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ABSTRACT

The dynamics of change in the micro and macro environments have exerted a lot of pressure on many firms to develop strategies for survival and sustainability in the market places. Postal Corporation of Kenya is experiencing challenges in achieving superior performance relative to its rivals due to liberalization, which has allowed the entry of dynamic exclusively owned courier services into the business arena which PCK initially had monopoly over. The constant shifts in customer preferences, coupled with technological innovations have aggravated its performance. Today, if a business has to be successful, it must have capacity to oversee and adapt to fast forward change by utilizing their technological capabilities. The purpose of this study was to investigate the influence of technological capabilities on market performance of PCK in Western region. The study was guided by Resource Based View and Dynamic Capability Theories. A descriptive survey design was utilized on target population of 198 employees of PCK in the western region. A descriptive survey design was utilized on target population of 198 employees of PCK in the western region. Proportionate sampling was employed to select the sixty respondents. Questionnaires were used to collect data. Cronbach's Alpha coefficient of 0.7508 was used to test content validity and reliability implying that the research instruments were reliable as the value was way above the recommended 0.7 in social sciences. Statistical Package for Social Sciences (SPSS version 20) was used in coding and analyzing quantitative data. Descriptive and inferential statistical tools such as use of mean, standard deviation and Regression models were used in the study. Findings of the study showed statistically positive and significant influence of technological capability on market performance of PCK in Western region. It was therefore concluded that technological capability accounted for 83.5% ($R^2 = 0.835$) variations in the market performance of PCK. The study recommended that PCK should frequently undertake market surveys in order to understand customer preferences so that they innovate or invent products & services based on customers' preferences'.

Key Words: *Technological capabilities, Market Performance, Postal Corporation of Kenya*

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INTRODUCTION

In a constantly changing environment, executives need to develop technological capability that will deliver performance and controls that will cushion firms against their competitors. Firms should focus on their internal performance and also pay attention to the external environment. Teece (2017) describes a technological capability as the ability to perform any relevant technical function or volume activity within the organization including the ability to develop new products and processes and to operate facilities effectively. Teece (2017) continues to argue that technical knowledge must be used in the market to generate higher profits. The ownership, protection and utilization of technological assets are key differentiators among firms (Teece, 2017). Baden-Fuller & Haefliger, (2013) define technological capability as the ability to gain an overview of the technological components on the market, assess their value, select which specific technology is needed, use it, adapt and improve it and finally develop new technologies. The technical capability for innovation is key to carrying out new combinations of resources, methods, systems and processes to generate new products and services (Demos & Hoffman, 2016).

Firms need, to accumulate resources and competences, which allow them to have a more developed technological capability than their competitors. In that sense, technological capability relates to absorption and transformation of a technology as a way of reaching higher levels of technical-economic efficiency (Zawislak, et.al., 2012; Ruffoni, et.al., 2012). Technological capabilities enable firms to innovate there by enhancing new product development (Baier et al., 2015), which in turn increase the profitability of an organization. Lichtenthaler & Lichtenthaler, (2009) further advance that firms with a high innovative ability do not only develop innovative products but also innovative procedures, firm structures, managerial behaviour and staff engagement procedures which may permit

them to enjoy competitive and economic advantages. New technological development puts new demands on companies, or provides new possibilities for developing or improving market activities as well as products. Some technological solutions make it possible for users that are geographically dispersed to share data bases and messages to be copied and delivered instantly to a vast number of receivers (Claycomb, 2013). Some technological solutions make it possible for users that are geographically dispersed to share data bases and messages to be copied and delivered instantly to a vast number of receivers (Claycomb, 2013). Technologically-oriented firms devote their resources to acquiring new and advanced technologies and developing new processes, products and services which creating positive outcomes like customer satisfaction, competitive advantage in the market place, and in turn superior financial returns (Kevin, 2012).

Rana (2012) indicate that technology is affecting the life of every individual both qualitatively and quantitatively in the present age and that there is need for a shift from traditional postal service to new service delivery channels to provide customers with 24/7 (around-the-clock) access to banking services for improved customer service delivery (Vila et al., 2013).

Statement of the Problem

Companies engage in business with the sole purpose of creating supernormal profits. However, with the dynamics of change in the micro and macro environments, ranging from constant shifts in customer preferences to technological innovations, many firms are struggling to achieve sustainability and survival in the market place (Chari and David, 2012). Today, if a business has to be successful, it must build the capacity to innovate new ideas; new processes and products that will help them realize economic value from their assets. The Postal Corporation of Kenya has been experiencing many challenges since 2003 when the licensed number of courier operators doubled (Postal statistics 2008). Its

viability in the now competitive environment seems to be deteriorating, unlike in the past when it had monopoly in offering postal services in the country. This has been accelerated by technological advancements such as video-conferencing and e-commerce which has made communication and the way to do business faster, cheaper, and more flexible. Domestic and international mail services have both been affected leading to a decline in mail revenues as indicated by postal statistics (2015). PCK's performance could be in relation with the utilization of its technological capabilities, an area which this study explored. Although various studies have been carried out on the corporation concerning capabilities (Milewa, 2010; Kambara, 2011; Kioko, 2014), the focus has been majorly on capabilities the firm has embraced as a result of scanning the external environment. The role of technological capability which one of the important internal capabilities in enhancing performance has not been given enough attention despite recent literature confirming a significant relation between the same (Reichert et al., 2015). This was a knowledge gap which this research attempted to address.

LITERATURE REVIEW

Resource Based Theory: This study was guided by The Resource Based View which suggests that accumulation and proper utilization of resources gives a firm a competitive advantage that leads to outstanding performance (Maritan and Peteraf, 2011). The ability of a firm to outperform its rivals originates from a core capability derived from multiple resources, ranging from competences, skills & strategic assets owned by a firm to judicious control of material and intellectual resources (Barney, 2012). Outstanding performance is therefore an outcome of organizational competitive advantage which is brought about by effective utilization of material resources like machinery, land and technology of production (Galbreath and Galvin, 2008; Schriber, 2015). The level of competitive edge

and performance can also be shown through financial resources like savings, cash-in-hand, and market capital such as shares and stock (Galbreath and Galvin, 2008). Additionally, an organization's competitive edge and performance can be accounted by variations in experiential assets like manufacturing experience and branding (Short et al., 2009). Furthermore, human capital, i.e middle and top management & administrators and production employees influence firm success (Galbreath and Galvin, 2008; Morgan et al., 2009; Schriber, 2015). Organizational resources are key success factors in either profit-making or none profit making firms. RBV views resources as being transitory in nature and that they follow a lifecycle of ballooning, renewal and then regression (Maritan and Peteraf, 2011). Managers therefore need to use *VRIN* attributes to assess its resources. The theory will be utilized in this study to test the level and nature of resourcefulness of PCK as well as examine its relevance in performance variations of the firm. Also, management writings should arm executives/managers with managerial capability relating to investment decisions required for growth and survival of firms in the dynamic business arena. A firm should concentrate on its capabilities and invest in them in order to obtain economic advantages. As such, RBV knowledge may guide PCK managers in relation to which of their assets are beneficial and therefore require funding.

Technological Capabilities and Market Performance: The relationship between technological capability and market performance in this study is a positive one, increased technological capability leads to increased market performance. The researcher embraced a descriptive survey research design. The main population for this investigation was every one of the employees of Postal Corporation of Kenya in Western Region. A sample was drawn from this population utilizing proportionate sampling techniques. The investigation uncovered that technological capabilities affect market performance. Zawislak et

al., (2014) in their research examined the role of technological investments on financial performance featuring firms in Brazil. 133 firms that had been listed major stock exchange between 2008 and 2010 were sampled and analyzed based on economic development theory. Industrial firms that majored in services like conveyance, selling of gadgets & apparatus, and telecoms did not feature in the study. Secondary data collection was by the use of companies' annual reports, profit and loss statements and their Websites. Data analysis was through SPSS – Statistical Package for the Social Sciences software. Results of the study indicate that firms that invested below average in technological capability performed lower than those firms which invested heavily on the same. The study excluded all service industries, a gap which this study attempted to fill.

In Africa, Kuye *et al.*,(2014) evaluated the impact of competitive tactics and technological ability on the success of manufacturing firms in Nigeria. Across sectional survey was used to study processing firms in Lagos, as it has the highest numbers of the said firms in Nigeria. A questionnaire was employed in collecting data from senior managers along with managing directors. Participants were chosen randomly. Out of 220 questionnaires that were administered, 196 were brought back fully filled, giving a 90.54% rate of response. Descriptive and simple regression methods on SPSS were used in analysis. The findings established a strong link between technological capabilities and firm success. The study population focused manufacturing firms and there is need for such a study to be carried out in service industry to ascertain whether or not the same results will be obtained. This study also utilized proportionate sampling where the respondents were not necessarily to be members of management.

In another study that tested the role of technological capability in enhancing performance, Candia, Jehopio & Wesonga (2017) examined whether induced multitasking via ICT has an impact on academic

attainment of university students in Uganda. The study conducted in May 2016, utilized primary data to collect information from a sample after stratification. 312 students of Makerere University participated in the research. Data was collected primarily by use of self-reported questionnaire. The survey targeted male and female students taking arts and sciences. Structural equation modeling model was used to analyze data with results indicating that ICT-induced multitasking does not have a direct impact on academic achievement but it affects focus in productivity, concentration span, self-regulation and emotional control for many students which directly influences good academic performance. The study is restricted as it only focused university students based in Makerere. Making generalizations based on the study is therefore difficult as the constructs have not been tried out on a wide range to attain a considerable generalization. The researcher in this study surveyed four counties formerly referred to as western province with a population of 50 PCK branches which has a wide coverage; this study would therefore achieve a greater generality.

Last but not least, Kariuki (2015) scrutinized the impact of IT on organizational performance at PS Kenya. The whole PS Kenya population made of 438 staff was used in the study. The study utilized primary data collection method where questionnaires were administered via electronic means. 311 respondents returned fully filled in questionnaires giving a 71%. The findings indicated that 82.4% of performance variation in PS Kenya was explained by IT and that IT had positively influenced the performance of the firm. PS Kenya is a branch of Population Services International (PSI) which is a non-governmental organization (NGO). The researcher in this study surveyed PCK which is a government institution to determine whether the same results as postulated above would.

METHODOLOGY

This study employed descriptive survey. The study involved sixteen branches of the total fifty branches of PCK in Western region, formally referred to as western province. The study targeted 148 respondents, drawn from the fifty branches of PCK in the Western region. A sample size of 60 employees was arrived by use of proportionate sampling. Simple random sampling technique was used to obtain the final respondents. The sample size was determined using Yamane (1967) formulae: $n = \frac{N}{1 + Ne^2}$; n = sample size; N = total population of members (148); e = sampling error (0.05). Primary data of both quantitative and qualitative type was collected by the researcher through the questionnaires. The study ensured both content and construct validity were achieved. This was also aided by receiving technical advice from the experts and supervisors on the construction of the questionnaire. Reliability test was carried out and the results showed that a Cronbach alpha of coefficient of 0.738 was attained implying that the research instruments were reliable. Analysis involved the use of both descriptive and inferential statistics.

Descriptive statistics used mainly the means and standard deviations, while inferential statistics employed regression and correlation analyses. Inferential statistics were used to test research questions at p-value of 5% (0.05) at confidence interval of 95%.

RESULTS

The objective of the study was to determine the effect of technological capability on market performance of PCK in Western Region. Technological capability is one of the crucial organizational capabilities capable of influencing organizational performance. To measure technological capability, a set of nine statements were formulated relating to technological capability and market performance of PCK in Western Region. The respondents were required to state their level of agreement with nine (9) statements relating to technological capability and market performance of PCK, where, 1= strongly disagree, 2= disagree, 3= not sure, 4= agree, 5= strongly agree. The relevant results are as shown in Tables 1 and 2.

Table 1: Mean and Standard Deviation of Technological Capabilities

Descriptive Statistics	N	Minimum	Maximum	Mean	Std. Deviation
There are constant technological improvements on products and services offered by the PCK.	52	1.00	5.00	3.9615	1.17091
PCK employees undergo training for new technology launched	52	1.00	5.00	4.0192	1.26010
PCK staff are well informed of the newly innovated products and services	52	1.00	5.00	3.4038	1.61196
The E-Systems simplify processes thus improving efficiency of postal services	52	1.00	5.00	3.9423	1.30479
Electronic payment solutions network is accessible 24/7	52	2.00	5.00	3.9423	1.01775
PCK has an operational electronic database of their clients	52	2.00	5.00	4.0962	.86907
PCK servers are secure	52	2.00	5.00	4.4231	.87102
Servers which are old are decommissioned	52	1.00	5.00	3.7885	1.22613
PCK runs upgrade of their servers regularly	52	2.00	5.00	4.0962	1.03393
Valid N (list wise)	52				

Source: Field data, 2018

This variable attracted nine (9) statements regarding technological capability. The first statement on PCK servers were secure had the mean of 4.4231 with standard deviation of 0.87102; PCK had an operational electronic database of their clients had a mean of 4.0962 with standard deviation of 0.86907; PCK ran upgrade of their servers regularly had a mean of 4.0962 with standard deviation of 1.03393; PCK employees underwent training for new technology launched had a mean of 4.0192 with standard deviation of 1.26010; There were constant technological improvements on products and services offered by the PCK had the mean of 3.9615 with standard deviation of 1.17091; electronic payment

solutions network was accessible 24/7 had the mean of 3.9423 with standard deviation of 1.01775; The E-Systems simplify processed thus improving efficiency of postal services had the mean of 3.9423 with standard deviation of 1.30479; servers which are old are decommissioned had the mean of 3.7885 with standard deviation of 1.22613, while the last statement on PCK staff were well informed of the newly innovated products and services had the mean of 3.4038 with standard deviation of 1.61196. Out of the nine statements, four had means of 4.0 and above while five had means of below 4.0. The results revealed that the respondents agreed with the statements on the technological capabilities.

Table 2: Technological Capabilities and Market Performance of PCK

Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	F Change	df1	df2
0.914	0.835	0.800	0.30351	0.835	23.609	9	42

ANOVA

	Sum of Squares	Df	Mean Square	F	Sig.
Regression	19.573	9	2.175	23.609	0.000
Residual	3.869	42	0.095		
Total	23.442	51			

a. Dependent Variable: Market Performance of PCK

b. Predictors: (Constant): Technological Capabilities

Model		Unstandardized Coefficients B	Standardized Coefficients Std. Error	Beta	t	Sig.
1	(Constant)	1.537	0.374		4.103	0.010
	Technological Capabilities	0.716	0.286	0.819	2.506	0.000

a. Dependent Variable: Market Performance of PCK

Independent Variable: Technological Capabilities Significance level <0.05

Source: Field data, 2018

The results clearly indicated that there was a statistically significant positive relationship between technological capability and market performance of PCK in Western Kenya region. Technological capability

accounted for 83.5% ($R^2 = 0.835$) variations in the market performance of PCK. In the test criterion, the null hypothesis is accepted when the p-value is more than 5% (0.05) and the null hypothesis is rejected

when the p-value is less than 0.05. From the results, the null hypothesis was rejected since a positive, linear and significant (p-value is less than 0.05) was established between technological capability and market performance of PCK in Western Kenya region.

CONCLUSION AND RECOMMENDATION

The study established that technological capability is positively significant to market performance of PCK as it accounted for 83.5% ($R^2 = 0.835$) variations in the market performance of PCK. The study recommended that PCK should develop its technological capability

by; Conducting ICT trainings for employees, beginning with e-mail use, internet use, so as to better ICT level literacy in preparation to for the dynamic technological era, procuring new and enough computers as the ones available are old, decommissioning their serves regularly to improve the speed of their email servers, appointing TA4s (network technicians) at the branch level to work in liaison with the head office when there's system downtime thereby supporting electronic system availability always.

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