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KENYA**

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**ABSTRACT**

*Globally, financial innovation has taken tremendous steps for Kenyan commercial banks in the last decade; hence, internet banking as an innovation practice for financial institutions has been very relevant. This has been attributed by the complex growing demands from customers on daily basis, stiff competition from competitors and more importantly financial institutions have the obligation of meeting their targets in the market and also keep at par with competitors and even above them. Despite the existence of various research studies and numerous literatures on financial innovation, most commercial banks still don't have access to the needed information on the aspect of internet banking so as to keep at par with trending needs of customers; therefore this adversely affects their financial performance in both the short and long run. The objective of this study was to determine the effect of Internet Banking on financial performance of commercial banks in Kenya. Specifically, the study concentrated in Kakamega County; Kenya. The study applied the descriptive Survey research design and the target population of the study was from the members of the commercial banks in Kakamega County. The study applied census technique on the study target population since it was manageable. The data collection instrument included structured questionnaires. Computer software of Statistical Package for Social Sciences (SPSS 24) was employed to generate and analyze data in order to respond to descriptive statistics; frequency, mean and standard deviation. The software was as well used on Inferential Statistics that led to generation of statistics of correlation among the variables. Regression analysis was done and results were based on complying with the objective of the study. The Conclusions was that Internet Banking had an influence on performance of commercial banks. The recommendation of the study was that the Commercial Banks should embrace Internet Banking Practices since it improves Financial Performance of the commercial banks.*

**Key words:** *Internet Banking, Financial Innovation, Financial Performance*

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## INTRODUCTION

Innovation simply means a new way of doing something. It can be an idea, practice or object that is viewed or perceived as new by unit of adoption (Rogers, 2003). This definition covers the diffusion of innovations as well as their initial creation and application although it is usually understood to be distinct from invention. While invention is the first occurrence of an idea for a new product or process, innovation is the first attempt to carry it in practice (Schumpeter, 1934). With the need to grow and meet unmet markets, most companies globally are constantly reviewing their financial innovation strategies so as to keep at par with others.

Various studies conducted globally concerning financial innovation gave different findings concerning financial performance of banks. For instance, Sullivan (2000), DeYoung (2001), Hasan (2002), Pigni *et al.* (2002), Kagan (2005), Arnaboldi and Claeys (2008), Ciciretti *et al.* (2009), WeigeltveSarkar (2012). Their studies showed that electronic banking applications required advanced technology so as to increase banks profits in the US and European countries. Internet banking has a positive contribution to development of competition in the banking sector precisely banks performance. Therefore, their application makes banks to build the orientation of technological innovations up (Arnaboldi and Claeys, 2008, Ciciretti *et al.* 2009). It has been observed that financial innovation in technology reduces operational risks of the banks (Hasan 2002, Ciciretti *et al.*, 2009).

Internet banking applications increase the asset quality of banks and therefore increase the operational profitability and ROE performance directly (Kagan 2005). Internet Banking is the use of internet and telecommunication networks to deliver a wide range of value added products and services to bank customers through the use of a system that allows individuals to perform banking activities at home, from offices or over the internet (Steven, 2002). Some online banks are traditional banks which also offer online banking, while others are online only and have no physical presence.

Online banking through traditional banks enables customers to perform all routine transactions, such as account transfers, balance inquiries, bill payments, stop-payment requests while some offer online loan applications. Customers can access account information at any time, day or night, and this can be done from anywhere. Internet banking has improved banking efficiency in rendering services to customers. Financial institutions in Kenya cannot ignore information systems since they play an important role in their operations because customers are conscious of technological advancements and demand higher quality services.

Various literatures on internet banking equate internet money with substitution of currency with internet gadgets. Freedman (2000) suggests that internet banking and internet money consists of three devices; access devices, stored value cards and network money. Internet banking is simply the access to new devices and is therefore ignored. Internet money is the sum of stored value (smart cards) and network money is the value stored on computer hard drives. Santomero and Seater (1996), Prinz (1999) and Shy and Tarkka (2002) present models that identify conditions under which alternative payments substitute for currency. Most of these models indicate that there is at least a possibility for internet substitutes for currency to emerge and flourish on a wide scale depending on the characteristics of the various technology and those of the potential users. Friedman (1999) argues that internet banking presents the possibility that an entire alternative payment system not under the control of the Central Bank may arise. Today computers make it at least possible to bypass the payment system altogether, instead using direct bilateral clearing and settlement (Friedman, 1999).

Mobile and Internet Banking is an innovation that has progressively rendered itself in pervasive ways cutting across several financial institutions and other sectors of the economy. In the 21st century, mobile banking has transformed from provision of text messaging services to that of internet banking where customers cannot only see their balances but

set up SMS alerts whenever a transaction is conducted for instance fund transfers, redeem loyalty coupons, deposit cheques through the mobile phone and instruct payroll based transactions (Vaidya, 2011). The world has also become increasingly addicted to doing business in the cyber space, across the internet and World Wide Web. Internet commerce in its own respect has expanded in various innovative forms of money, and based on digital data issued by private market actors, has in one way or another substituted for state sanctioned bank notes and checking accounts as customary means of payments (Cohen 2001).

Technology has greatly advanced playing a vital role in improving the standards of service delivery in financial institution sector. Nowadays, most clients do not queue in the banking halls waiting to pay their utility bills, school fees or any other financial transactions. They can now do this at their convenience by using their ATM cards or over the internet from the comfort of their homes. Additionally due to the tremendous growth of the mobile phone industry most financial institutions have ventured into the untapped opportunity and have partnered with mobile phone network providers to offer banking services to their clients. ATM banking is one of the earliest and widely adopted retail e-banking services in Kenya (Nyangosi et al. 2009). This is due to the fact that many low income earners nowadays have access to mobile phones. A positive aspect of mobile phones is that mobile networks are available even in rural areas at a low or affordable cost. The poor often have greater familiarity and trust in mobile phone companies than with normal financial institutions.

### **Statement of the Problem**

The origin of financial innovation has little empirical scrutiny. Frame & White (2008) affirm that inadequate data is amongst the major barriers to financial innovation study. Internet banking being a practice of financial innovation is still evolving as new financial practice; financial services and operational techniques enter the market on daily basis. Existence of scanty literature focusing on the

evolution of financial systems in the developed economies with few studies focusing on developing economies such as Kenya forms a gap. Despite significant financial innovation which leads to higher performance in banks, their effect is still misunderstood. This is due to the fact that there is inadequate understanding on innovation drivers and their impact on banks financial performance which remains lowly untested (Mabrouk & Mamoghli, 2010). In the last decade in Kenya, the banking industry has undergone rapid changes in terms of innovation such as Internet Banking (CBK Report, 2013). This can be attributed to the introduction of Value capping , agent banking model , Cheque Truncation System (CTS) , T+1 (Cheque clearing in one day). The relationship between the growing investment in technology based bank innovations and bank financial performance in Kenya needs is a key area for research. There is need to establish whether Internet banking have contributed to the financial performance of commercial banks in Kenya. Various researchers have contributed to the field of financial innovations of internet banking including (Mwangi, 2007: Githikwa, 2009: Kinuthia, 2010, Makini, 2010, Karanja, 2011: Muiruri, 2011 &Waweru 2012). Many of these studies embrace a more or less positive relationship between internet banking and firm performance, but there are also some studies that show there is no relationship at all. This therefore necessitated the researcher to fill the gap.

### **Study Objective**

The objective of the study was to ascertain the effect of Internet Banking on Financial Performance of commercial banks in Kakamega County; Kenya . The study was guided by the following research Hypothesis

- **H<sub>0</sub>:** There is no significant effect of Internet Banking on Financial Performance of commercial banks in Kakamega County; Kenya.

## LITERATURE REVIEW

### Theoretical review;

#### Transaction Cost Innovation Theory

Hicks & Niehans (1983) pioneered this theory. Their thought was that the dominant factor of financial innovation is the reduction of transaction cost; precisely, financial innovation is the main response for advanced technology which causes transaction costs to reduce. The reduction of transaction cost can stimulate financial innovation and improvement in financial services. The theory tackled financial innovation from a microscopic economic structural change thinking that the main aim of financial innovation is to reduce the transaction cost. From another point, the theory explained that the radical motive of financial innovation is financial institutes' purpose of beneficial earning. This theory therefore explained the motive and the process of financial innovation from different perspectives.

According to Scylla et al (2006), it is challenging to have room for innovation in the planned economy with pure free economy and tight regulation. Hence, any adjustment caused by reforms in regulation in the financial structure can be termed as financial innovation. The interaction between government and the market eventually creates the spiral growth process, described as, "control-innovate, controls again-innovates again". This same model is considered to have seen the expansion of the scope of innovation with government activity being viewed to possess key stimulus to innovation. Financial control constrains innovation, and therefore rules and regulations that are considered the sign of financial control ought to be the direction of financial innovation and reform.

#### Financial Repression theory

Financial repression refers to the notion that a set of government regulations, laws and other non-market restrictions prevent the financial intermediaries of an economy from functioning at their full capacity. The policies that cause financial repression include interest rate ceilings, liquidity ratio requirements, high bank reserve

requirements; capital controls restrictions on directions of credit allocation, and government ownership or domination of banks. Mckinnon, (1973), and Shaw, (1973), were the first to illuminate the notion of financial repression. While theoretically an economy with an efficient financial system can achieve growth and development through efficient capital allocation, Mckinnon and Shaw argue that historically, many countries including developed and developing ones have restricted competition in the financial sector with government interventions and regulations. According to their argument a repressed financial sector discourages both savings and investment because the rates of return are lower than what could be obtained in a competitive market.

The possible negative effect of financial repression on economic growth does not automatically mean that countries should adopt a laissez-faire stance on financial development and remove all regulations and controls that create financial repression. Many developing countries that liberalized their financial markets experienced crises partly because of the external shocks that financial liberalization introduces or amplifies. Financial liberalization can create short-term volatility despite its long-term gains (Kaminsky & Scumkkler, 2002). Financial repression theory is linked to liquidity management in that management of SACCOs may be guided on setting of minimum cash ratio at any given time.

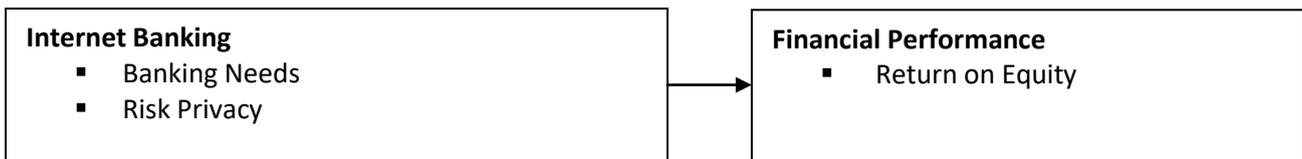
#### Location Innovation Theory

Desai & Low (1987) put forward this theory. They thought that financial innovation is the best method by which the integrity of financial market can come true. According to this theory, they advanced the financial innovation microscopic economic model. They made maximum use of this theory to confirm and measure the gap in the scope of acquirable product in financial market, which indicates the potential opportunity of the new products' innovation and promotion. Chen (1995) built the financial intermediate model whereby new securities secured by old security are created. During decomposition of old securities and opening

new markets, innovators play an influential economical role. For instance, investors can obtain the consumption at lower costs so as to have a better share of risks. His model indicated that when introducing the surplus securities which are not yet distributed, innovators can also play these roles. In

other words, although these innovations have not changed the scope of acquirable financial tools, they make investor's trade at lower expected costs. The main focus is on security designing incomplete financial markets.

### Conceptual Framework



**Independent Variable**

**Dependent Variable**

**Figure 1: Conceptual Framework**

### METHODOLOGY

Descriptive research survey design was used to determine an association between the conceptualized independent and dependent variables as shown in the study's conceptual model. This study targeted 90 employees in the commercial banks in Kakamega County. A sampling frame is a list, directory or index of cases, that enables realization of a representative sample (Mugenda & Mugenda, 2003). Purposive sampling was adopted in choice of study respondents according to management level who had the required information for the study. A sample is a section of a large populace which is used for research study or investigation. Only 10 out of 43 commercial banks were selected for study with a target population of 90 respondents. Therefore, the study adopted a census survey method since the target population is less than 100 thus sampling was not done. (Mugenda & Mugenda, 2003). Census survey was preferred since it enables the researcher to have an in depth understanding of the problem, gather more knowledge and increase data accuracy.

Primary data was collected by means of self-administered questionnaires. The questionnaires had structured questions. These questionnaires were structured to suit the study. Data collected from the field was coded, cleaned, tabulated and analyzed using both descriptive and inferential

statistics with the aid of specialized Statistical Package for Social Sciences (SPSS) version 24 software. Descriptive statistics such as frequencies and percentages as well as measures of central tendency (means) and dispersion (standard deviation) was used. Data was also organized into tables for easy reference.

Further, inferential statistics such as regression and correlation analyses was used to determine both the nature and the strength of the relationship between the dependent and independent variables. Correlation analysis is usually used together with regression analysis to measure how well the regression line explains the variation of the dependent variable. The linear and multiple regression plus correlation analyses were based on the association between two (or more) variables. SPSS version 24 computer software was used to compute statistical data.

Study conceptualized Regression Model;

$$y = \beta_0 + \beta_1 X_1 + \epsilon$$

y = Financial Performance

$\beta_0$  = Constant

$X_1$  = Internet Banking

$\{\beta_1\}$  = Beta coefficients

$\epsilon$  = the error term

## FINDINGS AND DISCUSSIONS

The study involved 90 questionnaires being dispatched for data collection, 86 questionnaires were returned completely filled, representing a response rate of 96% which was good for generalizability of the research findings to a wider population

## Descriptive Statistics;

### Internet Banking

These are summarized responses on whether Internet Banking influences financial performance of Commercial Banks in Western Kenya. The descriptive results were presented in table 1.

**Table 1: Descriptive statistics; Internet Banking**

Statement	5	4	3	2	1	Mean	Std Dev
Internet banking is compatible with my banking needs	2(2.3)	36(41.9)	9(10.5)	11(12.8)	29(32.6)	4.7209	.58714
Internet banking is easy to use	13(13.3)	32(32.6)	32(32.6)	8(9.2)	11(12.2)	3.9767	1.4469
Internet banking is compatible with my life style	11(11.2)	39(39.8)	28(28.6)	4(13.0)	4(10.2)	3.8488	1.2881
The use of Internet Banking is a sign of modernity	12(12.2)	37(37.7)	11(11.2)	17(29.6)	9(9.2)	3.2209	1.5673
Few people use internet banking	15(15.3)	31(31.6)	18(30.6)	10(10.2)	12(12.2)	4.0000	1.2461
Internet banking meets international standards	14(14.2)	36(36.7)	10(10.2)	18(30.6)	8(8.2)	4.7109	.57714
<b>Valid list wise=86</b>							
<b>Grand mean =4.07</b>							
<b>Grand Std =1.12</b>							

From the results in Table 1, the composite mean was 4.07 while the composite standard deviation was 1.12. This implied from the descriptive statistics that respondent's opinion was spread across the five point Likert scale. Besides, the composite mean 4.07 is close to the score 4 which on the Likert scale which denoted agree. Therefore in general, the respondents were in agreement that internets had an effect on financial performance of commercial banks in kakamega County.

Yin and Zhengzheng (2010) carried a research in China with an aim of analyzing the operational changes due to technology innovations. Their study indicated banks that adopted innovations of processes were more profitable. When a bank adopts streamlined operations for instance using internet banking, it may result to low operational costs. Thus, the commercial bank may save on costs hence improving on its performance.

## Inferential Statistics;

### Correlation Analysis

Correlation analysis is done in a study to find out the level to which two factors converge or diverge in relation to establishing significance of the relationship. In this case, positivity and negativity of the value of the correlation coefficient determines the relationship. A positive value of the correlation coefficient indicates that the two variables point in the same trend, negative value indicates that the variables move in opposite direction or trend. Essentially, correlation analysis portrays to a given degree, the element of variable influence on another although correlations do not imply a cause- effect relationship. The correlation matrix of the study is shown below.

**Table 2: Correlation Statistics**

		Internet Banking	Financial Performance
Internet banking	Pearson Correlation	1	
	Sig. (2-tailed)	.000	
	N	86	
Financial Performance	Pearson Correlation	.826**	1
	Sig. (2-tailed)	.000	.000
	N	86	86

Pearson Product Moment Correlation Coefficient for key study variables

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

\* Correlation is significant at the 0.05 level (2-tailed).

### Linear influence of Internet Banking on Financial Performance

This tested the direct influence of Internet Banking on Financial Performance of Commercial Banks in Kenya. The results are shown table 3.

**Table 3: Direct influence of Internet Banking on Financial Performance**

Model Summary									
						Change Statistics			
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.550 <sup>a</sup>	.303	.295	3.23695	.303	98.422	4	82	.000
ANOVA <sup>b</sup>									
Model		Sum of Squares	Df	Mean Square	F				Sig.
1	Regression	64.110	1	64.110	98.422				.000 <sup>a</sup>
	Residual	48.854	85	.651					
	Total	112.964	86						
Coefficients <sup>a</sup>									
		Unstandardized Coefficients		Standardized Coefficients					
Model		B	Std. Error	Beta	T				Sig.
1	(Constant)	8.798	1.628		5.405				.000
	Internet Banking	.486	.080	.550	6.043				.000

a. Dependent Variable: Financial Performance

From table 3, the model summary shows that  $R^2 = 0.303$ ; implying that 30.3% variations in the Financial Performance of Commercial Banks in Kenya is explained by Internet Banking while other factors not in the study model accounts for 69.7% of variation in Financial Performance of Commercial Banks in Kenya. Further, coefficient analysis shows that Internet Banking has positive significant influence on Financial Performance in Kenya ( $\beta = 0.486$  (0.080); at  $p < .01$ ). This implies that a single improvement in effective Internet Banking will lead to 0.486 unit increase in the Financial Performance of Commercial Banks in Kenya.. Therefore, the linear regression equation is;

$$(ii) y = 8.798 + 0.486X_2$$

Where;

Y = Financial Performance

$X_2$  = Internet Banking

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## CONCLUSIONS AND RECOMMENDATIONS

The study established that Internet Banking had an impact on Financial Performance. Majority of the respondents were of the view that Internet Banking enhances on the impact of financial performance.

Based on the results of the study, Internet Banking was found to have an effect on financial performance. Commercial Banks were more likely to be affected by internet banking. In this regard the study concludes that internet banking had an effect on commercial banks and more so affects the financial performance.

It was recommended that top management should embrace internet banking since it affects the financial performance.

### Areas for further research

The study recommends further research on similar variables using different methods.

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