based crime has increased with digitalization which has led to innovations in how to mitigate this risks though investing on top of the line firewalls and security protocols.

5.2 Recommendations

Management of the banks should capitalize more in digitization to ensure to reach the unbanked populations of Kenya. According to the findings there is great potential of increasing the utilization of banking services though entrenching digitization strategies. Majority of the customers now have access to mobile phones which will mean that the banking services can be made available to these customers either through mobile applications for customers with smart phones and through Unstructured Supplementary Service Data (USSD) for customers without smart phones. It was further endorsed that banks should ensure that the channels are well secured and the customers' information is well protected. This was indicated from the faith that which customers have placed these services and expect that the banks have done all within their abilities to ensure this is achieved. Customers use these channels with the full knowledge of the risks associated and expect the same from the financial institutions. International best practice has made great strides in consumer protection which can be assumed by the financial establishments in Kenya.

The management of banks should increase focus on customers above the ages of 35 years in their marketing as the analysis of the study indicate that the initial focus of the middle age of 25 to 34 years are not heavy users the digital banking services. This may also indicate a great instance of an age group that is underbanked though provision of banking services that are not customized for their needs. It was further recommended that commercial banks engage mechanisms to understand this age groups, develop and market products customized to address their needs as these are usually in school, looking for jobs or just beginning their careers. The leaders of the commercial banks should come together to present cheap services that can seamlessly serve the customers and further improve the penetration of banking services among the Kenyan population. Respective banks should participate more in development of digital strategies that will increase to revenues from fees charged for services hence through increased transaction count, leads to increased commercial banks performance in the industry.

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