

Volume 6, Issue 1, pg. 1589-1600, 2024

ISSN 29769-91723

### TECHNOLOGY PROCESSES AND BUSINESS PERFORMANCE OF COMMERCIAL BANKS IN KENYA

<sup>1</sup>Ananga Jeremiah Mugambi, <sup>2</sup>Dr. Tobias Mwalili, PhD, <sup>3</sup>Dr. Nyang'au Samson Paul ,PhD,

<sup>1</sup>PhD Student, Jomo Kenyatta University of Agriculture and Technology <sup>2</sup>Lecturer, Jomo Kenyatta University of Agriculture and Technology <sup>3</sup>Lecturer, Jomo Kenyatta University of Agriculture and Technology

#### ABSTRACT

The general objective of the study was to examine the role of Technology Processes on business performance of Commercial Banks in Kenya. The philosophy that guided the research is positivism philosophy. The study adopted correlational research design. The target population was commercial Banks in Kenya register by the Central Bank of Kenya. The population consisted of all 42 commercial banks in Kenya. Respondents' population comprised of five top managers from each bank translating to 210 top managers. Slovin's formula was used to calculate the sample size. Purposive sampling technique was used to select 138 top managers of the 42 commercial Banks in Kenya. This study used a self-administered, closed and open-ended questionnaire to obtain primary data. A pilot study was conducted to test the validity and reliability of the data collection instrument. Quantitative data was collected and analyzed in this study by calculating the response rate with descriptive statistics such as mean, standard deviation, median and proportions using the Statistical Package for Social Sciences (SPSS) version 24). Regression analysis and correlation analysis was used to carry out inferential data analysis to determine the direction and strength of the relationship between the independent and the dependent variables. In order to test the influence of information technology capability on business performance of Commercial Banks in Kenya, the study employed a hierarchical regression analysis with moderation. The study results were presented through use of tables and figures. The study concludes that technology processes has a positive and significant effect on business performance of Commercial Banks in Kenya. The study revealed that idea generation, technology acquisition and technology Implementation influence business performance of Commercial Banks in Kenya. This implies that improvement in information technology processes (idea generation, technology acquisition and technology Implementation) would lead to improvement in business performance of Commercial Banks in Kenya. Based on the findings, the study recommends that the management of commercial banks in Kenya should ensure they have in place an effective plan for idea generation, technology acquisition and technology Implementation.

**Key Words:** Information Technology Processes, Business performance of Commercial Banks, Central Bank of Kenya

### **Background of the Study**

The rapid change in technologies, increasing globalization, shifting demographics and greater regulatory oversight are combining to create fundamental shifts in business environment that has led to new opportunities, challenges and risks for the managers (Owuori, Ngala, & Obwatho, 2020). In this unpredictable market, competition is causing both demand and supply to fluctuate more rapidly, widely, and often than they used to (Lu & Ramamurthy, 2011). 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).

Globally, advancement in technology has seen the development of various industries such as the banking and finance sector. The amount of sensitive data, consumer and market demands, and modern technology have necessitated the need to have more complex IT solutions to enhance the development of the banking industry (Almaryani & Sadik, 2012). In a study on the importance of Management information systems in the banking sector, Pilarczyk (2016) notes that failure in information systems have the potential to cripple the operational performance of a bank. Such a case was witnessed in the Royal Bank of Scotland in 2012 where a failure in banking systems crippled banking operations for a few hours that translated into massive losses of approximately \$286million due to outdated management software (Pilarczyk, 2016).

A study of trends in Brazil, Peru and Colombia explains a slow implementation of agent banking during the first two years followed by an increase in the third or fourth year. However, data after Mexico's first year of allowing agent-banking leads to the prediction that there will be a rapid increase in banking agents in the initiative's second year, one that can be compared to increases in Colombia's fourth year and Peru's sixth. Mexico's new regulations to allow more types of financial institutions to operate through bank agents and to allow the opening of savings accounts will have a significant impact on financial deepening and place Mexico among the leaders in agent banking in Latin America (Celina, 2012). In a survey Conducted by Sainsbury on customers are more willing to trust a bank with the right technology in place.

According to Lout, Skina, Elena and Strahan (2009) most institutions have enhanced their survival capacity upon adoption of innovative products development. In developing countries, over three billion people still lack access to basic financial services and mostly this is acute in Sub-Saharan Africa where only around five to twenty-five percent have access to formal relationship with financial institutions. (FSD, 2018) According to International Monetary Fund (2012), a financially deep economy has reliable, efficient and easily accessible banking services. It has also integrated its financial players with the sole purpose of promoting economic growth and development. According to Goyal, Marsh, Narayanan, Wang, and Ahmed (2011) financial deepening attracts informally banked funds to be incorporated into formal banking systems and this will be led to provision of loan services amongst those seeking for borrowing.

The Banking sector in Kenya is governed by multiple rules such as the Companies Act, the Banking Act, the Central Bank of Kenya Act and various prudential guidelines and policies issued by the Central Bank of Kenya (CBK) (CBK, 2011). Reforms in the banking sector started in 1994 with failure of several banks in Kenya. The financial sector in Kenya was finally liberalized in 1995 where exchange controls and other control regimes were lifted. Financial performance of the banking sector was rated strong as institutions achieved satisfactory financial performance and improved financial results despite high market competition as each bank scramble for a significant market share.

Financial institutions have implemented innovations and technology because of raising changing market demands. Commercial banks in Kenya have developed new financial innovations that have influenced their financial performance; these include Mobile and internet banking, RTGS, ATM withdrawals and deposits, online account opening, unsecured lending among others. All

these financial innovations contribute heavily to building customer base, capital base as well as enhancing their profitability which results to improved financial performance.

Mwangi (2013) argued in favour of considering customers interest whenever developing innovative products because despite turbulence of business environment adoption of new innovation is paramount for its success. Similar, arguments were put forth by Joshua (2010) who argued that net present value of investment project can only be achieved through incorporation of all stakeholder's interest and in situations where commercial banks are driven by desire to enhance efficiency; they must consider customer needs and ease of using new development.

In Kenya, the situation on financial innovation has intense competition from telecommunication communications such as Safaricom M-pesa services. This innovation is credited for its easy-to-use human user interface and due to this it has escalated financial innovation to the extent of creating overdraft facility for its users. According to Weil, Mbiti and Mwega (2012) financial innovations has reduced turnaround time for banking services such as withdrawals, deposit, and loan approval process.

#### **Statement of the Problem**

Technological capability has been considered as a critical element that improve organization's performance (Zhou, Yim & Tse, 2019) therefore, most successful organizations around the globe depends on their technological capability to effectively execute their routine business processes and activities (Ajonbadi, 2018). According to Bharadwaj (2018); (J.-S. Chen & Tsou, 2021); (Zeng & Lu, 2020), The ability of organizations to utilize, develop and enhance IT capabilities is critical, (Bharadwaj, 2019). Information Technology capabilities hold great potential to transform organizations by influencing decision-making and execution through innovation.

Improper implementation of technological capability have resulted in unnecessarily high operation costs, uncoordinated business activities, inability to achieve domestic policy goals, and failure to attract and retain professionals (Zahra et al., 2019). A number of studies on IS/IT capabilities have been carried out for instance, Akinbola, Adeniyi, and Oluwatosin (2017) on IS capabilities in telecommunication service businesses in Nigeria, Bhatt and Grover (2019) on information technology capabilities and their role in competitive advantage, and Oh and Kim (2021) on managerial capabilities of Information Technology and firm performance.

Mugambi and Kinyua (2020) did a study on the role of innovation capability on organization performance in the context of Commercial Banks in Nairobi City County, Kenya. The study considered product innovation, service innovation, and service innovation dimensions while the current study considered Information Technology Strategy, Information Technology Processes, Information Technology Organization, and Information Technology Infrastructure capabilities. Kamau, Senaji, Eng, and Nzioki (2019) sought to establish the effect of Information Technology Capability on competitive advantage of the banking sector in Kenya. The study was anchored on the McKinsey 7S Framework Model. Focusing on 39 operational commercial banks in Kenya, a descriptive survey design was adopted. The current study looked at the effects that IT capability has on the financial and non-financial performance of Commercial banks. Further, the study adopted different dimensions of ITC and theories that the study was anchored on.

The least investigated aspects of this internal were how dynamics of information technology capabilities such as Information Technology Strategy, Information Technology Processes, Information Technology Organization, and Information Technology Infrastructure has been implemented, hence a problem for continued research (Lu & Ramamurthy, 2011). Researchers have shown that a firm's ability to effectively leverage its IT investments by developing a strong IT capability can result in firm performance. Relevant literature examines concepts such as

managerial capability and organizational performance (Conyers, 2017), dynamic capability and competitive advantage (Rudolf, 2019), and innovation and performance (Kauzya, 2020).

Considering some of these studies and taking into considering that technological capabilities of firms keep changing, studies and reports have generally not addressed the Information Technology Strategy, Information Technology Processes, Information Technology Organization, and Information Technology Infrastructure capabilities and how it affects the business performance of Commercial Banks in Kenya. This gap creates the need to undertake a study to examine the role of Technology Processes in business performance of Commercial Banks in Kenya.

### **Objectives of the Study**

#### **General Objective**

To examine the role of Information Technology Processes on business performance of Commercial Banks in Kenya

### Theoretical Framework

### **Resource-Based View Theory**

The RBV emphasizes the importance of building unique, inimitable, and heterogeneously distributed capabilities as the source of competitive advantage (Colbert, 2004). RBV argues that resources and capabilities are combined together to generate higher-level capabilities. Grant (1995) describes a hierarchy of organizational capabilities, where specialized capabilities are integrated into broader functional capabilities, such as marketing, manufacturing, and IT capabilities. Functional capabilities in turn integrate to form cross-functional capabilities such as new product development capability or customer support capability.

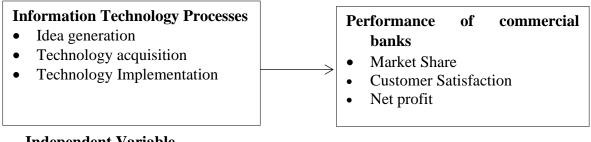
According to Das and Teng (2000), a resource-based view emphasizes value maximization of a firm through effective resource integration with the partner's valuable resources for the purpose of gathering otherwise unavailable competitive advantages and values to the firm. Dyer and Singh (1998) define complementary resource endowment as a "distinctive resource of alliance partners that collectively generate greater rents than the sum of those obtained from the individual endowments of each partner." First, firms must find each other and recognize the potential value of combining resources.

The RBV states that competitive advantages arise from developing and deploying unique, valuable, inimitable, and non-substitutable resources (Barney 1991; Wernerfelt, 1984). A firm can earn an above-normal return by identifying and acquiring resources that are critical to markets and are, hence, strategic, and in line with the RBV, such strategic resources are crucial components of sustainable competitive advantage. The RBV became a useful tool for exploring the value of IT and its relationship to firm performance and competitive advantage and thus many scholars have recognized the value of RBV in IT research (Wernerfelt, 1984).

Adopting a resource-based perspective, researchers also argue that various IT capabilities could be sources of competitive advantage (Bharadwaj, 2000; Mata, Fuerst and Barney, 1995). A limited number of studies have explored the resource-based view of IT, and most of the analyses to date have been of a conceptual nature (Bharadwaj, 2000). The resource-based view (RBV) of a firm illustrates that enterprises need to form IT capabilities by integrating IT infrastructure, IT human resources, and IT-enabled intangible resources, to obtain sustainable competitive advantages (Taher, 2012). The literature holds that the isolated capabilities or resources of an enterprise do not have value, while showing value when they have the opportunity to be used (Sabherwal, Sabherwal, Havakhor, & Steelman, 2019). Previous studies based on RBV have found mixed results on the relationship between IT capabilities and the financial performance of firms in the context of profits and costs. To resolve the inconsistent results and further understand the effects of IT capabilities on firm performance, studies have classified IT capabilities into several types (Bharadwaj 2000; Stoel and Muhanna 2009). For instance, certain studies (e.g., Chen and Ong 2015; Stoel and Muhanna 2009) have divided them into internally and externally focused IT capabilities according to where and how the IT resources are employed to support business processes. The present study adopts this typology for the categorization of marketing capability.

# **Conceptual Framework**

The conceptual framework shows the anticipated relationship between Technology process and firm performance (dependent variable).



**Independent Variable** 

**Dependent Variable** 

### **Empirical Review Information Technology Processes**

IT capabilities have been developed and widely adopted by many companies to collect, process, store, and retrieve information (Basheer et al., 2016; Galliers et al., 2020). IT has increased companies' ability to exploit opportunities and avoid threats. IT also identifies the business strategy's strengths and weaknesses (Chu et al., 2019). Therefore, installing IT into the businesses helps to understand what is happening in the external environment, and it defines how to process the incoming data for predicting the external environmental factors (Lu & Ramamurthy, 2011).

IT capabilities use integrated strategies and activities, which are further observed as business ventures. IT-based integrated processes enable firms to efficiently collect and disseminate information through electronic integration of various business activities (Hilman & Kaliappen, 2015). IT integration facilitates the sharing of relevant information for the entrepreneurial processes and practices across the departments (Cegarra-Navarro et al., 2016). Such information may be useful for introducing or launching a new business venture in the firm (Zahra & Covin, 1995).

Firms that are focused on sustainable competitive advantage must emphasize attracting, developing, motivating, and retaining employees that can help achieve successful performance through achieving the firm's strategic objectives. Thus, the firm that has IT human resources capability with technical, business, and interpersonal skills will likely lead to successful sustainable competitive advantages (Wang, Liang, Zhong, Xue, & Xiao, 2012).

There are three major types of knowledge management systems supporting IT processes, that is, enterprise-wide knowledge management systems, knowledge work systems, and intelligent

techniques (Laudon & Laudon, 2013). When an organization develops knowledge management into a distinctive competence, it is expected to work as a precursor to superior competitive advantage in the marketplace (Iza & Dentoni, 2020). IT impacts employees in smart companies where employees are considered the origins of smart organizations, and IT works to achieve organizational intelligence (Azma et al., 2012; Daňa et al., 2020). Precedents can include reasonable organizational structures, expert managers, products, and processes appropriate to the work environment's requirements, coherent tasks, a clear mission, essence values, and roles that define employees' rights and performance.

A proactive stance represents the company's ability to explore and search for IT solutions and innovations and find new ways to enhance IT capabilities through developing companies' vision (Panda & Rath, 2018). It means developing a strategic vision for IT that seeks to embrace new technology that contributes to developing and strengthening IT infrastructure (Jorfi et al., 2017). It represents organizations' enormous potential to change the internal environment in line with accelerating external environmental developments by adapting the organization's organizational culture for stimulating processes to engage minds to meet challenges and explore new opportunities (Chae et al., 2014).

IT process capabilities describes how organizations continuously looking for innovative methods to find out and determine the best use of its IT potentials, to seize on various opportunities in the market (Antoni et al., 2020). As a result, the organization will be ready to define, choose and track IT developments (Swanson and Ramiller, 2004). Organizations can predict and feel significant changes caused by IT rapid progress. According to Galliers (2007) this dimension makes possible for organizations to speedily explore and pick up appropriate opportunities using IT inventions to treat the gap between business strategy and the need for relevant and timely information. Firms are heterogeneous in developing and nurturing IT capabilities, therefore they are likely to have different potential in leveraging information systems (IS) for their competitiveness (Jorfi et al., 2017).

#### **Research Philosophy**

# **RESEARCH METHODOLOGY**

The study used descriptive design to establish the role of Information Technology capability on business performance of Commercial Banks in Kenya. Hypotheses was tested by statistical approaches. Mohajan (2018) argued that that since the focus of the positivist paradigm is to discover the truth through empirical investigation, the quality standards under this paradigm are validity and reliability.

# **Research Design**

The study adopted this research design to describe Information Technology capabilities carried out by commercial banks and show how they influence performance of the banks. This design also helps to collect and analyze study units' data at a point in time in order to determine the strength of relationship among variables (Saunders et al., 2007; Mulwa 2013).

# **Target Population**

The target population was commercial Banks in Kenya register by the Central Bank of Kenya. The population consisted of all 42 commercial banks in Kenya. Respondents' population comprised of five top managers from each bank translating to 210 top managers. The top managers were targeted because top managers of a firm mostly handle strategic management issues.

# Sample Size and Sampling Technique

A sample is a subset of the population of interest (Mugenda & Mugenda, 2003). Respondents' population comprised of five top managers from each organization translating to 210 top managers. The top managers were targeted because strategic management issues are mostly handled by top managers of organizations. Sekaran and Bougie (2010), suggested that a sample size larger than 30 and less than 500 is deemed appropriate for most research. Slovin's formula (1960) was applied as illustrated:

n = N/(1+Ne2),Where;

 $\label{eq:n} \begin{array}{l} n = \text{Sample Size} \\ N = \text{Total Population} \\ e = \text{Error of Tolerance with a confidence level of 95 \% (giving a margin error of 0.05)} \\ n = 210 / (1 + 210 * 0.05 * 0.05) = 138 \\ \text{Hence, the sample size was 138.} \end{array}$ 

# **Data Collection Instruments**

This study used a self-administered, closed and open-ended questionnaire to obtain primary data. Secondary data on the performance of the commercial banks was also collected guided by a range. This range was calculated by the researcher based on the information provided by the respondents. The choice of a questionnaire to collect data for this study is informed by its practicability, ability to collect information from a lot of people within a short period and it can also be analyzed more scientifically and objectively than other forms of research (Kothari, 2004).

# **Pilot Study**

Pilot test was conducted in order to detect weaknesses in instrumentation and also it provides proxy data for the selection of probability sample. The procedure which was applied in pretesting the questionnaire was similar to those that were applied during the actual study and during the collection of data. According to Cooper and Schindler (2011) the number that is used in the pre-test should be small, about 1% to 10% of the entire sample size. In this case, 10% of the sample size, which is 21 respondents, participated in the pilot study in accordance with the ratio by Cooper and Schindler (2011). The participants were not included in the main survey.

# **Data Analysis and Presentation**

Quantitative data was collected and analyzed in this study by calculating the response rate with descriptive statistics such as mean, standard deviation, median and proportions using the Statistical Package for Social Sciences (SPSS) version 24). Regression analysis and correlation analysis was used to carry out inferential data analysis to determine the direction and strength of the relationship between the independent and the dependent variables. In order to test the influence of information technology capability on business performance of Commercial Banks in Kenya, the study employed a hierarchical regression analysis with moderation. In hierarchical multiple regression analysis, the researcher is able to determine the order that the variables are entered into the regression equation (Yeomans, 2017).

# PRESENTATION, ANALYSIS AND INTERPRETATION OF DATA

# **Descriptive Statistics Analysis**

# **Technology Processes and Performance of Commercial Banks**

The second specific objective of the study was to determine the role of Technology Processes on business performance of Commercial Banks in Kenya. The respondents were requested to indicate their level of agreement on Technology Processes and business performance of Commercial Banks in Kenya. The results were as shown in Table 4.1

#### Table 4. 1: Technology Processes

	Mean	Std. Deviation
We develop new markets together with partners through IT	3.996	0.865
Our bank make better use of internet-based business opportunities	3.959	0.945
Our bank has integrated business process by using digital technologies (such as big data, cloud computing, and social platforms)	3.938	0.611
We have established a new cooperative business process (e.g., electronic ordering) with partners	3.931	0.908
Our bank provides a seamless connection between our partner systems and our systems.	3.911	0.776
The bank endeavors at improving work for employees' capabilities to achieve the best productivity goals and performance	3.875	0.897
We have improved communication and productivity between the business and IT department.	3.843	0.786
There is better coordination and integration of information flow and activities within and/or between the bank boundaries	3.832	0.857
Existing systems support ICT integration to business processes	3.786	0.756
The existing system infrastructure enables quality service delivery to our customers	3.752	0.821
Customers can access the organization's information systems when they need banking services	3.678	0.852
Aggregate	3.762	0.841

From the results, the respondents agreed that they develop new markets together with partners through IT. This is supported by a mean of 3.996 (std. dv = 0.865). In addition, as shown by a mean of 3.959 (std. dv = 0.945), the respondents agreed that their bank make better use of internet-based business opportunities. Further, the respondents agreed that their bank has integrated business process by using digital technologies (such as big data, cloud computing, and social platforms). This is shown by a mean of 3.938 (std. dv = 0.611).

The respondents also agreed that they have established a new cooperative business process (e.g., electronic ordering) with partners. This is shown by a mean of 3.931 (std. dv = 0.908). With a mean of 3.911 (std. dv = 0.776), the respondents agreed that their bank provides a seamless connection between our partner systems and their systems. The respondents agreed that the bank endeavors at improving work for employees' capabilities to achieve the best productivity goals and performance. This is shown by a mean of 3.875 (std. dv = 0.897). With a mean of 3.843 (std. dv = 0.786), the respondents agreed that they have improved communication and productivity between the business and IT department.

From the results, the respondents agreed that there is better coordination and integration of information flow and activities within and/or between the bank boundaries. This is supported by a mean of 3.832 (std. dv = 0.857). In addition, as shown by a mean of 3.786 (std. dv = 0.756), the respondents agreed that existing systems support ICT integration to business processes. Further, the respondents agreed that the existing system infrastructure enables quality service delivery to our customers. This is shown by a mean of 3.752 (std. dv = 0.821). The respondents also agreed that customers could access the organization's information systems when they need banking services. This is shown by a mean of 3.678 (std. dv = 0.852).

The findings agrees with Chu et al, (2019) who noted that IT has increased companies' ability to exploit opportunities and avoid threats. IT also identifies the business strategy's strengths and weaknesses (Chu et al., 2019). Therefore, installing IT into the businesses helps to understand

what is happening in the external environment, and it defines how to process the incoming data for predicting the external environmental factors (Lu & Ramamurthy, 2011).

IT-based integrated processes enable firms to efficiently collect and disseminate information through electronic integration of various business activities (Hilman & Kaliappen, 2015). IT integration facilitates the sharing of relevant information for the entrepreneurial processes and practices across the departments (Cegarra-Navarro et al., 2016). Such information may be useful for introducing or launching a new business venture in the firm (Zahra & Covin, 1995). A proactive stance represents the company's ability to explore and search for IT solutions and innovations and find new ways to enhance IT capabilities through developing companies' vision (Panda & Rath, 2018). It means developing a strategic vision for IT that seeks to embrace new technology that contributes to developing and strengthening IT infrastructure (Jorfi et al., 2017)

### **Business performance of Commercial Banks in Kenya**

The respondents were requested to indicate their level of agreement on various statements relating to business performance of Commercial Banks in Kenya. A 5 point Likert scale was used where 1 symbolized strongly disagree, 2 symbolized disagree, 3 symbolized neutral, 4 symbolized agree and 5 symbolized strongly agree. The results were as presented in Table 4.2.

### Table 4. 2: Business performance of Commercial Banks in Kenya

	Mean	Std.
		Deviation
Service delivery in commercial banks has improved over time	4.084	0.997
Adoption of information technology capability has enhanced competitive	3.917	0.831
advantage of commercial banks		
Am satisfied with the level of competitive advantage in our organization	3.898	0.563
There are few customer complaints on the quality of services offered by	3.851	0.851
our organization		
The net profit has increased with technology implementation	3.832	0.923
Generally, quality of service delivery has improved hence contributing positively to bank annual profitability	3.795	0.865
Am satisfied with the level of performance of in our organization	3.767	0.785
Adoption of IT capability has improved the market share of commercial banks	3.721	0.821
Net profit of commercial banks has been increasing as a result of adopting information technology capabilities	3.698	0.828
Aggregate	3.766	0.858

From the results, the respondents agreed that service delivery in commercial banks has improved over time. This is supported by a mean of 4.084 (std. dv = 0.997). In addition, as shown by a mean of 3.917 (std. dv = 0.831), the respondents agreed that adoption of information technology capability has enhanced competitive advantage of commercial banks. Further, the respondents agreed that they are satisfied with the level of competitive advantage in our organization. This is shown by a mean of 3.898 (std. dv = 0.563). The respondents also agreed that there are few customer complaints on the quality of services offered by their organization. This is shown by a mean of 3.851 (std. dv = 0.851).

With a mean of 3.832 (std. dv = 0.923), the respondents agreed that the net profit has increased with technology implementation. In addition, as shown by a mean of 3.795 (std. dv = 0.865), the respondents agreed that generally, quality of service delivery has improved hence contributing positively to bank annual profitability. Further, the respondents agreed that they are satisfied

with the level of performance of their organization. This is shown by a mean of 3.767 (std. dv = 0.785). The respondents also agreed that adoption of IT capability has improved the market share of commercial banks. This is shown by a mean of 3.721 (std. dv = 0.821). The respondents also agreed that net profit of commercial banks has been increasing as a result of adopting information technology capabilities. This is shown by a mean of 3.698 (std. dv = 0.828).

The findings agreed with Basheer et al, (2016) and Galliers et al. (2020) who noted that IT capabilities have been developed and widely adopted by many companies to collect, process, store, and retrieve information. IT has increased companies' ability to exploit opportunities and avoid threats. IT also identifies the business strategy's strengths and weaknesses (Chu et al., 2019). Therefore, installing IT into the businesses helps to understand what is happening in the external environment, and it defines how to process the incoming data for predicting the external environmental factors (Lu & Ramamurthy, 2011).

Hadj et al. (2020), showed that IT capabilities are fundamental to fulfill a competitive advantage and that IT capabilities may show better resolution to the mystery of the opposite effect of IT capabilities on competitive advantage. ITC provides the necessary hardware and software that allow for creating networks that enable firm innovation. Appropriate implementation of IT infrastructure has allowed firms to implement the right applications at the right time and meanwhile broadened avenues for technological innovation (Sambamurthy, Bharadwaj, & Grover, 2003).

#### **Correlation Analysis**

		Organization Performance	Technology Processes
Organization	Pearson Correlation Sig. (2-tailed)	1	
Performance	N Pearson Correlation	131 .856**	1
Technology Processes	Sig. (2-tailed)	.001	1
	Ν	131	131

#### Table 4. 3: Correlation Coefficients

The results revealed that there is a very strong relationship between technology processes and business performance of Commercial Banks in Kenya (r = 0.856, p value =0.001). The relationship was significant since the p value 0.001 was less than 0.05 (significant level). The findings conform to the findings of Muiruri and Were (2016) that there is a very strong relationship between technology processes and organization performance.

Mod el		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		В	Std.	Beta		
			Error			
1	(Constant)	0.341	0.089		3.831	0.000
	Technology Processes	0.387	0.095	0.386	3.949	0.000

a Dependent Variable: Organization Performance

The regression model was as follows:

 $Y = 0.341 + 0.387 X_1 + \epsilon$ 

The results also revealed that Technology Processes has significant effect on business performance of Commercial Banks in Kenya,  $\beta 1=0.387$ , p value= 0.000). The relationship was considered significant since the p value 0.000 was less than the significant level of 0.05. The findings conform to the findings of Muiruri and Were (2016) that there is a very strong relationship between technology processes and organization performance.

#### Conclusions

The study concludes that technology processes has a positive and significant effect on business performance of Commercial Banks in Kenya. The study revealed that idea generation, technology acquisition and technology Implementation influence business performance of Commercial Banks in Kenya. This implies that improvement in information technology processes (idea generation, technology acquisition and technology Implementation) would lead to improvement in business performance of Commercial Banks in Kenya.

#### Recommendations

The study found that information technology processes (idea generation, technology acquisition and technology Implementation) influence the business performance of Commercial Banks in Kenya. This study therefore recommends that the management of commercial banks in Kenya should ensure they have in place an effective plan for idea generation, technology acquisition and technology Implementation.

#### REFERENCES

- Alreemy, Z., Chang, V., Walters, R., & Wills, G. (2016). Critical success factors (CSFs) for information technology governance (ITG). *International Journal of Information Management*, 36(6), 907-916.
- Antoni, D., Jie, F., & Abareshi, A. (2020). Critical factors in information technology capability for enhancing firm's environmental performance: case of Indonesian ICT sector. *International Journal of Agile Systems and Management, 13*(2), 159-181.
- Asante, K. K. (2010). Information Technology (IT) strategic alignment: A correlational study between the impact of IT governance structures and IT strategic alignment: Capella University.
- Awamleh, F., & Ertugan, A. (2021). The relationship between information technology capabilities, organizational intelligence, and competitive advantage. *Sage Open*, 11(2), 21582440211015201.
- Bandaly, D., Satir, A., & Shanker, L. (2014). Integrated supply chain risk management via operational methods and financial instruments. *International Journal of Production Research*, 52(7), 2007-2025.
- Blind, K., Pohlisch, J., & Rainville, A. (2020). Innovation and standardization as drivers of companies' success in public procurement: an empirical analysis. *The Journal of Technology Transfer*, 45(3), 664-693.
- Cegarra-Navarro, J.-G., Reverte, C., Gómez-Melero, E., & Wensley, A. K. (2016). Linking social and economic responsibilities with financial performance: The role of innovation. *European Management Journal*, *34*(5), 530-539.

- Chae, H.-C., Koh, C. E., & Prybutok, V. R. (2014). Information technology capability and firm performance: contradictory findings and their possible causes. *MIS quarterly, 38*(1), 305-326.
- Chen, B., & Cheng, H. H. (2010). A review of the applications of agent technology in traffic and transportation systems. *IEEE Transactions on intelligent transportation systems*, 11(2), 485-497.
- Chen, J.-S., & Tsou, H.-T. (2012). Performance effects of IT capability, service process innovation, and the mediating role of customer service. *Journal of Engineering and Technology Management*, 29(1), 71-94.
- Chowdhury, M. A. F., & Rasid, M. E. S. M. (2015). The determinants of the profitability of Islamic banks: a cross-sectional study from Asia and Africa. *International Journal of Business and Globalisation*, 15(3), 375-388.
- Erfourth, D. K. (2020). Information Technology Disaster Recovery Planning by Florida Nonprofit Organizations. Walden University,
- Etriya, E., Omta, O., Scholten, V., & Wubben, E. (2020). The importance of entrepreneurship and innovation for smallholder vegetable farmers in West Java, Indonesia.
- Fathema, N., Shannon, D., & Ross, M. (2015). Expanding the Technology Acceptance Model (TAM) to examine faculty use of Learning Management Systems (LMSs) in higher education institutions. *Journal of Online Learning & Teaching*, 11(2).
- Hilman, H., & Kaliappen, N. (2015). Innovation strategies and performance: are they truly linked? World Journal of Entrepreneurship, Management and Sustainable Development.
- Iza, C. L. B., & Dentoni, D. (2020). How entrepreneurial orientation drives farmers' innovation differential in Ugandan coffee multi-stakeholder platforms. *Journal of Agribusiness in Developing and Emerging Economies*.
- Jonker, M., Romijn, H., & Szirmai, A. (2006). Technological effort, technological capabilities and economic performance: A case study of the paper manufacturing sector in West Java. *Technovation*, 26(1), 121-134.
- Jorfi, S., Nor, K. M., & Najjar, L. (2017). An empirical study of the role of IT flexibility and IT capability in IT-business strategic alignment. *Journal of Systems and Information Technology*.
- Lu, Y., & Ramamurthy, K. (2011). Understanding the link between information technology capability and organizational agility: An empirical examination. *MIS quarterly*, 931-954.
- Massa, L., & Tucci, C. L. (2013). Business model innovation. *The Oxford handbook of innovation management*, 20(18), 420-441.
- Mugambi, L. M., & Kinyua, G. M. (2020). Role of Innovation Capability on firm performance in the context of Commercial Banks in Nairobi City County, Kenya. *International Journal of Current Aspects in Finance, Banking and Accounting*, 2(3), 14-23.
- Owuori, P. J., Ngala, M., & Obwatho, S. (2020). TECHNOLOGICAL CAPABILITY AND SUSTAINABILITY OF WATER COMPANIES IN KENYA.
- Panda, S., & Rath, S. K. (2018). Information technology capability, knowledge management capability, and organizational agility: The role of environmental factors. *Journal of Management & Organization*, 1-27.
- Patten, M. L., & Newhart, M. (2017). Understanding research methods: An overview of the essentials: Routledge.
- Ravichandran, T., Lertwongsatien, C., & Lertwongsatien, C. (2005). Effect of information systems resources and capabilities on firm performance: A resource-based perspective. *Journal of management information systems*, 21(4), 237-276.
- Rialti, R., Marzi, G., Ciappei, C., & Caputo, A. (2018). Reframing agile organization: do big data analytics capabilities matter?

- Sabherwal, R., Sabherwal, S., Havakhor, T., & Steelman, Z. (2019). How does strategic alignment affect firm performance? The roles of information technology investment and environmental uncertainty. *MIS quarterly*, *43*(2), 453-474.
- Sambamurthy, V., & Zmud, R. W. (2000). Research commentary: The organizing logic for an enterprise's IT activities in the digital era—A prognosis of practice and a call for research. *Information systems research*, 11(2), 105-114.
- Taher, M. (2012). Resource-based view theory. In *Information systems theory* (pp. 151-163): Springer.
- Vila Alonso, M., & Schiuma, G. (2015). Knowledge and sustained competitive advantage: How do services firms compete? *Investigaciones Europeas de DirecciÛn y Economla de la Empresa (IEDEE)*, 21(2), 55-57.
- Wu, S. P.-J., Straub, D. W., & Liang, T.-P. (2015). How information technology governance mechanisms and strategic alignment influence organizational performance. *MIS* quarterly, 39(2), 497-518.
- Zahra, M., Hameed, W. U., Fiaz, M., & Basheer, M. F. (2019). Information technology capability a tool to expedite higher organizational performance. *UCP Management Review (UCPMR)*, *3*(1), 94-112.
- Zeng, M., & Lu, J. (2020). The impact of information technology capabilities on agri-food supply chain performance: the mediating effects of interorganizational relationships. *Journal of Enterprise Information Management*.