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EFFECT OF INFORMATION TECHNOLOGY CAPABILITY ON COMPETITIVE ADVANTAGE OF THE KENYAN BANKING SECTOR

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ABSTRACT

Purpose: The study sought to establish the effect of Information Technology Capability on competitive advantage of the banking sector in Kenya.

Methodology: The study is anchored on the McKinsey 7S Framework Model and the dynamic capability Theory. A positivist research philosophy was adopted for the study. Focusing on 39 operational commercial banks in Kenya, a descriptive survey design was adopted. Primary data was collected and applied in the study.

Findings: The relationship between the variables was tested using ordinary east square regression model. The study findings revealed that strategic capabilities, that is information technology capability have a positive and significant effect on competitive advantage of commercial banks in Kenya.

Unique contribution to theory, practice and policy: The study findings led to the recommendation that the commercial banks should enhance the practices that improves their strategic capabilities.

Keywords: *Information Technology Capability, Commercial Bank and Competitive Advantage*

1.0 INTRODUCTION

The business environment today is characterized as Volatile, Uncertain, Complex and Ambiguous (VUCA). In such an environment, the capability to sense and respond to market threats and opportunities with speed and surprise has become essential for survival of organizations (Huang, Ouyang, Pan & Chou, 2012). In this volatile market, competition is causing both demand and supply to fluctuate more rapidly, widely, and frequently than they used to. Under this condition, firms ought to be agile and be able to sense and respond to market changes quickly and smoothly to maintain their competitiveness. By agility we mean the ability of a firm to detect and respond to opportunities and threats with ease, speed, and dexterity (Lu & Ramamurthy, 2011). It is basically the organizational ability to react quickly and effectively to an environment which can change radically. In these days of globalization and internationalization of markets, only firms that have the ability to create and sustain a competitive advantage within the turbulent environment survive (Lee, 2013). This is because environments are rapidly changing, leading to high uncertainty level. This increasing uncertainty may result from higher customer expectations, dilution of borders between competitive environments and the move towards global competition. Once the firm achieves a sustainable competitive advantage, then the next hurdle is how to gain and sustain high performance (Kraaijenbrink, Spender & Groen, 2011).

Organizational agility, which emphasizes rapid and innovative response to market change, thus is becoming a critical weapon to respond to market uncertainties and opportunities (Chung, Liang, Peng & Chen, 2012). This agility reflects a firm-wide capability to deal with unexpected changes via rapid and innovative responses (Trinh-Phuong, Molla & Peszynski, 2012). Agility has increasingly become indispensable for survival and prosperity for organizations operating in an environment that is characterized as Volatile, Uncertain, Complex and Ambiguous (VUCA). Given its significant role in a turbulent business environment, agility has garnered considerable research attention over the past few years (Huang, Ouyang, Pan & Chou, 2012). Nafei (2017) argued that one of the main higher order capabilities that every firm needs in this competitive era is organizational agility. According to Nafei (2017), organizational agility can enhance the performance over a relatively long time frame by effectively responding to customers' demands. Specifically, as a dynamic capability, organizational agility facilitates integrating and assembling resources, such as assets, knowledge, and relationships. The role of organizational agility in enhancing competitive advantage lies in concentrating on the integration of operational processes to provide a support to the innovative ideas, putting the ideas and decisions into implementations more easily.

Kenyan Banking Sector

Kenya currently has 39 operational commercial banks, with two banks being under receivership (Chase bank and Imperial bank), another bank being under statutory management (Charter house Bank), one bank being in transition to be acquired (Fidelity Commercial bank) while Dubai bank is closed. Banks in Kenya are classified into three strata; large peer, Medium peer group and Small peer group according to their total assets base (Central Bank of Kenya Report, 2016). In

the recent years, there has been a rapid technological development in the banking industry in Kenya. Globalization has changed the way banks use technology, information and communication to better serve their customers. More banks are rolling out diverse products with the help of technology in order to meet the client's needs. As the banks become more integrated into the global economy, they are facing opportunities and challenges (Gitonga, 2012).

The Central Bank of Kenya Report 2015 revealed that Kenya's commercial bank sector exhibits differences in performance, with some banks reporting very high profits while others report losses before tax on their annual report. The banking sector is characterized by different banking products, increased choices, security concerns and accessibility. Thus, the ability of commercial banks to effectively and efficiently deliver products and services to clients is key to performance and relevance. Over the years, the banking industry has continually introduced a wide range of new products prompted by increased competition, ICT growth and enhanced customer needs. As a marketing strategy, the new products offered assume local brand names to suit the domestic environment in targeting the larger segment of the local customer base (CBK, 2015).This study focuses on the banking sector because, the banking sector has grown as a knowledge sector becoming dynamic and attempting to cope with the competition due to globalization of economies. Gathungu and Mwangi (2012) argued that globalization has accelerated change in innovation-based industries such as banking, finance and information industries. During the past few years, players in this sector have experienced increased competition due to increased innovation among the existing players and new entrants into the market. The sector is also contending with new regulations and challenges triggered by the global financial crisis (Nyangosi, 2011). Advances in technology, increasingly informed customers, information overload, new regulatory requirements and liberalization of the world economy have created a common playing ground for all organizations making it more difficult for any organization to gain sustainable competitive advantage (De Groote, 2011). Reacting to these changes, some studies (Aburub, 2015) have suggested that an advanced competitive strategy that organizations should possess is organizational agility. This is why this study focuses on this context.

Competitive Advantage

Competitive advantage is an advantage over competitors gained by offering consumers greater value, either by means of lower prices or by providing greater benefits and services that justifies a higher price (Ganguly, Nilchiani, & Farr, 2009). Porter (2008) defines competitive advantage along the three dimensions of cost, differentiation and focus with competitors trying to set themselves apart from those perceived as "stuck in the middle" without competitive advantage. Porter's (2008) work suggests that being able to produce an event at a lower cost compared to the competitors is one-way to competitive advantage. Firms may gain competitive advantage through the initial position, managerial choices, resources and the firm's activities. The strongest competitive advantage is the strategy that cannot be imitated by other companies. For a firm to attain sustainable competitive advantage, it has to achieve a superior position, superior skills and superior resources within the industry (Kamukama, Ahiauzu & Ntayi, 2011). Competitive advantage is measured using indicators such as market coverage, market share, profitability and efficiency. Market share refers to the percentage of the customers served by a particular bank

over a specified time period. Profitability on the other hand refers to the ability of the banks to earn profits. Furthermore, efficiency refers to the ability of the banks to serve their clients to their satisfaction at minimum costs (Barney, 2014). The agility literature has argued that rapid response and innovative response are fundamental to organizational agility. In this view, IT capability has been identified as a critical ability to influence the rapidness of firm, namely the speed of sense and response to market changes by the high velocity of information transfer (Lu & Ramamurthy, 2011). However, scholars have indicated that IT capability normally requires complementary organizational capability so that it can be deployed and then play a role.

Information Technology Capability

Tallon and Pinsonneault (2011) argued that organizational agility can be improved by some antecedents such as lower level capabilities like IT capability. According to the view of a hierarchy of capabilities lower-order capabilities such as and IT capabilities are combined to generate higher-order capabilities such as organizational agility which can enhance the performance or competitive advantage of organizations. It is widely acknowledged that as a higher-order capability, organizational agility not only can enhance performance directly but also it can be developed as a consequence of other capabilities, such as Knowledge management capability and IT capability (Dunlop-Hinkler *et al*, 2011). The ubiquitous nature of (ICT) and leveraging information technology (IT) to derive competitive advantage is emerging as a top priority for firms as they often enable an organization to be a marketplace differentiator. Organizational agility can be enhanced with availability of IT and Knowledge management capability. Moreover, agile firms not only need to be able to act upon opportunities with speed but the actions that they take should also be simultaneously cost-effective to confer profitable outcomes. To enable that, there is a need for IT capability (Lu & Ramamurthy, 2011).

Past research generally has asserted that IT can enable agility by speeding up decision making, facilitating communication, and responding quickly to changing conditions. IT improves operational and management competencies in enterprise systems (Ngai, Chau & Chan, 2011) and helps in achieving competitive advantage by improving interaction with customers (Roberts & Grover, 2012). To this end, in order for organizational agility to be effective, there is a need for intervention of IT capability as antecedent to it.

1.1 Statement of the Problem

The Commercial banks operating in Kenya are experiencing a faster pace of change. The industry is now characterized by customers' sophistication, strict regulation and supervision, technology advancement, liberalization of banking license leading to rapid internationalization. Currently, there have been new regulations on interest rate capping and the CBK (2018) report indicates that it has affected commercial banks negatively. The Central Bank of Kenya Banking Sector Stability Report (2018) indicated that due to the changes in the regulations, there has been an increase in value of gross non-performing loans (loan defaults) in the banking sector by 47.5% in the year 2017, decrease in profits as well as quality of assets. In order to survive, commercial banks need to have the best strategic capabilities and organizational agility is required. However, empirical literature on the relationship between organizational agility and

competitive advantage is scarce. Studies, for instance, Almahamid, Awwad and McAdams (2010) focused on the effects of organizational agility and knowledge sharing on competitive advantage which was an empirical study in Jordan. There was no moderation of the relationship between the two variables. Another study by Cai, Huang, Liu, Davison and Liang (2013) examined the development of organizational agility through IT Capability and Knowledge Management Capability with the relationship being moderated by organizational climate. The study focused on China which is a developed economy. The findings cannot be generalized to a developing economy like Kenya. This is contextual knowledge gap because no study has been conducted in Kenya linking strategic capabilities, organizational agility and competitive advantage in the banking sector. Further, the use of organizational climate as a moderating variable in the China study creates a narrow comparison. This study will use regulations as a moderator on the relationship between knowledge management and competitive advantage different from the China study which used organizational climate as a moderator on the relationship between IT and KM and organization agility. The role of organizational agility on the relationship has received less empirical focus as an intervening variable in the relationship between KM and competitive advantage where organizational effectiveness is a performance measure. This study hence focused on establishing the effect of strategic capabilities on competitive advantage in the banking sector in Kenya with information technology capability and knowledge management capability as the antecedents of organizational agility and CBK regulations as the moderating variable so as to fill knowledge gaps identified in the relationship between organizational agility and competitive advantage.

Research Hypothesis

H_{01} Information Technology capability has no significant effect on competitive advantage of the banking sector in Kenya

2.0 LITERATURE REVIEW AND THEORETICAL REVIEW

The McKinsey 7S Framework Model

The McKinsey 7S Framework is a management model developed by Peters and Waterman (1980) as a strategic vision for groups, to include businesses, business units, and teams. The McKinsey 7S model involves seven independent factors which are: strategy, structure, systems, shared values, style, skills and staff (Peters & Waterman, 1980). According to the model, for an organization to perform well, these seven elements need to be aligned and mutually reinforced during strategy implementation. The 7-S model can be used in different situations which are useful to the organization such as; determining how best to implement a proposed strategy, aligning departments and processes during a merger or acquisition and examining the likely effects of future changes within an organization. If something in the organization is not working well then it shows that there is inconsistency between some of the identified elements in the model. The model is hence used to identify the needs that should be realigned to improve performance of a firm through better strategy implementation or to maintain it when an organization is incorporating changes (Hanafizadeh & Ravasan, 2011). The theory is relevant to

the study as it highlights the link between strategy alignment with the internal resources of the firm in order to achieve the firms targets. Organizational agility which is a higher order capability, as well as a strategy, should be aligned alongside the lower order capabilities such as KMC and ITC so as to achieve better results that enhance competitive advantage. This model presents a way of mutually reinforcing the firm's strategy and resources so as to achieve the desired goals.

The Dynamic Capability Theory

The dynamic capability theory proposed by Teece et al. (1997) suggests that the success of a firm relies on its ability to integrate, build, and reconfigure internal and external competencies to achieve new forms of competitive advantage. Scholars further proposed that the view of a hierarchy of capabilities and the view of capability embeddedness could constitute the basic views of the dynamic capability perspective. According to the view of a hierarchy of capabilities, various kinds of resources and specialized knowledge could be combined and integrated to generate lower-order capabilities. These lower-order capabilities are combined to generate higher-order capabilities, which can enhance the performance or competitive advantage of organizations (Grewal & Slotegraaf, 2007). Some researchers claim that the lower-order capabilities contain operational routines and higher-order ones contain dynamic capabilities. In the existing literature, organizational agility has been treated as one type of dynamic capability, which refers to a higher-order capability (Dunlop-Hinkler et al, 2011). It is widely acknowledged that as a higher-order capability, organizational agility not only can enhance performance directly but also it can be developed as a consequence of other capabilities, such as Knowledge management capability and IT capability (Sambamurthy et al, 2003). The relevance of the theory lies in its ability to link organizational agility as a capability with other lower level capabilities such as knowledge management and IT capability. The theory argues that organizational agility not only enhances performance directly but also it can be developed as a consequence of other capabilities, such as Knowledge management capability and IT capability. It therefore supports the role of KMC and ITC as intervening variables. The theory also predicts a positive relationship between organizational agility and competitive advantage.

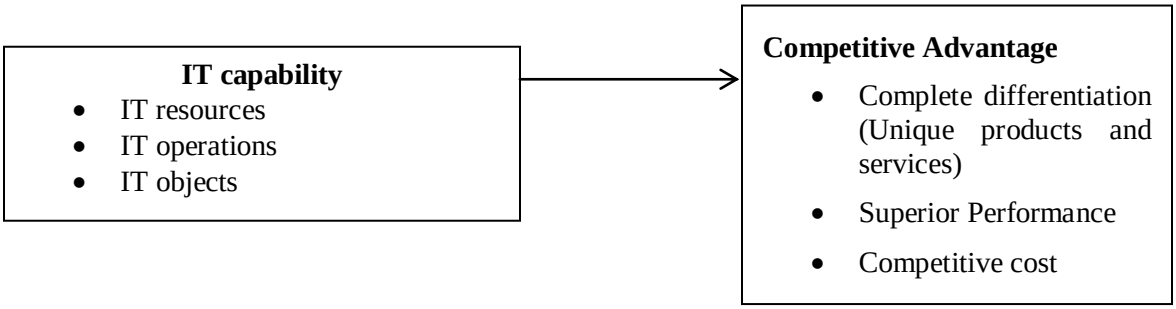
Empirical review

Information Technology Capability and Competitive Advantage

Tallon and Pinsonneault (2011) also conducted a study to establish the competing perspectives on the link between strategic information technology alignment and organizational agility using IT as a mediating variable. The study adopted a descriptive approach and established that IT infrastructure flexibility and alignment has a positive and significant main effect on agility. The study however uses IT alignment as a mediating variable on the success of organizational agility as a strategy with less focus on the effect of organizational agility on competitive advantage of the organization. This presents a conceptual knowledge gap. Focusing on the factors that impede Business Intelligence and Analytics platforms from enabling organizational agility, Kretzer, Maedche and Gass (2014) use descriptive and inferential approaches to achieve their objectives. The findings of the study revealed that Business Intelligence and Analytics (BI&A) enable

organizational agility in generativity in terms of evoking vast flexibility while providing a stable platform for further developments. The study focused on the effect of various Business Intelligence and Analytics (BI&A) platforms on achieving organizational agility. The study however presents a contextual knowledge gap since it focused on a developing economy.

Conceptual Framework



Independent Variable **Dependent Variable**

3.0 RESEARCH METHODOLOGY

The study adopted a descriptive survey research design and targeted 259 respondents drawn from head of human resource department, operations department, finance department, research and development department, information technology department, head of customer care department and sales and marketing department in each of the 37 commercial bank in Kenya. Primary data was collected through questionnaires with statements captured on a five point Likert scale while secondary data was collected through data collection sheet. Upon completion of the data collection exercise, all completed research instruments were assembled, coded, summarized, entered into the computer; and analyzed using the statistical package for social science (SPSS) version 21.0 to examine relationships between dependent and independent variables. The data was analyzed using descriptive and inferential statistics. Descriptive statistics include percentages, frequency tables, means, and standard deviations. The study applied inferential statistics by conducting ANOVA, regression and B- coefficient. To establish the relationship between strategic capabilities (Independent variable) and competitive advantage (Dependent variable), the study used a univariate regression analysis below.

$\mathbf{Y = \beta_0 + \beta_1 X_1 + \varepsilon}$; where: Y = Competitive Advantage, β_0 = constant, X_1= IT Capability, β_1 = Coefficient and ε = error term

Diagnostic tests were conducted to ensure adherence to assumptions of ordinary least square regression model.

4.0 RESULTS

In this study, the researcher administered a total of 259 questionnaires. A total of 172 questionnaires were filled and returned. This represented a 66% response rate which was

adequate since according to Mugenda (2008), a response rate of 50% is acceptable for analyzing and publishing while 60% is good and above 70% is considered very good.

4.1 Demographic Characteristics of Respondents

This section presents study findings on respondents' demographic characteristics comprising of age, level of education and experience. According to Mugenda and Mugenda (2013), establishing the demographic characteristics of the respondents does not affect the relationship between the variables of the study. It however describes the population under investigation. The demographic characteristics of respondents are as presented in table 1.

Table 1 Demographic Characteristics of Respondents

Demographic Characteristic	Category	Percentage
Age Bracket	21-30 Years	7%
	31-40 Years	14%
	41-50 Years	39.5%
	Over 50 Years	39.5%
Level of formal education	Tertiary	11.6%
	University	88.4%
Work Experience	Less than 3 years	7.0%
	3-5 Years	32.7%
	6-10 Years	27.9%
	Over 10 Years	27.9%

4.2 Descriptive Results

4.2.1 Information Technology Capability

The study sought to assess the effect of information technology capability on competitive advantage of the banking sector in Kenya. Respondents were asked to indicate their level of agreement with statements on Information Technology Capability on a scale of 1-5 where 1=Very low extent, 2=Low extent, 3=Moderate extent, 4=High extent and 5= Very high extent. The findings are presented in table 2. The findings revealed that respondents agreed to a high extent with statements that their bank's ICT capability is characterized by investment towards improvement of the ICT hardware (mean=4.20 and standard deviation= 0.76), that their bank's ICT capability is characterized by investment towards improvement of the skills of the ICT personnel (mean=4.42 and standard deviation= 0.95), that their bank's ICT capability is characterized by Continuous recruitment of the best ICT experts available (mean=4.12 and standard deviation= 0.74), that their bank's ICT capability is characterized by continuous utilization of ICT to manage market information and detect change signals (mean=4.05 and standard deviation= 0.77), that their bank's ICT capability is characterized by continuous utilization of ICT to manage customer information (mean=4.09 and standard deviation= 0.64) and that their bank's ICT capability is characterized by using ICT to support key business processes (mean=4.38 and standard deviation= 0.69). However, respondents agreed to a

moderate extent with the statement that their bank's ICT capability is characterized by investment towards improvement of the ICT software (mean=3.99 and standard deviation= 1.22). On average, respondents agreed to high extent with statements on Information Technology Capability as shown by average mean of 4.18 and average standard deviation of 0.82. The findings are consistent with Tallon and Pinsonneault (2011) who established that IT infrastructure flexibility and alignment has a positive and significant main effect on agility.

Table 2:Descriptive Statistics on Information Technology Capability

Statement	Mean	Std Dev
My bank's ICT capability is characterized by investment towards improvement of the ICT hardware	4.20	0.76
My bank's ICT capability is characterized by investment towards improvement of the ICT software	3.99	1.22
My bank's ICT capability is characterized by investment towards improvement of the skills of the ICT personnel	4.42	0.95
My bank's ICT capability is characterized by Continuous recruitment of the best ICT experts available	4.12	0.74
My bank's ICT capability is characterized by continuous utilization of ICT to manage market information and detect change signals	4.05	0.77
My bank's ICT capability is characterized by continuous utilization of ICT to manage customer information	4.09	0.64
My bank's ICT capability is characterized by using ICT to support key business processes	4.38	0.69
Average	**4.18**	**0.82**

4.2.2 Competitive Advantage

Respondents were asked to indicate the extent to which the firm had achieved the presented achievements on a scale of 1-5 where 1=Very low extent, 2=low extent, 3=Moderate extent, 4=High extent and 5= Very high extent. The findings as presented in table 3 revealed that respondent agreed their firm had achieved to a very high extent reduced transaction lead time (mean=5 and standard deviation =0). Similarly, respondents agreed to a high extent that their firms had achieved competitive cost (Interests on loan) (mean=4.59 and standard deviation =0.49), superior performance(mean=4.00 and standard deviation =0.64), completely differentiated products(mean=4.80 and standard deviation =0.40), completely differentiated services (mean=4.19 and standard deviation =0.75), flexibility in service delivery(mean=4.59 and standard deviation =0.81) and improved customer satisfaction index(mean=4.80 and standard deviation =0.4). On average, respondents agreed to a high extent that their firms had achieved reduced transaction lead time, competitive cost (Interests on loan), superior performance, completely differentiated products, completely differentiated services, flexibility in service delivery and improved customer satisfaction index(mean=4.57 and standard deviation

=0.50). The study findings are consistent with Kamukama, Ahiauzu & Ntayi (2011) who noted that for a firm to attain sustainable competitive advantage, it has to achieve a superior position, superior skills and superior resources within the industry.

Table 3: Descriptive Statistics on Competitive Advantage

Statement	Mean	Standard Deviation
Competitive cost (Interests on loan)	4.59	0.49
Superior performance	4.00	0.64
Completely differentiated products	4.80	0.40
Completely differentiated services	4.19	0.75
Flexibility in service delivery	4.59	0.81
Reduced transaction lead time	5.00	0.00
Improved customer satisfaction index	4.80	0.40
Average	**4.57**	**0.50**

The study further collected secondary data to be used in establishing the financial performance of the commercial banks in terms of returns on assets and returns on Equity for the year 2013 to 2017. The trend analysis of the mean annual ROA as well as mean annual ROE for the commercial banks was established. The trend analysis for mean ROA is as presented in Figure 1. The study findings depict unsteady trends in the performance of commercial banks in Kenya in the study period in terms of ROA. The mean ROA for all the commercial banks in the year 2013 was 2.45%. The mean ROA decreased to 2.2% in the year 2014 before decreasing further to 2.17% in the year 2015. The highest mean ROA recorded within the study period was in the year 2016 where 2.37% was recorded and in the year 2017, a mean ROA of 1.95% was recorded by the commercial banks. This was an indication of unsteady trends in the ROA across the commercial banks in the study period thus revealing unsteady performance of commercial banks. The findings are consistent with Onuonga (2014) who revealed that the performance of the banking sector in Kenya over the last decade has not been impressive.

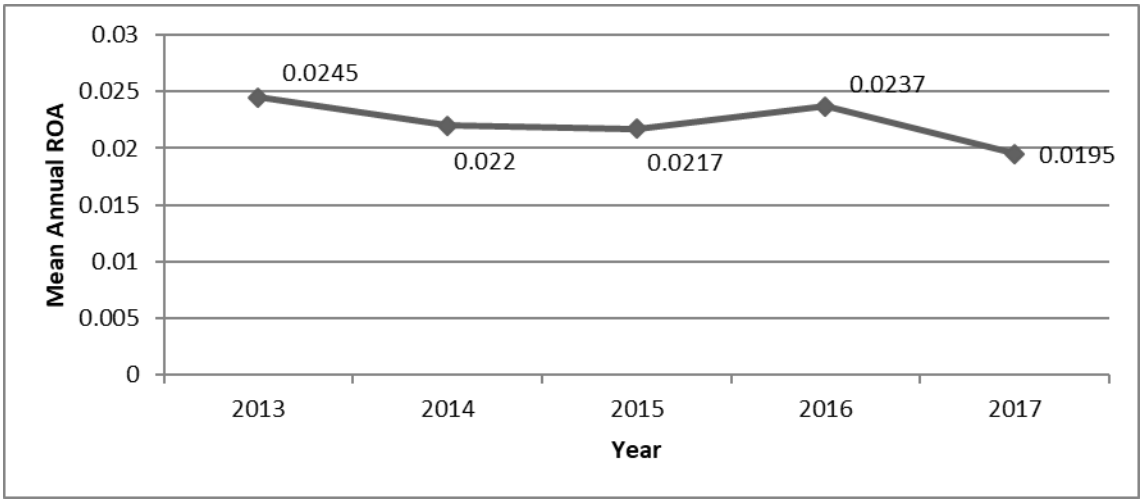


Figure 1 Trend Analysis of Returns on Asset

The study also established the trends of Returns on equity for the commercial banks in Kenya in the study period and five years back.The findings are presented in Figure 2. Unsteady trends in the performance of commercial banks in Kenya in the study period in terms of Returns in Equity were also observed. The mean ROE for all the commercial banks in the year 2013 was 74.27% which was higher than the year 2014 which was 69.76%. The mean ROE in the year 2015 increased up to 97.44% which was the highest for the study period before showing a slight decrease to 88.74% in the year 2016. In the year 2017, there was a further drop in the mean ROE to 83.75% for the commercial banks operating in Kenya in the study period. The findings are consistent with Onuonga (2014) who revealed that the performance of the banking sector in Kenya over the last decade has not been impressive.

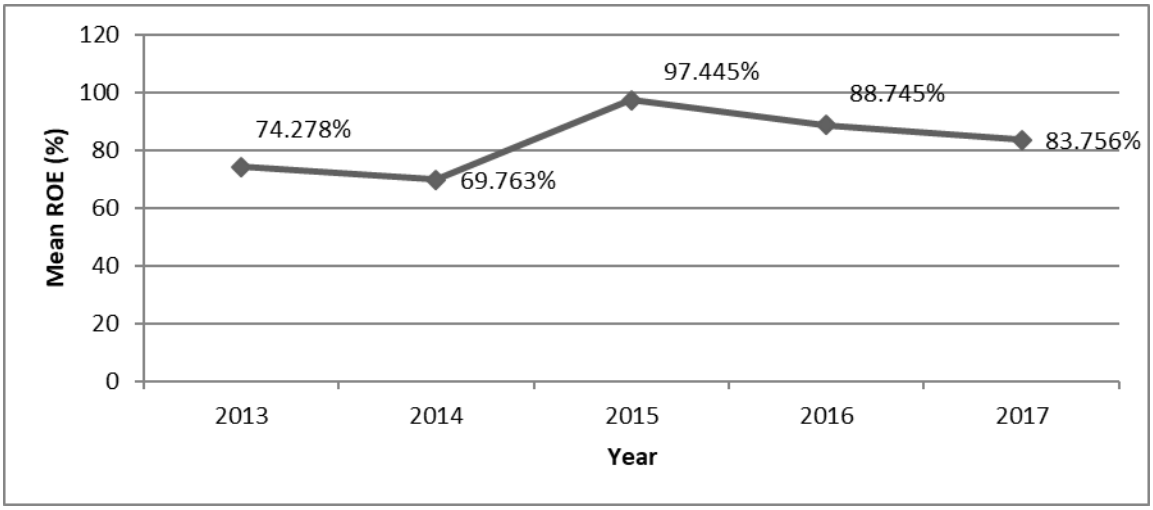


Figure 2 Trend Analysis of Returns in Equity

4.3 Diagnostic Tests

Before running the ordinary least square regression models, the study conducted diagnostic tests to establish whether the assumptions of linear regressions were violated. The study established the linearity tests, Homoscedasticity Test and normality test.

4.3.1 Normality Test of Dependent Variable

In order to make inferences from an analysis, assumption of normally distributed dependent variable is very important. These tests on normality of the dependent variable are conducted using both kolmogorov-Sminorv and Shapiro- Wilk normality tests. However, the Shapiro Wilk results were interpreted since the data set is less than 2000. The hypotheses are: Ho: The data is not different from a normal distribution and Ha: The data is different from a normal distribution

In both tests, if the tests of normality yields a figure of less than 0.05 it means that the data is not normally distributed (null is rejected). The findings are presented in Table 4 indicate that all the variables had insignificant Shapiro Wilk values and Kolmogorov Smirnova values (greater than 0.05) implying that the null hypothesis is not rejected hence the variables are normally distributed.

Table 4 Kolmogorov-Smirnov test of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Competitive Advantage	.196	12	.200*	.925	12	.328

*. This is a lower bound of the true significance.
. Lilliefors Significance Correction

The study further confirmed the normality tests using a normal curve and using Q-Q plots as shown in Figure 3 and 4. The normality curve indicates that the data on competitive advantage has a bell shape which is symmetrical which confirms the KS results of normality. It was hence suitable to be used for further analysis.

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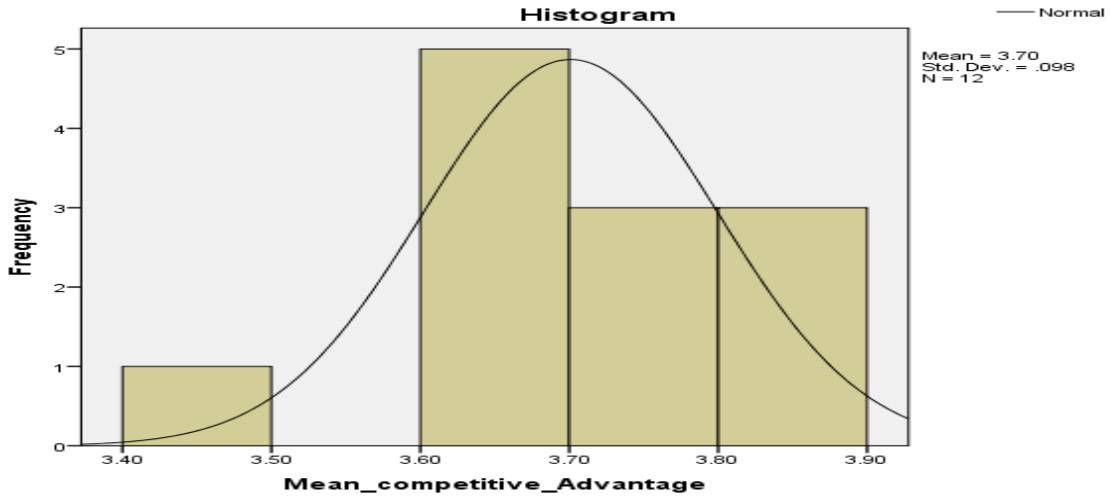

Figure 3 Normality Curve of Competitive Advantage

Further confirmation was conducted using a normal Q-Q plot as indicated in Figure 4. The findings indicated that the data was normally distributed since the observations above and below the fitted line were balanced. It was hence suitable to be used for further analysis.

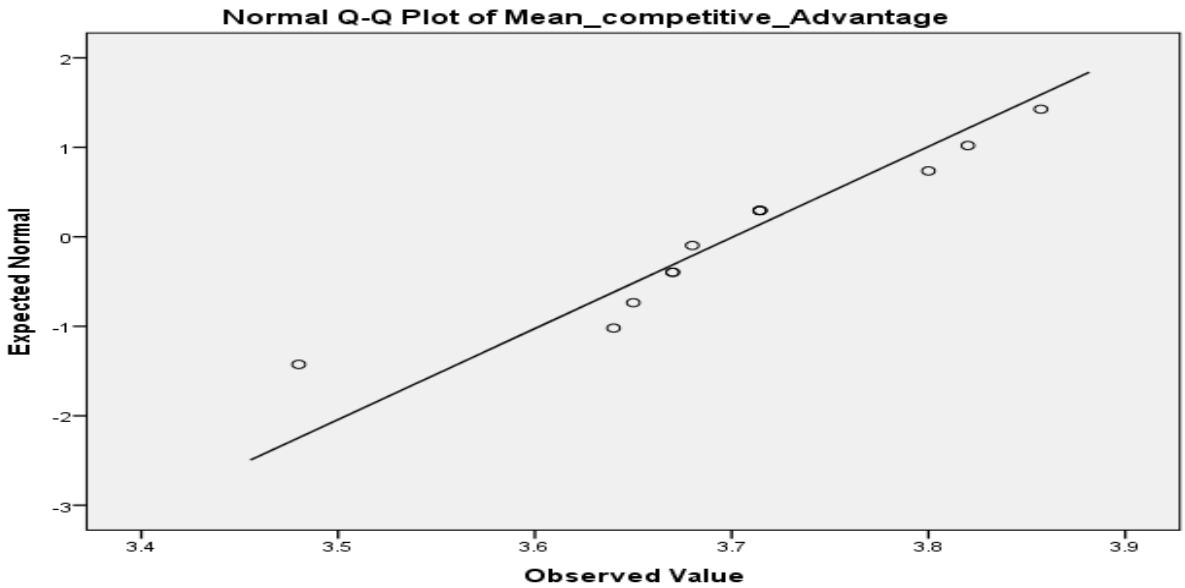

Figure 4 Normal Q-Q Plot for Normality

4.3.2 Linearity Tests

The importance of testing for linearity lies in the fact that many statistical methods require an assumption of linearity of data (the data was sampled from a population that relates the variables of interest in a linear fashion). This section presents the linearity tests to establish whether each

of the study variables has a linear relationship with the dependent variable. The study adopted graphs to test the linearity of the independent variable and the dependent variable. The results in figure 5 reveal that the model linking IT capability and competitive advantage was linear since the observations scattered were along the line of best fit and also indicated an oval shape. The observations above the line and below the line were representative and formed an oval shape as argued by Ghasemi and Zahediasl (2012).

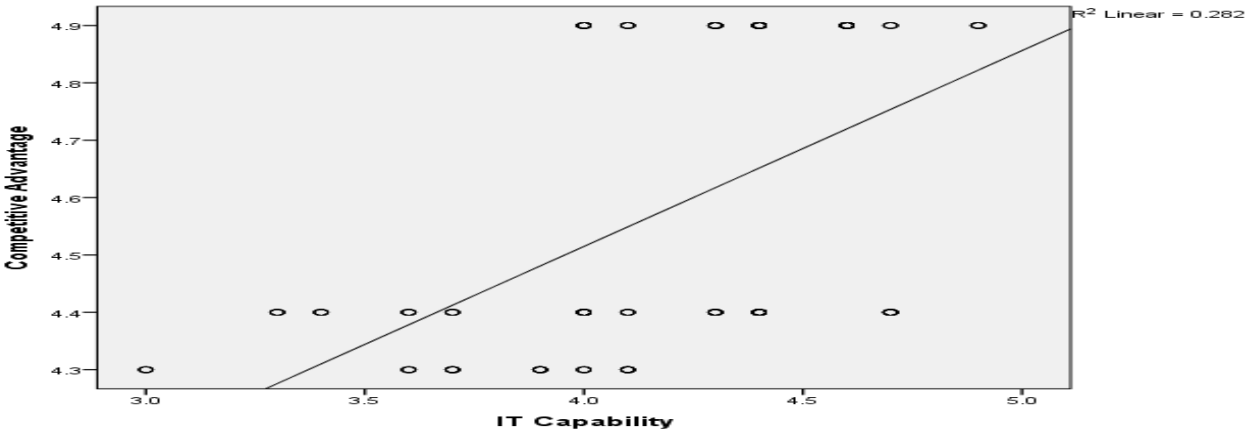

Figure 5: Linearity Test between IT capability and Competitive Advantage

4.3.3 Homoscedasticity

The study used the Breusch-Pagan test recommended by Garson (2012) in testing for homogeneity, which states that the probability value should be greater than .05 to meet the homoscedasticity assumption and therefore allow the progress of regression model analysis. The findings presented in Table 5 indicate that the prob > Chi2 value which represents significance is greater than 0.05 which indicates that the null hypothesis of constant variance is not rejected. This shows presence of homogeneity hence a regression model is suitable in this study.

Table 5 Breusch-Pagan Test of Homoscedasticity

Breusch-Pagan / Cook-Weisberg test for Homoscedasticity
Ho: Constant variance
chi2(3) = 0.834
Prob > chi2 = 0.765

Hypothesis Testing

In order to establish the effect of information technology capability on competitive advantage keeping other independent variables constant, a bivariate regression model of the form $Y= \beta_0+ \beta_1X_1 + \varepsilon$ was established where, Y = Competitive Advantage and X_1 = Information Technology Capability. The findings in Table 6 reveal that other factors held constant, information technology capability accounts for up to 28.2% of the variations in competitive advantage of commercial banks in Kenya as indicated by an R-square value of 0.282. The findings also

showed that the relationship between information technology capability and competitive advantage of commercial banks in Kenya was positive at a value of 0.531. The model significance findings indicated that the model linking information technology capability and competitive advantage of commercial banks in Kenya was significant as shown by a significant F statistic value (Sig = .000, < 0.05) at 5% level of significance. This implies information technology capability can be used to predict competitive advantage of commercial banks in Kenya.

The regression coefficients results of the study also showed that information technology capability positively and significantly affect competitive advantage of commercial banks in Kenya. This is shown by a positive beta coefficient of 0.341 and significance value of 0.000 (Sig < 0.05) at 5% level of significance. The results therefore imply that other factors held constant, a one unit increase information technology capability leads to a 0.341 units increase in competitive advantage of commercial banks in Kenya. The findings are consistent with the findings of a study by Mithas, Ramasubbu and Sambamurthy (2011) to establish how information management capability influences firm performance and revealed a positive effect of IT capability. The findings also relate to the findings of a study by Liu, Ke, Wei and Hua (2013) which established a positive impact of IT capabilities on firm performance. The findings are also consistent with the findings of a study by Chen, Wang, Nevo, Jin, Wang and Chow (2014) which focused on establishing the relationship between IT capability and organizational performance and revealed a positive significant relationship. Furthermore, the study findings are consistent with the findings of a study by Bharadwaj (2000) to establish a resource-based perspective on information technology capability and firm performance through an empirical investigation and revealed a positive relationship as well as the study by Santhanam and Hartono (2003) conducted to link information technology capability to firm performance and established a positive significant relationship between the two variables.

Table 6: Effect of Information Technology Capability on Competitive Advantage

Model Summary					
R	R Square	Adjusted R Square	Std. Error of the Estimate		
.531	0.282	0.277	0.2239		
ANOVA					
	Sum of Squares	df	Mean Square	F	Sig.
Regression	3.342	1	3.342	66.628	.000
Residual	8.526	170	0.05		
Total	11.867	171			

Coefficients					
	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	3.149	0.175		17.951	0.000
IT Capability	0.341	0.042	0.531	8.163	0.000
Predictors: (Constant), IT Capability					
Dependent Variable: Competitive Advantage					

Optimal Regression Model
Competitive Advantage = 3.419 + 0.341 (IT Capability)

5.0 CONCLUSIONS AND RECOMMENDATIONS

Conclusions

The findings of the study led conclusion that information technology capability management practices such as investing towards improvement of the ICT hardware and skills of the ICT personnel to a high extent, continuously recruiting the best ICT experts available to a high extent, continuous utilization of ICT to manage market information and detecting change signals and managing customer information and using ICT to support key business processes would lead to a significant improvement in the competitive advantage of commercial banks in Kenya.

Recommendations

Based on the findings that information technology capability has a positive significant effect on competitive advantage of commercial banks in Kenya, the study recommends that the commercial banks should aim to improve their IT capability by investing towards improvement of the ICT hardware and skills of the ICT personnel to a high extent, continuously recruiting the best ICT experts available to a high extent, continuous utilization of ICT to manage market information and detecting change signals and managing customer information and using ICT to support key business processes.

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