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# INFORMATION TECHNOLOGY OUTSOURCING AND PERFORMANCE OF COMMERCIAL BANKS IN KENYA

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#### Abstract

Commercial banks are the life blood of the economic well-being of any nation and their performance is critical. However, the banking industry globally has been struggling to bounce bank to sustainable performance since the 2007-2008 global economic meltdown despite appropriation of different strategies. In Kenya, for example, commercial banks have resorted to cost rationalization measures such as staff lay-offs and closure of redundant branches. Moreover, some commercial banks have been put under receivership, acquisitions or liquidation due to liquidity problems. To mitigate the performance challenges, commercial banks continue to apply different strategies. This study sought to establish the effect of outsourcing information technology (ITO) on performance of commercial banks in Kenya. The study employed crosssectional explanatory and descriptive research designs. The target population was thirty two commercial banks. Primary data were collected using self-administered questionnaires based on the 5-point Likert scale. Descriptive statistics were computed to describe the characteristics of the study variables while linear regression analysis was used to establish the nature and magnitude of the relationship between the independent and dependent variables. Statistical tests were subjected to 95 per cent level of significance ( $p=\leq 0.05$ ). The study established that outsourcing information technology had a marginal positive effect on performance of commercial banks in Kenya ( $\beta$ =0.017; p=0.004). In addition, the study established that commercial banks employ ITO strategy in order to manage costs and to benefit from vendor's innovation capabilities and flexibility in responding to the demands of a dynamic business environment. Owing to the findings, the study recommends that commercial banks should develop policies that support mainstreaming ITO strategy in their operations with greater focus on areas leading to product innovation, service provision, and data security as they were deemed to highly affect bank performance. However, the study also found that ITO can lead to cybercrimes like phishing, theft of customer data, hacking banking systems, among others, and recommends that due diligence should be exercised when selecting IT vendors to avoid threats relating to adherence of ethical imperatives.

Keywords: Information Technology Outsourcing, Bank Performance and Commercial Banks

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### Introduction

Globally, commercial banks are facing performance sustainability challenges. European Union (EU) banks' profitability remains far lower than in the pre-crisis period (2007-2008) with returns on equity (ROE) falling to 5.4% in 2016 from 5.7% in 2015 and non-performing loans (NPLs) rising from 2% of total loans in 2006 to a peak of 8% in the Euro area in 2016; net profits in the top three Japanese banks decreased by 8.2% in 2016; Brazilian banking industry total profits declined by 23% in 2016; while pre-tax profits of Australian banking industry declined by 3.23% in 2016 and returns on equity(ROE) fell by 3.9 percentage points to 10.1% (Bank of China International Institute of Finance, 2017; Ernest & Young, 2017; KPMG, 2017). Regionally, African commercial banks have continued to register rising levels of NPLs, declining returns on assets (ROA) and ROE over the past several years (IMF, 2016; BOC IIF, 2017).

In Kenya, commercial banking sector's asset quality (proportion of NPLs to gross loans) deteriorated from 5.6% in 2014 to 9.2% in 2016; annualised net interest margins (NIM) fell to 7.1% in 2017 from 8.9% in 2016. Tier 1 (large) commercial banks interest income declined by 9.7%, Tier 2 (medium) declined by 18% and Tier 3 (small) also declined by 18%. In 2017, listed commercial banks in the Nairobi Securities Exchange recorded a 13.8% decline in core earnings per share (EPS) compared to a growth of 15.5% in 2016. Local public commercial banks contribution to the sector's total assets declined to 3.9% in 2016 from 4.5% in 2015 with that of foreign-owned commercial banks remaining unchanged from 2015 at 30.9% (CBK, 2016; AIB Capital Ltd, 2017; Cytonn Investment Ltd., 2017).

### **1.1The Concept of Information Technology Outsourcing**

Information Technology Outsourcing(hereinafter called ITO)is a strategic business practice whereby a client transfers the management of a business process, responsibility or decision rights to an IT products or services vendor (Yu, 2010; Wang, L., Gwebu, Wang, J., & Zhu, 2008; Barthélemy & Geyer, 2005). This practice has developed dramatically in the past two decades in the financial industry globally because of its IT-intensive business processes with organizations as well as commercial banks outsourcing IT functions ranging from infrastructure to software development, maintenance and support; data centre operations, help desk, software development, e-commerce, network operations, and disaster recovery services (Yu, 2010).

Commercial banks engage in ITO for varied reasons such as the need to focus on their core competencies and core business(Gupta& Gupta, 1992; Lacity & Hirschheim, 1994; Grover, Myun & Teng, 1994;Ang & Straub, 1998; Smith, Mitra & Narasimhan, 1998); cost reduction; of which according to Accenture(2003), ITO is an excellent vehicle to help banks to rationalise redundancies, improve automation, exploit low-cost location processing and implement a variable cost structure within their finance and accounting functions. In addition, Data monitor survey (2006) found that banks are increasingly turning to outsourcing as the means to achieve their major business and IT goals such as greater transparency and efficiency of their infrastructure and business processes, which in turn facilitates the achievement of their strategic operational goals. ITO also enables organisations to take advantage of the resources and capabilities of specialised vendors as well as giving them the necessary flexibility in

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responding to the demands of a rapidly changing business environment (Gupta & Gupta, 1992; Gonzalez, Gasco & Llopis, 2010; Yu, 2010).

However, the benefits of IT outsourcing notwithstanding, ITO is associated with some adverse effects such as bringing extra costs owing to vendor selection costs, legal contract costs and lay-off costs (Barthélemy & Geyer, 2005). Researchers also point out that ITO can result to loss of management control, loss of intelligent assets, loss of in-house IT capability, loss of innovative ability, loss of key IS employees, the risk of default of outside vendors, fraud in case of unethical behaviour on the part of the vendor, theft of crucial customer data from banks, phishing, and loss of the learning curve effect, among others (Yu, 2010).Owing to this ambivalence on the results of appropriating ITO in the banking industry, it was deemed necessary to establish its effect on performance of commercial banking sector.

### **Research Objective**

To establish the effect of Information Technology Outsourcing on the performance of commercial banks in Kenya.

### Hypothesis

**Ho:** Outsourcing information technology has no effect on performance of commercial banks in Kenya.

### **Organizational Performance**

Organizations that are going-concerns have the overarching objective of attaining sustainable performance. To achieve this desired objective, they invest huge amount of resources in business processes that can enhance their performance such as information technology. Therefore, organizations can use either in-house IT experts or outsource select IT processes to competent IT vendors in order to leverage on their expertise and experience. However, measuring organizational performance is challenging owing to the fact that it is a complex multi-dimensional construct (Kaplan & Norton, 1996)that is compounded by the absence of agreement on its measurement indicators among strategic management researchers and scholars (Santos & Brito, 2012). Whereas most researchers tend to use financial metrics to measure corporate performance (Combs, Crook & Shook, 2005), financial measures only give historical data on organisational performance which may not accurately reflect the future performance of the organisation.

Zuriekat, Salameh and Alrawashdeh (2011) opine that performance can be measured using financial and non-financial indicators; a proposition supported by Kaplan and Norton (1996) in their balanced score card model; and Waiganjo, Mukulu and Kahiri (2012) who also argue for wider performance constructs that incorporate aspects of non-financial measures such as effectiveness, efficiency, quality, and company image in addition to financial measures such as profits. From the foregoing arguments, this research adopted the use of the two measures in an attempt to establish the effect of IT outsourcing on performance of commercial banks in Kenya.

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### **Statement of the Problem**

Despite appropriation of different strategies by commercial banks in Kenya, the sector continues to face sustainable performance challenges. The sector' sasset quality deteriorated from 5.6% in 2014 to 9.2% in 2016 while annualised net interest margins (NIM) fell to 7.1% in 2017 from 8.9% in 2016. In 2017, Tier1(large) commercial banks' interest income declined by 9.7%, Tier 2 (medium) declined by 18% and Tier 3 (small) also declined by 18%. In 2017, listed commercial banks in the Nairobi Securities Exchange recorded a 13.8% decline in core earnings per share (EPS) compared to a growth of 15.5% in 2016. Local public commercial banks contribution to the sector's total assets declined to 3.9% in 2016 from 4.5% in 2015 with that of foreign-owned commercial banks remaining unchanged from 2015 at 30.9%. Moreover, rising operational costs have led to staff lay-offs and closure of redundant branches while some commercial banks have been put under receivership, acquisitions or liquidation due to liquidity problems.

Commercial banks globally have adopted business process outsourcing strategies such as information technology outsourcing to address performance challenges. However, empirical literature review on the relationship between ITO and performance of commercial banks has shown conflicting findings (Yu, 2010; Suuman & Jain, 2011). Moreover, most related studies have focused on developing countries such as the US, UK, and emerging economies like China, India, Malaysia and the Philippines, among others (Jain & Natarajan, 2011; Suuman & Jain, 2011;Yu, 2010; Yang & Huang, 2010; Kumar, 2005) with very few studies focusing on Africa and more specifically Kenya. In addition, most studies have used either financial or non-financial measures of performance. This study bridges that gap by using a combination of the two metrics in a bid to get a holistic measure of performance. The study also obtained quantitative and qualitative data through use of closed- and open-ended questionnaire items to enable triangulation of results unlike prior studies that used either of the two data types. Moreover, most available related studies in Kenya are case studies that hinder generalizability of the findings. This research sought to bridge that gap by seeking to establish the effect of Information Technology Outsourcing on performance of the entire commercial banking sector in Kenya.

### **Literature Review**

### **Theoretical Literature Review**

Information Technology (IT) outsourcing is supported by a number of theories such as the Core Competence Theory, Resource Based View (RBV) and the Dynamic Capabilities Theory. The Core Competence theory; developed by Prahalad and Hamel (1990), view core competences as capabilities that are central to a firm's value generating activities; assets and skills that are knowledge-based, distinctive, firm-specific and difficult to imitate as they can be formed by using the tangible and intangible value generating resources of the firm. Through business process outsourcing, the management teams and workers of organisations are able to concentrate on their core competencies, organisations generate competitive advantage since they perform functions that they are best at (Ljungquist, 2007).Core competence theory suggests that activities should be performed either in-house or by suppliers. Prahalad and Hamel (1990) opine

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that activities which are not core business of an organisation or/and institution should be considered for outsourcing with best-in-the-world suppliers.

The Resource Based View considers the resources and capabilities of the firm as the source of sustainable competitive advantage which is gained through resources that are valuable, rare, imperfectly imitable, and without strategically equivalent substitutes (Gilley, McGee & Rasheed, 2004; Mata, Fuerst, & Barney, 1995; Barney, 1991). Moreover, RBV is concerned with the connection between internal resources, strategy and the performance of the organisation (Kiiru, 2015). It focuses on the promotion of sustainable competitive advantage through owning or acquiring strategic resources (human, physical, technological and organisational) and dynamic capabilities. Sustainable performance of an organisation is therefore dependent on its access to strategic resources. Where an organisation lacks key strategic resources, it can acquire them through outsourcing concerned processes to specialist vendors (Ljungquist, 2007).

The Dynamic Capabilities Theory postulates that sustainable performance of organisations is based on their ability to respond effectively and efficiently to the highly dynamic and hypercompetitive business environment (Teece&Pisano, 1990, 1994). Teece, Pisano and Shuen(1997) argue that dynamic capabilities are efficient in overcoming the limitations of the RBV by integrating, building, and reconfiguring internal and external competences to address rapidly changing business environments. Researchers have established that improved changes in the abilities of an organisation to cope with the ever changing business environment may reflect positive effects on its performance (Judge, Naoumova & Douglas, 2009).Commercial banks have not been spared by the effects of the rapidly changing business environment. Consequently, they are resorting to business process outsourcing as a strategy to give them the necessary flexibility in areas like information technology, among others.

Owing to the postulations of the foregoing theories, IT outsourcing is certainly a viable option for any organisation looking to save costs associated with IT functions. IT outsourcing enables management teams to better leverage resources, contain costs, and focus on strategic and value-adding activities. Moreover, close collaboration with IT experts reduces the risk of falling behind competitors as technology changes. When a company maintains its own IT services, it must keep abreast of new innovations within the field. However, if IT is outsourced, it's the vendor's responsibility to keep track of new innovative developments as this is his area of expertise. The resultant effect for the company that has outsourced the IT processes are benefits from the IT vendor's specialised expertise, capabilities and resources, thus improving its bottomline(Glassman, 2000).

# **Empirical Literature Review: Information Technology Outsourcing and Performance**

An empirical study by Suuman and Jain (2011) that analysed the role of information technology in the performance of the banking industry in Malaysia found that technological innovations and outsourcing services have enabled the industry to open up new delivery; taking the help of IT to deal with the channels. The study concluded that improved policy reforms in the banking sector have tremendously changed like enhancing payments system, integrating regulations between

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commercial & co-operative banks and finds that there is a positive effect of IT outsourcing on performance of banks.

A case study by Baldwin and Iran (2011)in a UK bank that explored the underlying motives and decision-making process that influenced the bank to outsource its IT/IS functions established that political perspectives, as well as human and organisational factors influenced the bank's strategic decision-making to outsource certain aspects of its business. In addition, findings of the case study suggested that cost alone is not always responsible for decisions to outsource, as it was found the bank's outsourcing decision was driven by a series of complex, interrelated motives in a bid to reduce the risks and uncertainties of managing its own technology. Use of a case study is mainly good when solutions to internal organisational processes are being sought. However, generalisations of case study findings are difficult owing to the unique configurations of different organisations.

Yu (2010) empirical study on the relationship between IT outsourcing and performance in the US banking industry that used the mean comparison method and the statistical regression model to analyse the effect of IT outsourcing on performance using objective accounting measures such as return on assets (ROA), return on equity (ROE), return on investment (ROI) and net interest margin (NIM) as firm-level performance measures concluded that IT outsourcing does not enhance firm performance of banks. However, he observes thatIT outsourcing may not have significant effect on firm performance measurement systems such as the Balanced Scorecard (BSC) and Skandia Navigator, which includes both accounting measures as well as other soft measures, one might find that IT outsourcing actually has significant positive influence on firm performance as a whole.

The study by Wang, L., Gwebu, Wang, J., & Zhu (2008) on the impact of IT outsourcing on firm performance that studied a sample of 120 companies with IT outsourcing arrangement from 1993 to 2003 established that IT outsourcing firms have significantly higher selling, general and advertising expenses/net sales (SGAS) and significant lower return on assets (ROA) compared with the non-outsourcing counterparts in year t+1 (one year after IT outsourcing) but there is no significant difference in return on assets (ROA), return on equity (ROE), return on investment (ROI).

Review of empirical literature revealed that where as studies recognise the nexus between ITO & performance, albeit conflicting, a major focus has been on thedeveloped countries such as the US, UK, and emerging economies like China, India, Malaysia and the Philippines, among others (Jain & Natarajan, 2011; Suuman & Jain, 2011; Yu, 2010; Yang & Huang, 2010; Kumar, 2005).In addition, most prior studies used financial performance measures and few used non-financial measures. This study bridges these gaps by examining the effect of ITO on both financial and non-financial performance in a developing country (Kenya) in order to get a holistic measure of

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performance. To achieve the objective of the study, the study variables were conceptualized as hereunder;



**Figure 1: Conceptual Framework** 

# **Research Methodology**

Saunders, Lewis and Thorn hill (2009) argue that no single research design exists in isolation and that a combination of different designs in one study enables triangulation and increase the validity of the findings. Consequently, this study used a combination of cross-sectional explanatory and descriptive research designs. Explanatory research design is employed when a hypothesis as to why something is happening already exists (Mugenda & Mugenda, 2003). Moreover, explanatory research establishes causal relationships between or among variables (Saunders, 2009; 2014). In this study, the researcher sought to establish the causal relationship between IT outsourcing and performance of commercial banks in Kenya. Descriptive research design on the other hand enables the researcher to capture a population's attributes and test hypotheses, and describe the current relationship of the variables under study in their context without manipulating those (Cooper & Schindler, 2003).

In statistical analysis, different models can be used to analyse quantitative data depending on the nature of variables. In this study, since the dependent variable (performance) was continuous, regression analysis was used (Field, 2009). The regression coefficient of determination ( $\mathbb{R}^2$ ) was used to determine the significant factors at 95 per cent confidence level (p < 0.05). However, the results of the adjusted  $\mathbb{R}^2$  were used for the interpretation of analysed data. To determine the strength of the relationship between ITO and performance of commercial banks, linear regression equation for predicting  $P_i$  (performance of commercial banks) was expressed as follows:  $P_i = \beta_0 + \beta_1 ITO + \epsilon_i$ 

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Where:

 $P_i$  = Performance of commercial banks in Kenya  $\beta_0$  = Constant (Y- intercept)  $\beta_1$  = Beta coefficient *ITO* = Information Technology Outsourcing  $\varepsilon_{i} = error term$ 

The coefficient path  $\beta_1$  and  $\varepsilon$  measured the effect of ITO on  $P_i$ . The significance of the beta values ( $\beta$ ) was used to test the hypothesis.

### **Target Population**

The target population for this study was thirty two (32) commercial banks at their headquarters in Nairobi Capital City following qualifying criteria that required banks to be engaged in information technology outsourcing and should not be either under statutory management or receivership for them to be included in the final study. A pilot study led to the exclusion of 11 from the 43 commercial banks in Kenya; one had been liquidated, three were under statutory management while seven failed to participate in the pilot study to help determine whether they were engaged in BPO or not. Respondents were purposely selected from four departments since all of them are consumers of IT services: Information Technology, Human Resource Management, Marketing and Operations, thus constituting a total respondent base of 128. Kothari (2004) and Mugenda & Mugenda (2003) observe that when the universe/population is small, it is of no use resorting to sampling, hence a survey of all the 128 managers. The unit of analysis therefore was the commercial banks while the unit of observation was the department of Information Technology, Human Resource Management, Marketing and Operations of various commercial banks at the headquarters. Table 1 gives detailed information on the target population.

Category	Frequency	Number of	Number of	Percentage
		Departments	Respondents	
Large	7	4	28	21.9
Medium	12	4	48	37.5
Small	13	4	52	40.6
Total	32		128	100

**T 1 1 0** 

Source: Researcher (2018)

#### **Data Collection Instruments, Validity and Reliability**

The study used both primary and secondary data collection tools. Primary data were obtained from the respective banks using questionnaires that contained closed- and open-ended items to enable triangulation of results. Secondary data were obtained from banks' annual reports, Central Bank of Kenya annual reports and from the Nairobi Securities Exchange.

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The study ensured that instruments of data collection accurately measured the constructs of study variables by carrying out a pilot study. Field (2009) and Huang, Lee, Kim & Judge (2013) contend that pilot testing is necessary for establishing whether data collection instruments possess face and content validity. Mugenda and Mugenda (2003) argue that content validity can be reinforced by seeking opinions of experts or professionals. Content and construct validities were also ascertained by ensuring that the study objective was backed up by theoretical frameworks. Internal consistency (reliability) of the instrument items was ensured by use of Cronbach Alpha Coefficient (Gay & Airasian, 2000). Cronbach Alpha coefficients range from zero to one and a good measure of reliability is considered to be where the alpha coefficient of predictor variables ranges from 0.7 and above (Ehlers, 2000). In this research, the ITO had a Cronbach Alpha Coefficient of 0.89 which was quite reliable.

#### **Data Analysis**

Quantitative data were analysed using descriptive statistics such as frequencies, means, percentages and standard deviations; and inferential statistics such as linear regression and correlation analysis in State version 12.1 Software (statistical package). The coefficient of determination was used to measure the amount of variation in the dependent variable (bank performance) explained by the independent variable. To make reliable inferences from the data, all the statistical tests were subjected to tests of significance at alpha level of  $\alpha$ =0.05.Content analysis was employed in analysing qualitative data. Data from open-ended items were analysed according to themes that emerged from the responses (Mugenda & Mugenda, 1999).

### **Research Findings and Discussion**

#### Analysis of the Response Rate

The researcher sought to establish the response rate of the study and Table 2 shows the results.

Table 2: Response Rate					
Frequency	Per cent				
76	59.4				
52	40.6				
128	100				
	Fable 2: Response RateFrequency7652128	Frequency Per cent   76 59.4   52 40.6   128 100			

#### Source: Survey Data (2017)

The researcher distributed 128 questionnaires out of which 76 were filled and returned by the respondents representing an overall successful response rate of 59.4 per cent. Fifty two (52) questionnaires (40.6 per cent) were never returned. With regard to the suitability of the above response rate in making generalisations and inferences, Wimmer and Dominick (2006) observe that a response rate of 21–70 per cent is acceptable for self-administered questionnaires as it guarantees accuracy and minimises bias; while Rogelberg and Stanton (2007) posit that cross-sectional studies of survey design conducted at the individual level are expected to yield a response rate of 50 per cent. Therefore, the response rate of 59.4 per cent is deemed

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appropriate for achieving the objective of the study and making generalisations on the entire commercial banking sector.

## **Quantitative Data Analysis**

# **Descriptive Statistics for Information Technology Outsourcing**

Information technology outsourcing was measured using three indicators namely; data security, software development, and IT systems maintenance. Respondents were asked to rate information technology outsourcing indicators on the Likert scale of 1 to 5, where 5 represents; "To a very great extent" and 1 "Not at all". Means and standard deviations were then computed for the variable as given in Table 3.

Table 5. Descriptive Statistics. Information Technology Outsourcing						
	Ν	Min	Max	Mean	Std.	
					Dev.	
Data Security						
External vendors are engaged in managing data security	76	1	5	3.7	1.264	
Vendors provide data back-up	76	1	5	3.5	1.167	
Vendors apply best practices and security technology to the	76	1	5	3.8	1.142	
storage system to augment server and network security						
The bank uses cloud computing	76	1	5	3.7	1.115	
There is budget for data security by specialised vendors	76	1	5	4.0	1.110	
Cost containment is a factor in engaging the services of	76	1	5	4.4	0.837	
specialist companies in managing data security						
Aggregate Score				3.9	1.106	
Software Development						
Software development is done by external experts	76	1	5	4.1	1.157	
Banks use complex soft ware's which require the skills of	76	1	5	4.2	1.088	
highly specialised experts						
The high rate of IT products obsolescence necessitates	76	1	5	4.0	0.999	
handing-over software development processes to external						
vendors						
It is cheaper to use external specialists to manage the	76	1	5	3.1	1.317	
frequent upgrading of software used by the bank						
The high rate of product innovation in banks require	76	1	5	4.2	1.001	
specialised software developers to support such innovations						
Specialised vendors are best placed to manage rapidly	76	1	5	4.1	1.072	
changing software industry						
Aggregate Score				4.0	1.106	
IT Systems Maintenance						
External experts maintain the bank's IT systems	76	1	5	3.8	1.314	
It is cheaper for the bank to use external specialised	76	1	5	3.1	1.310	

Table 3: Descriptive Statistics: Information Technology Outsourcing

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companies in IT systems maintenance					
IT systems by the bank require regular updates which would	76	1	5	3.8	1.070
be costly for the bank if it has to do it using in-house experts					
Cost management is a factor in engaging the services of	76	1	5	4.3	0.922
specialist companies in IT systems maintenance.					
Aggregate Score				3.8	1.154
Average aggregated Score				3.9	
1.122					

Source: Survey Data (2017)

Table 3 shows that information technology outsourcing had an overall aggregate mean score of 3.9 on the five-point Likert scale adopted by the study with a standard deviation of 1.122. This implies that majority of the respondents were of the view that IT outsourcing is critical in the performance of commercial banks. Among the three outsourced IT processes studied; software development was the most outsourced with a mean of 4.0 and a standard deviation of 1.106 whereas IT maintenance was the least outsourced process with a mean of 3.8 and a standard deviation of 1.154.

Managers responses supported the statements that IT outsourcing is crucial in helping commercial banks in cost management (Mean=4.4; SD=0.837), access experts' skills (Mean=4.2; SD=1.088) and keep pace of the high rate of product innovation in banks through the help of specialised software developers (Mean=4.2; SD=1.001). These findings support the arguments of Gupta& Gupta(1992); Lacity & Hirschheim(1994); Grover, Myun & Teng (1994); Ang & Straub (1998); Smith, Mitra & Narasimhan(1998); Gonzalez, Gasco & Llopis (2010); and Yu (2010) that ITO is critical in helping organisations to attain financial economies, access new technologies and specialised expertise; achieve competitive advantage; improve flexibility, speed, and innovation in developing business applications.

The role of ITO in cost containment is also consistent with the Central Bank of Kenya continued requirement for commercial banks to adopt cost-efficient management strategies in order to improve their performance (CBK, Bank Annual Supervision Reports; 2014, 2015, & 2016). However, it is instructive to note that although managers agreed that ITO was an effective strategy in cost-management generally, they did not appear to strongly agree that it was cheaper for the commercial banks to use external specialised companies in IT systems maintenance and frequent upgrading of software used by banks (Mean=3.1; SD=1.317).

# **Descriptive Statistics for Non-financial Performance**

This performance measure had four domains: customer satisfaction, employee satisfaction, service quality, and cost efficiency. Respondents were required to indicate the extent to which they agreed or disagreed with the statements regarding the influence of IT outsourcing on non-financial performance of commercial banks; where 5 represented "Strongly agree" while 1 represented "Strongly disagree". The descriptive statistics for each of these items are reported in Table 4.

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Table 4: Descriptive Statistics: Non-financial Performance					
Non-financial Performance	Ν	Mi	Ma	Mea	Std.
Customer Satisfaction		n	X	n	Dev.
Faster resolution of customer issues	76	1	5	3.9	0.92
Enhances customer loyalty/retention	76	2	5	3.9	5 0.89 6
High conversion rate of potential customers	76	2	5	3.9	0.97 5
Increased sales volumes	76	1	5	4.0	1.01 3
Increased market share	76	2	5	4.1	0.92 8
More referrals from existing customers	76	2	5	4.1	0.95 0
Aggregate Score				4.0	0.94 7
Employee Satisfaction			_	1.0	1.05
Efficiency in performance of duties	76	2	5	4.0	1.05 2
Heightened level of innovativeness and creativity	76	2	5	4.0	0.92 3
Effectiveness in achieving individual as well as organisational objectives/goals	76	2	5	3.9	0.90 3
Low staff turn-over rates	76	1	5	3.9	0.99 7
Consumption of bank's products and services by employees	76	1	5	3.6	1.17 2
Aggregate Score				3.9	1.00 9
<b>Service Quality</b> Reliability (dependability and accuracy) of service provision	76	1	5	41	1.03
remainly (dependencing and decarde)) of service provision	70	1	U		7
Quality assurance through competence, credibility and courtesy of staff	76	1	5	4.1	0.99 1
Provision of requisite physical facilities	76	1	5	3.8	1.00 4
Responsiveness to customer needs	76	2	5	4.0	1.10 2
Security of data and products	76	2	5	3.8	1.06 0

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Aggregate Score				4.0	1.03 9
<b>Cost Efficiency</b> Reduction in operational costs	76	1	5	3.4	1.29
Elimination of costs associated with installation of	76	1	5	3.5	8 1.39
infrastructure such as security equipment Allows management and staff to concentrate on their core	76	1	5	4.4	7 0.91
business Time saving thus allowing internal staff to focus on their	76	1	5	4.2	3 0.86
primary responsibilities Aggregate Score				3.9	3 1.11
				•••	8
Overall aggregate Score				3.95	1.02 8

### Source: Survey Data (2017)

Results of Table 4 show that the aggregate mean score for non-financial performance was 3.95 with a standard deviation of 1.028. This implies that the respondents were in agreement that IT outsourcing influences the soft performance of commercial banks. From the descriptive statistics, it is apparent that customer satisfaction (Mean=4.0; SD=0.947) and service quality (Mean=4.0; SD=1.039) are the major benefits of IT outsourcing in commercial banks. It is also evident from the descriptive statistics that IT outsourcing in commercial banks improves the efficiency and effectiveness of the management by allowing them to concentrate on their core business (Mean=4.4; SD=0.913), contributes to increased market share (Mean=4.1; 0.928) arising from customer satisfaction; improves quality assurance (Mean=4.1; SD=0.991), and enhances effectiveness of employees in achieving individual as well as organisational goals (Mean=3.9; SD=0.903).

This finding supports the assertions of various proponents of business processes outsourcing, among which is Information Technology, who link it with numerous performance outcomes to organisations such as enabling them to shift focus to their core business and strategic issues thus handing off non-core processes to vendors (Hamel & Prahalad, 1994; Hand field, 2006; McIvor, 2008; Barako & Gatere, 2008; Ghikas, 2012; Awino & Mutua, 2014). Additionally, Yang, Kim, Namand Min (2007); McIvor (2008); Lee & Kim (2010) observe that business processes outsourcing provides organisations with many benefits that include but not limited to: minimising workload of employees thus improving their productivity, attaining financial economies through cost management, access to new technologies and specialised expertise; achieve competitive advantage, productivity, flexibility, speed, and innovation in developing business applications.

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### **Financial Performance**

This section had three indicators: return on assets (ROA), return on equity (ROE) and net interest margin (NIM). Respondents were required to rate on the Likert scale of 1 to 5 the perceived financial performance of their commercial banks in relation to information technology outsourcing on the basis of the criteria below:

#### (i) Return on Assets

On a scale of 1-5, rate the performance of your bank on return on assets (ROA) for the indicated periods (2013-2015) (where: 1= Very unsatisfactory (ROA less than 1%); 2= Unsatisfactory (ROA 1.1 - 2.0%); 3= Average (ROA 2.1 - 3.0%); 4= Satisfactory (ROA 3.1 - 4.0%); 5= Very satisfactory (ROA above 4%).

### (ii) Return on Equity

On a scale of 1-5, rate the performance of your bank on return on equity (ROE) for the indicated periods (2013-2015) (where: 1= Very unsatisfactory (ROE less than 10%); 2= Unsatisfactory (ROE 11 -15%); 3= Average (ROE 16 - 20%); 4= Satisfactory (ROE 21 - 25%); 5= Very satisfactory (ROE above 25%).

### (iii) Net Interest Margin

On a scale of 1-5, rate the performance of your bank on net interest margin (NIM) for the indicated periods (2013-2015) (where: 1 = Very unsatisfactory (NIM less than 5%); 2 = Unsatisfactory (NIM 5.1 - 7.0%); 3 = Average (NIM 7.1 - 9.0%); 4 = Satisfactory (NIM 9.1 - 11%); 5 = Very satisfactory (NIM above 11%). The descriptive statistics for each of theitems are reported in Table 5.

Table 5: Descriptive Statistics: Financial I	'erfor	manc	e		
Financial Performance	Ν	Mi	Ma	Mea	Std.
		n	X	n	Dev.
Return on Assets					
2016	76	1	5	3.6	1.07
					3
2015	76	2	5	3.5	0.79
					6
2014	76	2	5	3.5	0.81
			_		2
2013	76	2	5	3.5	0.85
				2 5	4
Aggregate Score				3.5	0.88
					4
Return on Equity					
2016	76	1	5	3.6	1.10
					0

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2015	76	1	5	3.6	1.00 0
2014	76	1	5	3.6	0.88 9
2013	76	1	5	3.6	0.93 1
Aggregate Score				3.6	0.98
<b>Net Interest Margin</b> 2016	76	1	5	3.3	1.23
2015	76	1	5	3.3	1 1.06 6
2014	76	2	5	3.6	0.98 8
2013	76	2	5	3.6	1.04 5
Aggregate Score				3.5	1.08 3
Overall Aggregate Score				3.53	0.98 2

### Source: Survey Data (2017)

The overall aggregate mean score for financial performance was 3.53 with a standard deviation of 0.982. The mean score of 3.53 on the Likert scale indicates that on average, the respondents attributed marketing outsourcing to financial performance of commercial banks in Kenya. From the three measures of financial performance used in the study, marketing outsourcing appeared to contribute slightly more to return on equity (Mean=3.6; SD=0.980) compared to return on assets (Mean=3.5; SD=0.884) and net interest margin (Mean=3.5; SD=1.083).

In conclusion, it can be deduced that following the balanced scorecard approach to the measurement of organisational performance, findings from both non-financial as well as financial measures show that marketing outsourcing is linked to performance of commercial banks in Kenya. These findings support those of a study by Fritsch and Wullenweber (2005) which analysed 137 business process outsourcing ventures at 254 German banks and found that the outsourcer's financial performance in terms of profitability and cost efficiency was increased significantly compared to industry peers without business process outsourcing.

### **Inferential Statistics: Regression Analysis**

### **Hypothesis Testing**

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The study tested the following hypothesis with regard to the research objective; **H**<sub>01</sub>: Outsourcing information technology has no effect on performance of commercial banks in Kenya.

Table 6: Results of Hypothesis Testing

Post Estimation Diagnostics	¥ <b>*</b>		
	<b>Test Statistic</b>	P-value	
Adjusted R-squared	0.9655		
R-squared	0.9680		
F-statistic (4, 52)	393.28	0.000***	
Breusch-Pagan Test (Heteroskedasticity)	0.45	0.5044	
Ramsey Specification test	0.10	0.9614	
Mean VIF	2.04		
Dependent Variable=Bank Performance	Regression	results	
	Coefficients	t-statistic	P-value
Information Technology Outsourcing	0.017***	2.98	0.004
Constant	1.572***	46.48	0.000
Key ** signific	ant at 5 per cent		
*** significant at 1 per cent			
$P_i = \beta_0 + \beta_1 ITO$			

Results in Table 6 show that the coefficient of outsourcing information technology was 0.017 with a t statistic of 2.98 and a corresponding p-value of 0.004. Since the p-value is less than 0.05, the calculated t is greater than the critical value at five per cent level of significance and therefore the null hypothesis is rejected. This implies that outsourcing information technology has significant positive effect on bank performance in Kenya. The magnitude of the coefficient of outsourcing information technology is 0.017. This implies that a unit change in the score of outsourcing information technology leads to 0.017 units change in the score of bank performance.

This finding is consistent with the empirical findings of Wang *et al.* (2008); Yu (2010); Baldwin & Iran (2011); and Suuman & Jain (2011) that ITO enhances organisational performance. Wang *et al.* (2008), by taking a resource-based perspective observed the complementary role of firm's information technology capability in the value creation of information technology outsourcing concluded that firms with superior IT capability enhanced their value more by outsourcing. Porter (1985)and Barney (1991)have also opined that information technology outsourcing is a source of competitive advantage that gives an organisation the ability to outperform competitors. Judge *et al.* (2009) also observed that

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information technology outsourcing gives an organisation the necessary flexibility in responding to the rapid business environmental changes.

## **Qualitative Data Analysis**

The study also sought to establish whether there were any drawbacks associated with outsourcing Information Technology in the commercial banks in Kenya.

Respondents indicated that although information technology outsourcing contributed highly to the performance of commercial banks, it was also laden with a number of drawbacks: cybercrime such as phishing, which involves trying to defraud customers by accessing their confidential information; IT experts that have access to customer banking data can steal directly from their accounts; ITO can result into compromising of customer data confidentiality; theft of crucial bank information by IT vendors which can be used against the bank; risks associated with hacking of bank's systems that can result to huge losses; possibility of leaking critical bank's information or data to competitors in case of internet security lapses where a vendor is serving many similar clients or in case of unethical behaviour on the part of the vendor, and the risk of some vendors working in cahoots with criminals which can result into huge losses. Respondents also pointed out that by outsourcing some IT processes, there is the opportunity cost incurred by failure to develop some internal processes that can jeopardise the functions of commercial banks in cases of emergency.ITO also leads to loss of the learning curve effect.

### **Conclusion and Recommendations**

With regard to the effect of information technology outsourcing on performance of commercial banks in Kenya, the descriptive statistics revealed that ITO had an overall aggregate mean score of 3.9 on the five-point Likert scale and a standard deviation of 1.122 implying that respondents concurred that ITO was linked to performance of commercial banks. This finding is supported by the inferential statistics that showed ITO had a beta value of 0.017 and a p-value of 0.004 meaning that ITO had statistically significant positive effect on performance of Kenyan commercial banks.

Owing to the finding that information technology processes outsourcing was positively linked to performance of commercial banks, the study recommends that commercial banks' top management should develop policies that support appropriation of ITO strategy especially in areas leading to product innovation, service provision, and data security as they were deemed to highly affect bank performance. However, it is imperative to note that the respondents did not feel strongly that it was cheaper to engage the services of external vendors in IT systems maintenance and managing the frequent upgrading of software used by commercial banks. It is therefore recommended that banks' management teams should endeavour to establish the reasons for this contrarian view given the short life cycles of software courtesy of creative destruction. To avoid the threats associated with information technology outsourcing, due diligence should be ensured when vetting vendors.

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