

# **Influence of Knowledge Management Capabilities on Performance of Telecommunication Companies in Kenya**

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**ABSTRACT:** Strategic market orientation capabilities enable an organization to attain sustainable competitive advantage in the market place through the efficient use of organizational resources. The purpose of this paper is to establish the influence of knowledge management capabilities on Performance of Telecommunication Companies in Kenya. The study used a sample size of 210 respondents. Stratified random sampling technique was used to select the sample within each of the five sub-groups to ensure objectivity. The study used survey design in the collection of data which were administered through use self-administered questionnaires to collect data and was analyzed using descriptive statistics. The study found that knowledge management capabilities have a positive and a significant effect on performance of mobile telecommunication firms. The study concluded that in order to meet these diverse needs of the customer, proper, relevant and sufficient information needs to be carried out in the market environment in order to ascertain the exact needs of the customer. The study thus recommended that there is need for firms to set up informational structures create and review policies that will foster knowledge based business environment.

**KEYWORDS:** *knowledge management capabilities, market orientation, mobile, performance, telecommunication*

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## **I. INTRODUCTION**

### **1.1 Background**

Knowledge in an essential part of any organization that has productivity as its main goal in terms of goods and services offered. Different business entities have seen evolution of knowledge as a result of a fast changing world and adoptability to this knowledge dynamism is the key factor that has sustained or ceased businesses in terms of their operations. Mobile telecommunication firms in Kenya are among business entities that have experienced knowledge dynamism a fact that has had a direct impact on their performance. Mobile telecommunication firms in Kenya include: Safaricom, Orange, Airtel and Equitel (CCK, 2015) but other mobile telecommunication firms like Vodafone, France Telecom and Essar Communications through their investments in Safaricom, Telkom Kenya and Econet have become major players in the Kenyan market (Muhura, 2012). These mobile telecommunication firms in Kenyan market have evolved through different brand names such as Safaricom, Kencell now rebranded Airtel, Orange, YU which has since been bought out by Airtel (Muhura, 2012; Sande, 2014). Mobile telecommunication firms in Kenya have gained a competitive advantage through adopting different kinds of competitive strategies (Sande, 2014). Sustainable competitive advantage has come up as a result of renting out its infrastructure that is technologically networked with telecom towers (Muhura, 2012).

Mobile telecommunication firms in Kenya deliberately choose activities that help deliver a unique mix of value (Kapto&Njeru, 2014). Safaricom and Airtel, for instance create value for customers by exploiting their strategic market orientation capabilities to position themselves in the telecommunications industry (Arasa&Githinji, 2014; Muhura, 2012). Melton (2007) argues that in a dynamic and competitive environment, a firm has to adjust to the changing preferences of customers or lose out to competitors who add value through innovation. Firms with competitive advantage and superior performance offer value that is superior to the value that their rivals are able to offer. This value is created by innovatively bundling and leveraging the available resources and capabilities (Daneels, 2007). Therefore creating value for customers is what has led to superior returns for some firms in the mobile telecommunication industry. Higher returns in a firm can come about when the available resources are integrated into dynamic capabilities that provide value for customers (Gitau, Mukulu&Kihoro, 2015).

The business operational environment has become dynamic and complex characterized by new challenges, uncertainties and competition brought about by interconnectivity, globalization and intangibility amid performance pressure. As a result, business entities need to adapt to strategic philosophies that can help them meet the new economy dynamism and complexity a reason for integrating knowledge management as a

concept of strategic market orientation capability for promoting performance. Knowledge management is the process of developing, transferring, transmitting, storing, identifying, acquisition, and implementing knowledge in an organization. (Ghalomi et al., 2012). According to Bollinger and Smith (2005), knowledge management is perceived as a strategic organizational asset. Darroch and McNaughton (2003) suggest that knowledge management is a process that creates or locates knowledge and manages the sharing, dissemination and use of knowledge in the organization. The recognition of knowledge as a key resource for firms in the current business environment confirms the need for processes that facilitates individual and collective knowledge creation, transfer and leverage.

### **1.2 Problem statement**

Based on the above background information drawn from theoretical approach perspective, the study sought to determine the influence of knowledge management capabilities as an element of strategic market orientation capabilities on performance of mobile telecommunication firms in Kenya by looking at their differences in performance yet all mobile telecommunication firms adopts a strategic market orientation capability.

### **1.3 Research Objective**

This study objective was: to establish the influence of knowledge management capabilities on performance of telecommunication companies in Kenya as an element of strategic market orientation capability.

### **1.4 Literature review**

Various studies have demonstrated that a high degree of market orientation is associated with more outcomes that are favorable to organization performance (Ghani & Mahmoud, 2011; Altuntas, Semercioz&Eregez, 2013; Hussain, Shah and Akhtar, 2016). Suliyanto and Rahab (2012) feel further study should be carried out on the relationship between market orientation and firm performance as it is still insufficiently implemented. This presents some gaps in developing economies of Asia and African continents (Kumar et al., 2011). Many researchers are focusing on the relationship between the degree of market orientation and organization performance (Edigheji, 2010; Dubihlela, 2013). Mobile telecommunication firms within Kenya are not exceptional as they also compete internationally hence should exploit their market orientation capabilities well so as to survive (Gitau, Mukulu&Kihoro, 2015; Kapto&Njeru, 2014).

Capability exercised in knowledge articulation and routines affect the level of firm performance (Wang, Klein & Jiang, 2007). Vaccaro, Parente and Veloso (2010) reiterate that a firm's knowledge, skills and experience can create superior performance if a firm fruitfully uses them to add value. Chen and Fong (2013), reiterate that the superior performance of the firm is associated with capability-based advantages that are derived from superior access to and integration of knowledge. Knowledge management capabilities enhances dynamic capability leading to increase in organization performance (Tseng & Lee, 2012 ; Wang, Klein & Jiang, 2007) seem to agree that effective knowledge management enhances a firm performance through its ability to innovate, coordinate efforts, market new products and respond to market changes and challenges. Knowledge and knowledge development form the basis upon which innovation takes place leading to superior performance. Individual generated knowledge especially by employees may be shared within the organization's context to become institutionalized as organizations artifacts which may steer the organization into high levels of performance (Protogerou et al., 2011). Tseng and Lee (2012) see dynamic capabilities as an important intermediate organizational mechanism through which the benefits of knowledge capabilities are converted into performance effects.

Knowledge management can be a system for generating intelligence, disseminating intelligence and responding to intelligence. Empirical study by Wang and Kwok (2009) shows a direct relationship between market orientation and knowledge management but Hu (2010) shows no relationship between market orientation and firm performance.

## **II. METHODOLOGY**

This study was conducted through a survey design. Survey design is used to investigate populations by selecting samples to analyze and discover occurrences (Oso&Onen, 2009). Survey design provided numeric descriptions of a sample of the population that was selected from the four mobile telecommunication firms in Kenya. Survey design is simple and economical to carry out. It is easy to understand a target population from analyzing a sample of it. The research study covered the whole nation and therefore survey design is suitable for covering the extensive research. The survey design helped to determine the influence of market orientation capabilities on mobile telecommunication firms.

The population consisted of all the local mobile telecommunication companies listed and licensed by the Communication Commission of Kenya (2013). The target population consisted of 462 employees in the top,

middle and lower level managements. This included 4 Chief Executive Officers (CEOs), 31 Regional managers (RMs), 59 Directors (DIRs), 184 Shop Managers (SHMs) and 184 Customer Service Representatives (CSR<sub>s</sub>) in four firms of the mobile telecommunication industry in Kenya which led to a sample population of 210 respondents. For primary data, Krejcie and Morgan formula was used in determining the sample.

**TABLE 1: SAMPLE DISTRIBUTION**

Level of Management	Target population	Per Stratum	Sample size	Per stratum
C E O s	4		4	
R M s	3	1	1	0
D I R s	5	9	1	6
C S R s	1	8	4	9
S H M s	1	8	4	9
<b>TOTAL</b>	<b>4</b>	<b>6</b>	<b>2</b>	<b>2 1 0</b>

$$S = \frac{x^2 NP (1-P)}{d^2 (N-1) + X^2 P (1-P)}$$

Where:

S = the desired sample size

X<sup>2</sup> = the table value of chi-square for one degree of freedom at desired confidence level which is 1.96x 1.96= 3.841

N = the population size

P = the population proportion assumed to be 0.5 since this provided maximum sample size and

d = the degree of accuracy expressed as a proportion 0.05

$$S = \frac{3.8416 \times 462 \times 0.5 (1-0.5)}{0.05^2 (462-1) + 3.8416 \times 0.5(1-0.5)} = 210 \text{ Respondents.}$$

The study used questionnaires and interview to collect data. The questionnaire had both open ended questions and closed questions. Open ended questions for detailed information and closed ended questions on facts on variables. The interviews were guided by an interview guide which contained open ended questions. The interviews targeted top level management (CEOs<sub>s</sub>). The questionnaire was administered to four respondents from among the CSRS, RMs, DIRs and SHMs exclusive of the CEOs. Expert judgment was used to enhance content validity through identifying weaknesses and trying to correct (Best & Kahn, 2011).

Data analysis helped bring order and meaning to the amount of information collected (Mugenda&Mugenda, 2003). Descriptive and inferential statistics were the most appropriate in data analysis. Descriptive statistics include measure of central tendencies, standard deviation, range, variance among others while inferential statistics helped in measuring the relationship and difference among variables. Data analyzed using descriptive statistics were coded using Statistical Package for Social Sciences (SPSS).

**III. RESULTS AND DISCUSSION**

**3.1 Knowledge Management Capability and firm performance**

**TABLE 2: KNOWLEDGE MANAGEMENT CAPABILITY AND FIRM PERFORMANCE**

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Mean	Std.Dev.
Management has effective routines responsiveness to any new information on the products	10.00%	11.11%	13.33%	38.33%	27.22%	3.62	1.27
Management successfully integrates existing knowledge with new information and knowledge acquired	11.11%	10.00%	11.67%	41.11%	26.11%	3.61	1.28
Employees have the ability to structure activities and use collected knowledge	11.11%	11.11%	9.44%	40.00%	28.33%	3.63	1.3
Employees successfully link existing knowledge with new insights	10.00%	9.44%	6.67%	41.11%	32.78%	3.77	1.28
Management has effective ways of exploiting internal and external information and knowledge into processes, products or services	11.11%	9.44%	12.78%	37.78%	28.89%	3.64	1.29
Management works more effectively by adapting new knowledge and information	10.00%	10.56%	9.44%	38.89%	31.11%	3.71	1.28
Management is able to deal with sensitive information that is beyond the industry.	7.22%	8.33%	16.67%	39.44%	28.33%	3.73	1.17
The firm management searches for relevant information concerning the industry to generate market intelligence	10.56%	6.67%	14.44%	39.44%	28.89%	3.69	1.25
<b>A v e r a g e</b>						<b>3.68</b>	<b>1.27</b>

The results in table 2 revealed that majority of the respondents (65.55%) agreed with the statement that their management has effective routines responsiveness to any new information on the products. The results further, revealed that majority of the respondents (67.22%) agreed with the statement that their management successfully integrates existing knowledge with new information and knowledge acquired. The results further revealed that majority of the respondents (68.33%) agreed with the statement that employees had the ability to structure activities and use collected knowledge. The results also revealed that majority of the respondents (73.89%) agreed with the statement that employees successfully link existing knowledge with new insights. The results also revealed that majority of the respondents (66.67%) agreed with the statement that their management has effective ways of exploiting internal and external information and knowledge into processes, products or services. The results also revealed that majority of the respondents (70.00%) agreed with the statement that their

management works more effectively by adapting new knowledge and information. The results also revealed that majority of the respondents (67.77%) agreed with the statement that their management is able to deal with sensitive information that is beyond the industry. Furthermore, the results revealed that majority of the respondents (68.33%) agreed with the statement that their firm management search for relevant information concerning the industry to generate market intelligence.

On a five point scale, the average mean of the responses was 3.68 which mean that majority of the respondents were agreeing with most of the statements; however the answers were varied as shown by a standard deviation of 1.27.

The respondents were asked to indicate whether they have adopted knowledge management capability to enhance their firm’s market orientation. Majority of the respondents indicated that they had adopted knowledge management capability to enhance their firms’ market orientation. The following were some of the responses;

Respondent 1 “yes”

Respondent 3 “yes”

**3.2 Firm Performance**

**TABLE 3: FIRM PERFORMANCE**

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	M e a n	StdDev
The firm has developed ways of grasping opportunities.	5 . 5 6 %	15.56%	15.00%	44.44%	19.44 %	3.57	1 . 1 3
The firm has increased on product differentiation.	9 . 4 4 %	12.78%	9.44%	51.67%	16.67 %	3.53	1 . 1 9
The firm sales ratio has increased.	7 . 2 2 %	12.22%	13.33%	40.00%	27.22 %	3.68	1 . 2 0
Information generation and dissemination has been effective.	7 . 2 2 %	11.11%	13.89%	40.00%	27.78 %	3.70	1 . 2 0
The firm growth has been accelerated by partnership with the government.	7 . 7 8 %	13.33%	9.44%	40.56%	28.89 %	3.69	1 . 2 4
The firm has expanded across the country.	9 . 4 4 %	13.33%	14.44%	33.33%	29.44 %	3.60	1 . 2 9
The firm pre-tax profit has gone up	1 0 . 5 6 %	12.22%	13.33%	36.67%	27.22 %	3.58	1 . 2 9
The firm ratio of input to output has increased.	8 . 3 3 %	16.67%	17.22%	35.56%	22.22 %	3.47	1 . 2 4
The firm’s departmental coordination has reduced the operational cost.	1 0 . 5 6 %	11.11%	11.11%	41.11%	26.11 %	3.61	1 . 2 7
<b>A v e r a g e</b>						<b>3.60</b>	<b>1 . 2 3</b>

The results in table 3 revealed that majority of the respondents (63.88%) agreed with the statement that their firm has developed ways of grasping opportunities. The results in the table also revealed that majority of the respondents (68.34%) agreed with the statement that their firm has increased on product differentiation. The results also revealed that majority of the respondents (67.22%) agreed with the statement that their firm sales ratio has increased. The results further, revealed that majority of the respondents (67.78%) agreed with the statement that information generation and dissemination has been effective. The results revealed that majority of the respondents (69.45%) agreed with the statement that the firm growth has been accelerated by partnership with the government. The results also showed that majority of the respondents (62.77%) agreed with the statement that their firm has expanded across the country. The results also indicated that majority of the respondents (63.89%) agreed with the statement that the firm pre-tax profit has gone up. Furthermore, the results showed that majority of the respondents (57.78%) agreed with the statement that their firm ratio of input to output has increased. In addition, the results revealed that majority of the respondents (67.22%) agreed with the statement that their firm’s departmental coordination has reduced the operational cost.

On a five point scale, the average mean of the responses was 3.60 which mean that majority of the respondents were agreeing with most of the statements; however the answers were varied as shown by a standard deviation of 1.23.

**TABLE 4: CORRELATIONAL ANALYSIS**

		Average performance	Average knowledge management
Average performance	Pearson Correlation	1	
	Sig. (2-tailed)	0	
	Sig. (2-tailed)	0 . 0 0 3	
Average knowledge management capabilities	Pearson Correlation	. 6 0 9 * *	1
	Sig. (2-tailed)	0 . 0 0 0	
	Sig. (2-tailed)	0 . 0 0 0	0
** Correlation is significant at the 0.01 level (2-tailed).			
* Correlation is significant at the 0.05 level (2-tailed).			

The table further indicated that average knowledge management capabilities and average performance are positively and significantly related ( $r=0.609$ ,  $p=0.000$ ). This implies that an increase in knowledge management capability resulted to an improvement in firm’s performance.

**TABLE5: REGRESSION OF COEFFICIENTS**

	B	Std. Error	t	S i g .
( C o n s t a n t )	0 . 3 0 7	0 . 0 7 5	3 . 1 1 6	0 . 0 2 6
knowledge management	0 . 1 2 6	0 . 0 5 5	2 . 3 0 5	<b>0 . 0 2 2</b>

**3.3 Hypothesis Testing**

This study sought to establish the influence of knowledge management capabilities on performance of mobile telecommunication firms in Kenya. The null hypothesis was; a knowledge management capability does not have a significant effect on the performance of mobile telecommunication firms in Kenya. Results shows that, the calculated p value of 0.022 was less than the critical p value (0.05). This indicated that the null hypothesis was rejected hence knowledge management capabilities have a significant effect on the performance of mobile telecommunication firms in Kenya

**3.4 Summary**

This study sought to establish whether knowledge management capabilities influence performance of mobile telecommunication firms in Kenya. The findings revealed a significant relationship between knowledge management capabilities and performance of mobile telecommunication firms. The findings were also supported by the statements in the questionnaire which majority of the respondents agreed. This was also supported by the regression results which revealed that knowledge management capabilities had a positive and significant effect on performance of mobile telecommunication firms. These findings were in consistent with that of Wang, Klein & Jiang, 2007. Their study suggested that capability exercised in knowledge articulation and routines affect the level of firm performance.

**IV. CONCLUSION AND RECOMMENDATION**

Based on the findings above the study concluded that, knowledge management capabilities have a positive and a significant effect on performance of mobile telecommunication firms. The study also concluded that in order to meet these diverse needs of the customer, proper, relevant and sufficient information needs to be carried out in the market environment in order to ascertain the exact needs of the customer. This research should be carried out in consideration of the internal factors of the firm in order to match its capabilities with the dynamic fluctuation of the market conditions. The study thus recommended that telecommunication firms should set and implement informational structures which in turn will ensure knowledge management capabilities are fully realized for achievement of the firm’s ultimate goals of sustainability and profitability. In addition telecommunication firms should serious consider knowledge management as an organizational asset a fact that will call for creating and reviewing policies that would create an enabling environment to integrate and operationalize knowledge philosophies.

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