

# Effect of Innovation Strategies on Performance of Firms in the Telecommunication Sector in Kenya

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## Abstract

One way to achieving growth and sustaining performance is to encourage and foster innovative practices and creativity internally within the institution. The objective of this paper is to investigate the effect of innovation strategies adopted by firms in the telecommunication industry in Kenya on performance. Data was analyzed through descriptive statistics and the relationship between the variables established using regression analysis. The descriptive statistical tools such as Statistical Package for Social Sciences (SPSS) and MS Excel were used to help the researcher describe the data and determine the extent. The data was presented through percentages, means, standard deviations and frequencies. The paper concludes that adoption of innovation strategies affected performance of the firms to a great extent.

## Keywords

Innovation, Performance, Market, Product, Process, Technology, Strategy

## I. Introduction

Innovation involves acting on the creative ideas to make some specific and tangible difference in the domain in which the innovation occurs (Davila et al, 2006). Innovation is defined as the successful implementation of creative ideas within an organization. Strategy is the direction and scope of an organization over the long term which achieves advantage in a changing environment through its configuration of resources and competences with the aim of fulfilling stakeholders' expectations (Oke and Goffin, 2001). Firm's performance is the appraisal of prescribed indicators or standards of effectiveness, efficiency, and environmental accountability such as productivity, cycle time, regulatory compliance and waste reduction. Performance also refers to the metrics regarding how a certain request is handled, or the act of doing something effectively.

## II. Background

Innovation is considered to be a critical requirement for the growth and profitability of organizations. For private sector organizations operating in increasingly competitive market, innovation is often a condition for simple survival. The capability to innovate is ever more viewed as the single most vital factor in developing and supporting competitive advantage (Tidd, 2001). According to Davila, Epstein and Shelton (2009) innovation is a necessary ingredient for sustained success and is an integral part of the business. Much weight has been accorded on building innovative institutions and the management of the innovation progression as necessary elements of institutional survival (Brown, 1997).

Firm's performance is the appraisal of prescribed indicators or standards of effectiveness, efficiency, and environmental accountability such as productivity, cycle time, regulatory compliance and waste reduction. Performance also refers to the metrics regarding how a certain request is handled, or the act of doing something effectively; of performing; using knowledge as notable from just possessing it. It is the result of all of the

organisation's operations and strategies (Venkatraman and Ramanujam, 2001).

In today's knowledge economy, investments in intellectual assets are considered more and more to be key strategic elements to maintain a business' growth, profitability and competitiveness (Berry, 2000). For organizations in the telecommunication industry are operating in increasingly competitive market and innovation is often a condition for simple survival. The capability to innovate is ever more viewed as the single most vital factor in developing and supporting competitive advantage

Innovation in the telecommunication sector aims at developing a change adept organization that anticipates, creates and responds effectively to change in the external and internal environments to increase profit potential. Some of the forces of change that have greatly influenced the telecommunication industry in Kenya include intense competition, regulation and technological advancement.

In today's dynamic and global competitive environment, innovation is becoming more pertinent, mainly due to three major trends: concentrated international competition, disjointed and challenging markets, and assorted and swiftly changing technologies (Wheelwright and Clark, 1992). In many countries, the pace of change in telecommunication industry is dramatic. The services providers worldwide are becoming increasingly interrelated. New types of business and corporate strategies are being explored: better market segmentation, industry consolidation, changed delivery channels and expanded product offerings. Information technology (IT) has been established as a key enabler of change. It is also resulting into a driver of change with new products such as telephone banking, mobile banking and electronic banking.

## III. Purpose of the Study

Rycroft and Kash (1999) claim that innovation requires a process of co-evolution between technology and cultural perspectives where radical innovations are new technologies or new products that fill needs perhaps yet unrecognized; and incremental innovations improve what already exists. Kim and Mauborgne (1999) argue that innovation is concerned with improving the mix of target markets and how chosen markets are best served.

Some of these firms consider that the cumulative gains in efficiency are much greater over time than those, which come from irregular radical changes. However, many of these short- and medium-term gains are quickly eroded and absorbed into the industry standard and therefore cannot be depended upon as a prerequisite for survival and growth. In Kenya, firms in the telecommunication sector practice both incremental and radical innovation. In these firms periods of incremental innovation are interspersed when necessary with radical and transformational change. Though the telecommunication sector in Kenya has been operating in a competitive environment, the firms have consistently experienced trajectory growth in terms of number of customer and asset base. It is therefore expected that for these firms to thrive in this competitive environment they must have adopted strategies such as innovation to respond and adapt to the changes and challenges

in their operating environment.

The fact that the telecommunication industry environment has been affected adversely by the changing operating environment calling for adoption of innovation strategies to enhance a competitive edge in the markets, Locally, Gitonga (2003) did a study on innovation processes and the perceived role of the CEO in the telecommunication industry. Odhiambo (2008) carried out a research on the innovation strategies at Safaricom Ltd. None of these studies have ever focused on the relationship between innovation strategies and performance of the entire telecommunication industry in Kenya.

#### IV. Research Objectives

The general objective of this study is to determine the effect of innovation strategies on performance of firms in the telecommunication sector in Kenya.

The specific objectives of this study were:

- To find out whether technological innovation affect performance of firms in the telecommunication sector in Kenya.
- To establish whether product innovation affect performance of firms of the telecommunication sector in Kenya.
- To determine whether market innovation affect performance of firms of the telecommunication sector in Kenya.
- To find out whether process innovation affect performance of firms of the telecommunication sector in Kenya.

#### V. Research Questions

The research questions of this article were:

- What is the extent to which market innovation strategies affect performance of firms in the telecommunication sector in Kenya?
- How do product innovation strategies affect performance of firms in the telecommunication sector in Kenya?
- To what extent do process innovation strategies affect performance of firms in the telecommunication sector in Kenya?
- How do technology innovation strategies affect performance of firms in the telecommunication sector in Kenya?

#### VI. Rationale of the Study

This article is important to the companies in the telecommunication industry as it brings out the role of innovation strategy in their performance. The results of this study would also be invaluable to researchers and scholars, as it would form a basis for further research. The students and academics would use this study as a basis for discussions on innovation strategies and firm performance. The study would be a source of reference material for future researchers on other related topics; it would also help other academicians who undertake the same topic in their studies

#### VII. Literature Review on Innovation Strategies

The significance of having an evidently defined innovation strategy directing the innovation process was recognized by Cooper et al. (2003). According to Tushman and Nadler (2006), strategic management in the telecommunication sector demand that the institutions should have effective systems in place to offset unpredictable events that can maintain their operations and reduce the risks implicated through innovations. According to Davila, Epstein and Shelton (2006) innovation is a necessary ingredient for sustained success and is an integral part of the business. For many firms in Kenya, information and communication

technology is viewed as potentially capable of helping achieve innovative strategy. The high rate at which organizations are buying mobile phones, computer hardware and software as well as using the Internet for information and communication is evidence of the increasing awareness of information and communication technology in the Kenyan market. The business benefits of using information and communication technology include efficiency and attainment of increased returns. The vast opportunities brought by the Internet to the telecommunication industry have therefore attracted much attention from researchers whose efforts apparently group on certain areas of interest.

With the use of Information Technology (IT), the firms can use the cross-selling strategies to sell new innovations to their existing customer base. It can be seen that firm's adoption of technology changes from improving efficiency and also improving the service quality in servicing the customers. Such changing strategy demonstrates the situation where firms compete to own the potential customers.

The adoption of short messages services both from clients will, if effectively implemented, lead to substantial cost savings by insurers in the areas of telephone calls and personnel time. Product innovation provides the most obvious means for generating revenues. Process innovation, on the other hand, provides the means for safeguarding and improving quality and also for saving costs. Improved and radically changed products are regarded as particularly important for long-term business growth

Product innovations enable the firms to increase their brands or products in the market hence create competitive advantage for the organizations; market innovation enables the firms create new markets hence increasing the competitive advantage; process innovation enables the running of the firms' operations thus increasing effectiveness and efficiency while technology innovation will encourage ease of flow of information and fast delivery to the intended persons.

#### A. Conceptual Framework

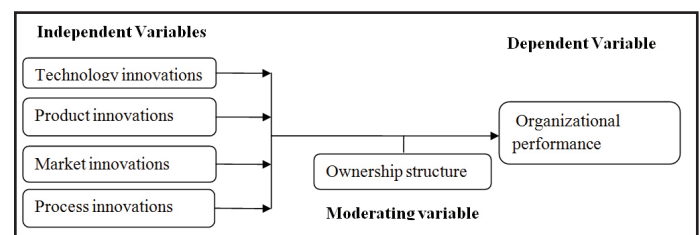


Fig. 1:

Source: Authors' schematic 2011

#### VIII. Research Methodology

The study adopted a descriptive research design. This study collected quantitative data from 40 managers from the four key players in the telecommunication industry in Kenya (Safaricom Ltd, Airtel, Essar and Orange) using a self-administered questionnaire with a five point Likert scaled questions. A pilot study was conducted aimed at determining the validity and reliability of the questionnaire. According to Mugenda and Mugenda (2003), in a research study, the reliability coefficient can be computed to indicate how reliable data is. A coefficient of 0.80 or more implies that there is a high degree of data reliability. The survey instrument was subjected to overall reliability analysis and was found to be highly reliable (Cronbach alpha = 0.918). It was found that the relationship between innovation strategy and performance was highly reliable (Cronbach alpha = 0.906). This is excellent

reliability according to Hair et al. (2010). Data collected was analyzed by descriptive analysis. In addition, the researcher conducted a multiple regression analysis.

**IX. Analysis and Discussion**

**A. Market Innovations Strategies**

The study established that market innovations affected performance of firms in the telecommunication sector. The study found that the firms employed environmental analysis and response to change, the firms employed aggressive anti-competitors marketing campaigns. Aggressive anti-competitors marketing campaigns contributed to the firm’s profitability more.

**B. Product Innovation Strategies**

It was clear that product innovations affected performance of firms in the telecommunication sector. The study found that product replacement contributed to the firm’s profitability, product repositioning contributed to the firms’s profitability. The respondents indicated that product development was important in both the supply of the core product as well as in the support part of any offer and they also agreed that the firm’s product development strategy aimed to hit many singles.

**C. Process Innovation Strategies**

The study found that process innovation strategies such as reduction of costs and conformance to regulations contributed to profitability. It was deduced that use of technology innovation promoted a friendly and helpful staff hence customer satisfaction and that the innovations ensured that the services given to customers were of high quality.

**D. Technology Innovation Strategies**

The study revealed that technological innovations affected performance of firms in the telecommunication sector. The study found that mobile banking and new technology development contributed to the firm’s profitability.

**1. Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.908 <sup>a</sup>	.825	.289	.65323

The four independent variables that were studied, explain only 82.5% of the performance of firms in the telecommunication sector in Kenya as represented by the R2. This therefore means that other factors not studied in this research contribute 17.5% of the performance of the firms in Kenya.

ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	2.534	2	1.267	54.455	.024 <sup>a</sup>
	Residual	9.307	40	2.327		
	Total	3.465	42			

The significance value is .024 which is less than 0.05 thus the model is statistically significant in predicting how technological innovations, product innovations, market innovations and process innovations affect the performance of firms in the telecommunication sector in Kenya. The F critical at 5% level

of significance was 3.23. Since F calculated is greater than the F critical (value = 54.455), this shows that the overall model was significant.

Coefficient of determination

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.121	1.223		2.917	.0367
	Market Innovations Strategies	.210	.104	.157	3.081	.0188
	Product Innovation Strategies	.180	.145	.087	2.578	.0267
	Process Innovation Strategies	.396	.204	.155	2.960	.0451
	Technology Innovation Strategies	.722	.224	.512	3.229	.0034

The researcher conducted a multiple regression analysis so as to determine the relationship between performance of firms in the telecommunication sector in Kenya and the four variables. As per the SPSS generated table, the equation (Y = β<sub>0</sub> + β<sub>1</sub>X<sub>1</sub> + β<sub>2</sub>X<sub>2</sub> + β<sub>3</sub>X<sub>3</sub> + β<sub>4</sub>X<sub>4</sub> + ε) becomes:

$$Y = 1.121 + 0.210 X_1 + 0.180 X_2 + 0.396 X_3 + .722 X_4$$

According to the regression equation established, taking all the four innovation strategies into account constant at zero, performance of firms in the telecommunication sector in Kenya will be 1.121. The data findings analyzed also shows that taking all other independent variables at zero, a unit increase in technology innovation strategies will lead to a 0.722 increase in performance of firms in the telecommunication sector in Kenya. A unit increase in process innovation strategies will lead to a 0.396 increase in performance of firms in the telecommunication sector in Kenya; a unit increase in market innovations strategies will lead to a 0.210 increase in performance of firms in the telecommunication sector in Kenya and a unit increase in product innovation strategies will lead to a 0.180 increase in on performance of firms in the telecommunication sector in Kenya. This infers that technology innovation strategies contribute more to the performance of firms in the telecommunication sector in Kenya followed by the process innovation strategies.

At 5% level of significance and 95% level of confidence, technology innovation strategies had a 0.003 level of significance, process innovation strategies had a 0.045 level of significance, market innovations strategies showed a 0.0188 level of significant and product innovation strategies showed a 0.0267 level of significant hence the most significant factor is technology innovation strategies. The t critical at 5% level of significance at k = 4 degrees of freedom is 2.245. Since all t calculated values were above 2.245 then all the variables were significant in explaining the performance.

**X. Conclusion**

The study concludes that adoption of innovation strategies affected profitability of the firms. Further, the firms employed market innovations such as environmental analysis and response to change and aggressive anti-competitors marketing campaigns that greatly affected their performance. Aggressive anti-competitors

marketing campaigns contributed to the firm's profitability. Secondly, the study concludes that product innovations such as product replacement and product repositioning contributed to the firm's profitability. Product development was important in both the supply of the core product as well as in the support part of any offer. In addition, the study concludes that process innovation strategies such reduction of costs contributed to the firm's profitability and conformance to regulations contributed to the firm's profitability. Use of technology innovation promoted a friendly and helpful staff hence customer satisfaction. Innovations ensured that the services given to customers were of high quality.

## XI. Recommendations

The study recommends that the regulator in the telecommunication sector should create an enabling environment that will enhance innovations in the firms in the telecommunication sector so that they realize the full benefits of innovation strategies. The study also recommends that for all the firms in the telecommunication sector to realize higher performance, increase number of customers, for their business to grow further and also for them to invest more they should embrace the adoption of market innovation strategies.

The study also recommends that the companies should also strive to ensure product range extension, product replacement, product improvement, product repositioning and new product introduction to enable the companies to be more productive, to grow faster, to invest more and also to earn more performance.

The study further recommends that firms in the telecommunication sector should ensure new products introduction, reduction of costs, improved innovation process and conformance to regulations are used to influence performance of the firms under study. This will help the tap into customers' needs so well that new products generate their own source of marketing momentum.

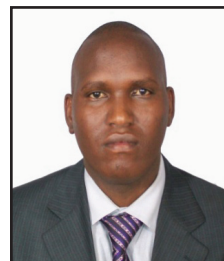
The study finally also recommends that the firms also should ensure that they adapt the new technology in order to cope with the fast changing technology. Technology innovation encourages ease of flow of information and fast delivery to the intended persons. For efficient adoption of technology innovation strategies, there should be reliable infrastructure, enough financial resources.

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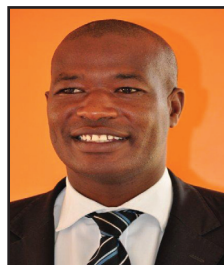
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