Mediating Effect of Competitive Advantage on the Relationship Between E-commerce Capability and Performance: Empirical Evidence from Commercial Banks in Kenya

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Abstract
Commercial banks operate in a very competitive environment. As such, e-commerce capability of e-commerce has become a crucial tool for provision of competitive advantage and improved performance. However, the mediating effect of competitive advantage on the relationship between e-commerce capability and performance is still a key question. The study empirically analyzed the mediating effect of competitive advantage on the relationship between e-commerce capability and performance of commercial banks in Kenya. Competitive advantage was measured using customer satisfaction index. E-commerce capability was measured using four dimensions of information capability, transaction capability, customization capability and back-end integration capability while performance was measured using Return on Assets. The study was anchored on the Resource-Based View Theory. The study used explanatory research design. A census of 43 commercial banks was taken; data for performance was extracted for the financial year 2016/2017. Data for e-commerce capability was collected from commercial banks websites. Data analysis was done using descriptive and inferential statistics. The study findings revealed that competitive partially mediates the relationship between e-commerce capability and performance of commercial banks in Kenya. recommends that managers of commercial banks should consider delivering superior value to their customers though implementation of e-commerce capability.
Keywords: e-commerce capability, competitive advantage, customization, back-end integration, commercial banks in Kenya
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1. Introduction
Every market economy requires the existing banking system ready to guarantee mobilization of funds, directing such funds towards the quest for efficient financial activities (San & Heng, 2013). Commercial banks play a crucial role of financial intermediation between depositors and borrowers, prompting a more productive allocation of resources and faster economic growth in a nation's economy (Driga, 2006; Ongore, 2013).

Performance of commercial banks has also been a subject of interest by shareholders, investors, financial analysts, bank managers and government agencies. Financial efficiency is one of the key determinants of banks' profitability. Despite more than two decades of financial deepening by commercial banking industry in sub-Saharan Africa, commercial banks have posted mixed results (European Investment Bank, 2015). A report by International Monetary Fund (IMF) indicates that growth in overall performance has been fluctuating in numerous nations in sub-Saharan-Africa; the growth is way below the expectations (IMF, 2016).

Good performance of banks rewards shareholders for their investments, besides promoting national development and economic growth (Kenya & Gitonga, 2016). Therefore, bank performance review remains a subject of concern to researchers ever since the economic downturn in the 1940s (Ongore & Kusa, 2013). According to the researchers, commercial banks should generate sufficient earnings to cowl the operational expenses they incur during business. Therefore, banks must make profits, for their sustainable and effective intermediation.

Kenya boasts of the most established banking sector within the East Africa community (European Investment Bank, 2013). Its banking system is the fourth biggest in sub-Saharan Africa with South Africa leading, Nigeria and Mauritius closely following. Over the years, commercial banks in Kenya have been characterized by poor performance (CBK, 2016). This has led to the collapse of banks and a wave of mergers of some banks. These include the Continental Bank of Kenya and Chase Bank, among others. This has caused panic to various stakeholders in the financial sector.

Firm performance is the accrued outcome of all firm's operations and activities (Wheelen & Hunger, 2011).

Business executives measure firm performance since it prompts improved asset administration, enhanced capacity to offer customer value, improved and better firm knowledge. Carrying out financial measurement is essential for good business administration (Demirbag, Tatoglu,Tekinus & Zaim, 2006). When performance of the firm is analyzed, managerial decisions that informed firms' cash generating activities are evaluated. This helps to determine if the valuable resources were utilized efficiently, if the firm was profitable and if financing decisions were made prudently.

There has been intense debate as to which profitability ratio best measures a firm's financial performance. However, Zhu (2004), Hoq and Chauhan (2011 and Guerreiro (2015) recommend that e-commerce capability effect on firm performance should be measured in financial terms. This is because a firm's ability to perform financially is critical to its survival in the short and long run. Similarly, bank financial performance is the best measurement in terms of profitability using Return on Assets (ROA). The ROA estimate gives investors an idea of how efficiently the firm converts the money it invests into net income (Zhu, 2004). This study therefore used ROA to measure commercial banks' financial performance.

According to World Trade Organization (WTO), the uprise of information has contributed to the rapid development of e-commerce (WTO, 2013). E-commerce has presented a new method of doing business. Firms are endeavoring to develop innovations to effectively accomplish their goals (Chandran, Kang & Leveaux, 2001). The motivation behind the adoption of e-commerce by firms is prevalently to expand their client base by investigating new promoting channels, or to rival customary channels. Online business abilities mirror business vital activities to utilize e-commerce exchange data and information, enhance client benefits, and reinforce provider combination.

Zhu and Kraemer (2005) modeled the e-commerce capability in four dimensions: information capability, transaction capability, customization capability and integration capability. They established a strong relationship between the constructs and firm performance. Similar complimentarity between e-commerce capabilities were also found to strongly influence firms' performance (Merono-Cerdan & Soto-Acosta, 2007).Information capability is the ability to offer sufficient quantity of information about services and products as well as the firm to customers (Zhu, 2004; Lin & Lin, 2008).

Transaction e-commerce capability is ability to conduct online transactions capability such as buying, online payment and provision of web security (DaSilveira, 2003). Customization of e-commerce capability is the ability to improve customer interactions through personalization of products or services (Zhu, 2004). Customization includes online registration, online product recommendation, content personalization, account management and real-time support. Back-end integration e-commerce capability is the ability of a firm to forge a strong electronic integration to facilitate inventory management, coordination and fulfilment between back offices and external users (Zhu, 2004).

The concept of competitive advantage is concerned with a firm finding profitability by developing basic strategies for creating value for its customers and differentiating itself from its competitors. As such, it becomes the first choice in the relevant field (Cooper & Porter, 2002). Bhatt and Grover (2005) postulate that the capability of e-commerce has become a key tool for provision of competitive advantage to firms by enabling banks to reach new territories, improving service delivery and increasing customer satisfaction.

Customer satisfaction has emerged as a crucial strategy that a business organization can use to obtain competitive advantage. According to Porter (2008), the relationship between customers and business firms has strongly developed to a direction where the customers have a dictating position in the sense of bargaining power. With such power, customers have become more demanding towards service providers. Lee, Park, Chung, and Blakeney (2012) argue that in the banking industry, consumer behavior is task-oriented; customers may select from several channels as discussed earlier. Khan and Haseeb (2015) assert that there is a correlation between customer satisfaction and firm performance. Further, customer satisfaction measurement should consider an understanding of the gap between customer expectations and performance perceptions.

2. Literature Review
2.1 Theoretical Literature
This study is grounded is the Resource-Based View (RBV) Theory by Wernerfelt (1984). According Peteraf and Barney (2003), the RBV underlines the firm's resources as the key determinants of competitive edge and firm performance. While valuating the sources of competitive advantage, the RBV Theory assumes that firms with a strategic group may be heterogeneous in terms of the resources that they control. Milgram (1999) observes that firm's resources cannot be assessed in segregation; a single resource may not be as important as a set of them may be. Therefore, one resource produces more noteworthy returns when utilized in combination with others (Black & Boal, 2007). This may clarify why firms may utilize similar e-commerce technologies and obtain varying outcomes. Indeed, a synergistic mix of technological innovations with other firm resources has apparently improved firms' performance (Huang, 2010).

Barney (1991) argues that competitive advantage founded on non-physical resources is inimitable by competitors hence a basis of sustainable competitive advantage. The argument is further supported by Kinyua,

Muathe and Kilika (2015) who, using RBV Theory, identified knowledge, innovation and intellectual properties as key drivers and sources of a firm's competitive advantage. Intangible resources include human capital, intellectual properties and reputation. Human capital provides knowledge, skills, and decision making capability to the firm.

According to Porter (2008), customer satisfaction has emerged as a key strategy that a business enterprise can use to gain competitive advantage. The researcher argues that the relationship between customers and business firms has strongly developed to a direction where the customers have a dictating position in the sense of bargaining power. With this power, customers have become more demanding towards service providers. It can be argued that many industries, especially the service-oriented ones, are under the mercy of their customers. Gaining competitive advantage in today's service firms is a very serious task for management since they need to find a way to deliver superior value to their customers.

Aranyossy (2010) sought to determine if e-commerce resources are associated with improved firm operational efficiencies or competitive advantage using exploratory research approach. The research was based on the RBV Theory. The unit of analysis was the Firm (ICT retail industry); the locus of value was firm level performance. Data was collected from primary and secondary sources, using correlation and regression analyses. The study findings revealed that e-commerce leads to competitive advantage and improves performance of a firm. However, the study concentrated on retail industry and used exploratory research design which is a weak design. The current study focused on commercial banks, using explanatory design.

Contrary, Bernhardt, Donthu and Kennett (2000) conducted a study on US fats foods and failed to demonstrate statistically that there was a significant relationship between customer satisfaction and performance. Instead, they established that there was a correlation between customer satisfaction and performance. Similarly, Keisidou, Sarigiannidis, Maditinos and Thalassinos (2013) found out that neither customer satisfaction nor loyalty significantly impacted on the performance of banks, while other factors were significant.

The survey was carried out in the Greece banking sector. Primary data was collected regarding customer satisfaction and loyalty; the financial data of the banks was obtained from banks' annual financial statements. A structural equation modelling was used to test the hypotheses. The current study tested the mediation effect of competitive advantage using customer satisfaction.

Kombo (2015) found out that lower product or service transaction cost positively affected customer satisfaction. The study also reveals that customer satisfaction provides a basis for firms to enhance their relationships, even with the customers, thus enabling the firms to achieve their financial objectives. Additionally, the findings indicate that both satisfaction and dissatisfaction partially impact on the number of banking products and banks that customers choose to open accounts with thus affecting performance.These studies confirm that exists an empirical gap in the field if e-commerce and firm performance. This study therefore aims at advancing the existing literature by studying the relationship between e-commerce capability, competitive advantage and performance of commercial banks in Kenya. Based on the literature reviewed the study proposed the following hypotheses: H_0: Competitive advantage has no significant mediating effect on the relationship between E-commerce capability and ROA of commercial banks in Kenya.

3.0 Research Methodology

This study adopted explanatory research design as recommended by Saunders, Lewis and Thornhill (2009) and Were and Wambua (2014). Explanatory design was appropriate in explaining the characteristics of the variables of the study. At the same time, it sought analyzing the cause-effect relationship among variables; no manipulation of the independent variables is anticipated. The target population was made up of 43 commercial banks licensed and registered as at 31st December 2016. This study used both primary data and secondary data sources. Data on e-commerce capability was collected through website analysis of each commercial bank. Data on performance was extracted from banks financial statements and bank supervision reports for the period 2016/2017. Data on mediating variable was collected from customer satisfaction surveys from banks' websites.

3.1 Empirical Model

To establish the mediating effect of competitive advantage on the relationship between the e-commerce capability and performance, a four step approach was used as recommended by Baron and Kenny (1986).
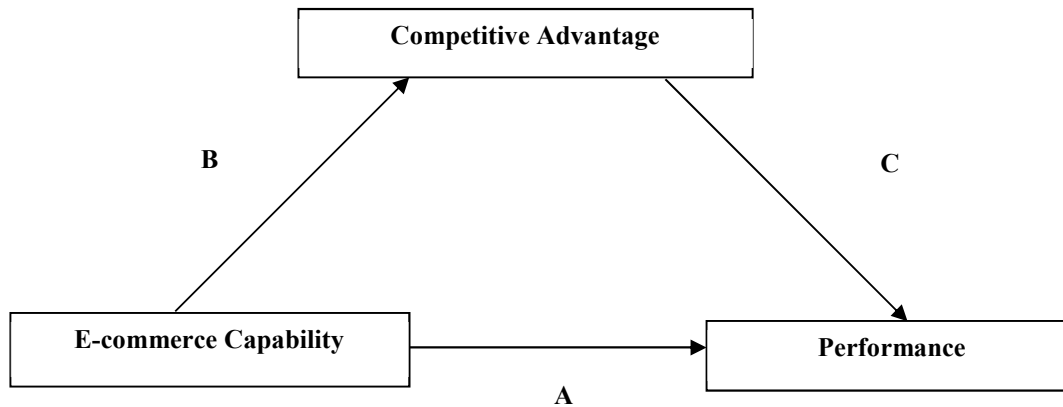
Figure 3.1 Mediation Model

Source: Researcher (2017)

Step 1

A simple regression analysis with e-commerce capability predicting performance was conducted to test for path A.

The models are:

$$ROA_i = \beta_0 + \beta_1 EC_i + \varepsilon_i \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots 3.3$$

Where:

ROA_i = Return on Assets of Bank i

EC_i = Composite index for e-commerce capability of Bank *i*

β_1 = Regression coefficient for e-commerce capability

The objective was to test whether e-commerce capability is a significant predictor of performance. If $\beta_{1\ is}$ significant the e-commerce capability is a significant determinant of performance.

Step 2

A simple regression analysis with e-commerce capability predicting competitive advantage was conducted to test for path B.

The model is:

$$CA_i = \beta_0 + \beta_1 EC_i + \varepsilon_i \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots 3.4$$

Where:

CA_i = Composite Index for Competitive Advantage of Bank *i*

EC_i = Composite index for e-commerce capability of Bank *i*

β_1 = Regression coefficient for e-commerce capability

The objective is to test whether e-commerce capability is a significant predictor of competitive advantage. If $\beta_{1\ is}$ significant, the e-commerce capability is a significant determinant of competitive advantage.

Step 3

A simple regression analysis with competitive advantage predicting performance was conducted to test for path C.

The models are:

$$ROA_i = \beta_0 + \beta_1 CA_i + \varepsilon_i \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots 3.5$$

Where:

ROA_{it} = Return on Assets of Bank i

EC_i = E-commerce capability for Bank *i*

β_1 = Regression coefficient for Competitive Advantage

The objective is to test whether competitive advantage is a significant predictor of performance. If β_1 in the models 3.3a, 3.3b, 3.4 3.5a and 3.5b is not significant, then mediation is not possible. If it is significant, we proceed to Step 4.

Step 4

Multiple regression with e-commerce capability and competitive advantage predicting performance was conducted.

$$ROA_i = \beta_0 + \beta_1 EC_i + \beta_2 CA_i + \varepsilon_i \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots 3.6$$

Where:

ROA_i = Return on Assets of Bank at time *t*

EC_i = Composite index for e-commerce capability of Bank i
β_1 = Regression coefficient for e-commerce capability
β_2 = Regression coefficient for Competitive Advantage
ε = Error Term

Some form of mediation is supported if the effect of competitive advantage remains significant after controlling e-commerce capability. If e-commerce capability is no longer significant when competitive advantage is controlled for, then the findings support complete or full mediation. If both e-commerce capability and competitive advantage significantly predict performance, then this is a case of partial mediation.

4. Results and Discussion
The results of data analysis are presented as follows; descriptive analysis and multiple regressions.

4.1 Descriptive Results
4.1. Competitive Advantage
In this study, competitive advantage was used as a mediating variable and was measured using customer satisfaction index. Figure 4.1 presents the findings on the level of customer satisfaction as reflected by the reports of the analyzed commercial banks.
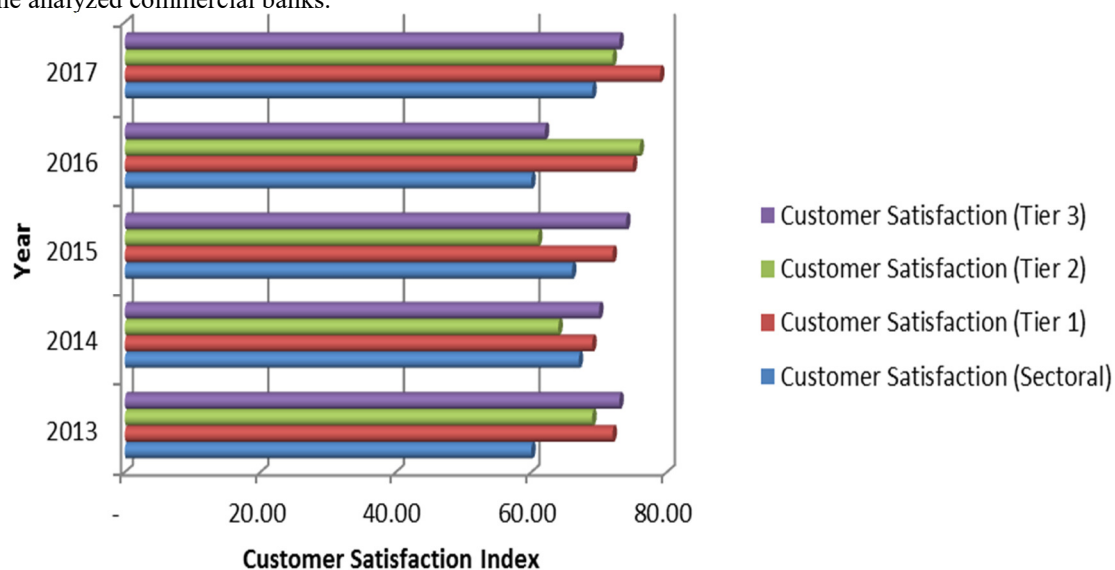

Figure 4.1: Customer Satisfaction Index
Source: Study Data (2018)

The study analysed the customer satisfaction index of the commercial banks as a measure of competitve advantage. The findings presented in Figure 4.2 indicate that the overall customer satisfaction index for 2017, 2015 and 2014 was above the average index of 60%. The results further show that the customer satisfaction index of Tier 1 banks was slightly above Tier 2 and Tier 3 commercial banks. The findings implied that larger banks had a competitive edge over small banks. Mugo (2012), also reported that large banks had a lot of resources. They also invested heavily in technological products, processes and institutional changes, training programmes and employee empowerment practices to ehnance their competitve advantage.

4.2 Test of Hypothesis
4.2.1   Mediation effect of competitive advantage on the relationship between e-commerce capability and ROA
To test for the mediation effect, the study adopted the four steps as suggested by Baron and Kenny (1986).
Step One: E-commerce Capability and Performance
In the first step for testing for mediation effect, a regression analysis was computed with e-commerce capability predicting ROA of commercial banks in Kenya.

Table 4.1: Step One Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
ROA	0.779	0.607	0.597	1.733

a Predictors: (Constant), E-commerce Capability
Source: Study Data (2018)

The model linking, e-commerce capability and ROA yielded Adjusted R Squared =0.597 implying that e-

commerce capability accounted for 57.9% of the variation in ROA as shown by the findings in the model. The findings implied that e-commerce capability had high explanatory power on ROA of commercial banks in Kenya. Similarly, the study finding concurs with Merono-Cerdan and Soto-Acosta (2007) also observed that there is a relationship between firm e-commerce capability: information and customization capability strongly support the positive performance of a firm.

Table 4.2: Step One: ANOVA Results

Model		Sum of Squares	Df	Mean Square	F	Sig.
ROA	Regression	167.373	1	167.373	55.7	0.000
	Residual	108.176	36	3.005		
	Total	275.549	37			

 b Predictors: (Constant), E-Commerce Capability

Source: Study Data (2018)

The ANOVA results presented in Table 4.2 indicate that model linking e-commerce capability with both ROA had a good fitness as shown by f=55.7, p=0.000 <0.05. The finding implies that e-commerce capability significantly predicted ROA. Similarly, the study finding concurs with the views of Zhu (2004) who established that firms that use e-commerce can access new markets, create new distribution channels and attract potential and new customers. Merono-Cerdan and Soto-Acosta (2007) also observed that there was a relationship between firm e-commerce capability: information and customization capability strongly support the positive performance of a firm.

Table 4.3: Step One: Regression Coefficients Results

		B	Std. Error	Beta	t	Sig.
ROA	(Constant)	5.14	1.021		5.036	0.000
	E-Commerce Capability	2.386	0.32	0.779	7.463	0.000

Source: Study Data (2018)

Optimal Model for the step one;

$ROA_i = 5.14 + 2.386$ (E-commerce Capability$_i$) + ε_i

In the model, e-commerce capability had a *beta* coefficient of 2.386, p=0.000 <0.05. This suggests that e-commerce capability significantly predicted the ROA of commercial banks in Kenya.

Step Two: E-commerce Capability and Competitive Advantage

Step two in the test for mediation involved e-commerce capability (independent variable) predicting competitive advantage (Mediating variable). This regression was fitted and the findings are presented in tables 4.4 to 4.8.

Table 4.4: Step Two: ANOVA Results

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	20.59	1	20.59	10.173	0.003
	Residual	76.91	38	2.024		
	Total	97.5	39			

 a Dependent Variable: Competitive Advantage

 b Predictors: (Constant), E-Commerce Capability

Source: Study Data (2018)

The ANOVA results presented in Table 4.4 indicates that the model linking e-commerce capability and competitive advantage had a good fitness as shown by f=10.173, p=0.003 <0.05. The findings imply that e-commerce was a significant predictor variable of competitive advantage.

Table 4.5: Step Two: Model Summary on E-commerce Capability and Competitive Advantage

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.46	0.211	0.19	1.423

 a Predictors: (Constant), E-Commerce Capability

Source: Study Data (2018)

The model linking, e-commerce capability and competitive advantage yield an R-squared =0.460, meaning that ecommerce capability accounted for 46.0% of the variation in competitive advantage measured by customer satisfaction. Aranyossy (2010) likewise revealed that e-commerce capability improved performance of a firm.

Table 4.6: Step Two: Regression Coefficients Results

		B	Std. Error	Beta	t	Sig.
1	(Constant)	0.813	0.796		1.022	0.313
	E-commerce Capability	0.805	0.252	0.46	3.19	0.003

a Dependent Variable: Competitive Advantage

Source: Study Data (2018)

Optimal Model for the step two.

Competitive Advantage = 0.813+0.805 (E-commerce Capabilty) + ε_i

The *beta* coefficient of e-commerce capability in Table 4.6 was β=0.805, p=0.003 which was less than the critical p of 0.05. These results show that e-commerce capability had a significant effect on competitive advantage of commercial banks in Kenya. The second step for mediation test was achieved. This finding concurs with the stance of Bhatt and Grover (2005), postulating that e-commerce capability is a key tool for provision of competitive advantage to firms; it enables banks to reach new territories, improve service delivery and increase competitive advantage. Porter (2008) argued that the relationship between customers and business firms has strongly developed to a direction where the customers have a dictating position in the sense of bargaining power. With such power, customers have become more demanding towards service providers.

Step Three: Competitive Advantage and Performance

Step three in test for mediation involved fitting competitive advantage and performance of commercial banks in Kenya. The findings of this regression analysis are presented in tables 4.5 to 4.7.

Table 4.7: Step Three: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
ROA	0.651	0.424	0.408	2.099

a Predictors: (Constant), Competitive Advantage

Source: Study Data (2018)

The findings of model summary presented in Table 4.7 imply that the model linking competitive advantage and ROA yielded R=square of 0.424. These findings indicate that competitive advantage accounted for 42.4% of the variation in ROA.

Table 4.8: Step Three: ANOVA Results

Model		Sum of Squares	Df	Mean Square	F	Sig.
ROA	Regression	116.893	1	116.893	26.524	0.000
	Residual	158.656	36	4.407		
	Total	275.549	37			

b Predictors: (Constant), Competitive Advantage

Source: Study Data (2018)

The ANOVA results presented in Table 4.8 indicated that the model linking competitive advantage with both ROA was statistically significant as shown by f=26.524, p=0.000 <0.05. The finding implied that competitive advantage significantly predicted ROA. Johnston and Clark (2008) argued that gaining competitive advantage in today's service firms is a very serious task for management. This is because they need to find a way to deliver superior value to their customers through technological innovations such as e-commerce capability. Khan and Haseeb (2015) advance that there is correlation between customer satisfaction and firm performance.

Table 4.9: Step Three: Regression Coefficients Results

		B	Std. Error	Beta	T	Sig.
ROA	(Constant)	1.725	0.832		2.074	0.045
	Competitive Advantage	1.16	0.225	0.651	5.15	0.000

Source: Study Data (2018)

Optimal Model for step three test for mediation

ROA$_i$ = 1.725 +1.16 (Competitive Advantage) + ε_i

In the model, competitive advantage had a *beta* coefficient of 1.16, p=0.000 <0.05. This implies that competitive advantage significantly predicted the ROA of commercial banks in Kenya. Therefore, the third step in test for mediation was achieved. The study finding concurs with the sentiments of Khan and Haseeb (2015) that there is correlation between competitive advantage and firm performance. Thus, competitive advantage measurement should understand the gap between customer expectations and performance perceptions. Similarly, Wang and Shieh (2006), further aver that customers are the cornerstone of any commercial enterprise.

Step Four: E-commerce Capability and Competitive Advantage predicting Performance

The final step in testing for mediation involved fitting e-commerce capability and competitive advantage on performance of commercial banks in Kenya. The findings of this regression analysis are presented in tables 4.10 to 4.12.

Table 4.10: Step Four: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
ROA	0.853	0.728	0.713	1.462

a Predictors: (Constant), Competitive Advantage, E-commerce Capability
Source: Study Data (2018)

The model linking e-commerce capability, competitive advantage and ROA yielded a R-squared = 72.8% of the variation in ROA. The findings show that e-commerce capability and competitive advantage had high explanatory power on ROA of commercial banks in Kenya. The study finding concurs with views of Zhu (2004) that firms that use e-commerce can access new markets, create new distribution channels and attract potential and new customers. Merono-Cerdan and Soto-Acosta (2007) also observed that there was a relationship between firm e-commerce capability: information and customization capability strongly support the positive performance of a firm.

Table 4.11: Step Four: ANOVA Results

Model		Sum of Squares	Df	Mean Square	F	Sig.
ROA	Regression	200.716	2	100.358	46.938	0.000
	Residual	74.833	35	2.138		
	Total	275.549	37			

b Predictors: (Constant), Competitive Advantage, E-Commerce Capability
Source: Study Data (2018)

The ANOVA results presented in Table 4.10 indicate that the model linking e-commerce capability and competitive advantage with both ROA was statistically significant. This is shown by f-statistics =46.938, p=0.000 <0.05. The finding implied that e-commerce capability and competitive advantage significantly predicted ROA of commercial banks in Kenya. The study finding concurs with Zhu (2004) who established that firms that use e-commerce are enabled to access new markets, create new distribution channels and attract potential and new customers. Merono-Cerdan and Soto-Acosta (2007) also observed that there is a relationship between firm e-commerce capability: information and customization capability strongly support the positive performance of a firm.

Table 4.12: Step Four: Regression Coefficients Results

		B	Std. Error	Beta	t	Sig.
ROA	(Constant)	5.884	0.881		6.676	0.000
	E-Commerce Capability	1.874	0.299	0.612	6.261	0.000
	Competitive Advantage	0.688	0.174	0.386	3.949	0.000

Source: Study Data (2018)
Optimal Model for step four test for mediation
$ROA_i = 5.884 + 1.874*(E\text{-}Commerce\ Capability)_i + 0.688(Competitive\ Advantage)_i + \varepsilon_i$
In the model, e-commerce capability had a beta coefficient of 1.874, p=0.000 <0.05, implying that e-commerce capability significantly predicted ROA of commercial banks in Kenya. Competitive advantage had a *beta* coefficient of 0.688, p=0.000 <0.05 implying that competitive advantage significantly predicted ROA of commercial banks in Kenya. The study finding concurs with the position of Khan and Haseeb (2015) that there is correlation between competitive advantage and firm performance. Further, competitive advantage measurement should understand the gap between customer expectations and performance perceptions. Similarly, Wang and Shieh (2006), found out that customers are the cornerstone of any commercial enterprise.

Since both e-commerce capability and competitive advantage significantly predict performance, the study concluded that competitive advantage partially mediated the relationship between e-commerce capability and performance of commercial banks in Kenya. Hence, the study rejected the null hypothesis and concluded that competitive advantage competitive advantage has significant mediating effect on the relationship between e-commerce capability and ROA of commercial banks in Kenya. The findings concur with the observations of Porter (2008) that the relationship between customers and business firms has strongly developed to a direction where the customers have a dictating position in the sense of bargaining power. Similarly, Khan and Haseeb (2015) advances that there is correlation between Competitive Advantage and firm performance and that competitive advantage measurement should consider an understanding of the gap between customer expectations and performance perceptions.

5. Conclusions and Policy Recommendation

Based on the finding, the study concluded that commercial banks e-commerce capability had significant effect on their ROA. The study established that commercial banks that leveraged on information e-commerce capability,

customization capability and back-end integration capability achieved flexibility, customer satisfaction and improved performance. The study further concluded that commercial banks that leveraged on their competitive advantages achieved superior performance. Customer satisfaction emerged as a crucial strategy that commercial banks can used to obtain competitive advantage and that translated to improved overall performance.

Drawing from the findings, the study recommends management of the commercial banks managers should initiate technological reforms in commercial banks aimed at achieving better performance though adoption of e-commerce capablities in this modern era. This will enable them to reach many clients and also encourage clients to use e-platforms in making bank transactions to increase flexibility and reduce queues in their banking halls. The study further recommends that managers of commercial banks should consider delivering superior value to their customers though implementation of e-commerce capability.

In conclusion, the study recommends that academicians in the field of management information systems can utilize the findings of this study to advance knowledge by testing the robustness of other technology theories that can be applied in measuring the effect of E-commerce capability on firm performance.

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