EXPLORATION INNOVATIVE STRATEGY AND PERFORMANCE OF THE TELECOMMUNICATION INDUSTRY IN KENYA: A CASE OF SAFARICOM PLC IN NAIROBI METROPOLIS

Silvester Mugo Gachigo
Master in Business Administration, St. Paul's University, Kenya
Dr. Julius Kahuthia
Lecturer, Department of Business Administration, St. Paul's University, Kenya
Dr. Charity Muraguri
Lecturer, Department of Business Administration, St. Paul's University, Kenya

Full Length Research

Citation: Gachigo, S. M., Kahuthia, J. & Muraguri, C. (2019). Exploration innovative strategy and performance of the telecommunication industry in Kenya: A case of Safaricom PLC in Nairobi metropolis. *International Academic Journal of Human Resource and Business Administration, 3*(6), 299-319

ABSTRACT

Formulating and implementing an effective innovation strategy to enhance business performance is of concern to any dynamic looking organization. A look at the telecommunication industry in Kenya shows that most firms have not fully integrated innovation and as a result have not been able to perform optimally. Therefore, an assessment of innovation strategies that influence performance is important. Continuous innovation, development of the right innovation strategies and their successful implementation guarantees optimal performance, growth and success of organizations, which in-turn is the object of any organization. The study sought to assess the influence of innovative strategies on the performance of telecommunication industry in Kenya; A case of Safaricom PLC. The specific objectives of the study were to examine how successful implementation of Innovative strategies; Exploration innovative strategy, disruptive innovation strategy, outcome driven strategies and cannibalization strategy; influence the performance of the telecommunication industry in Kenya. The researcher was guided by the following theories; Open innovation theory, disruptive innovation theory and jobs to be done theory. The study used a descriptive design and the population under study comprised all employees of Safaricom PLC within all the 58 branches in Nairobi County. Primary data collection was done through the use of a questionnaire and data analyzed was presented through the use of charts, graphs and tables in order to aid in making conclusions and recommendations. The study found out that a unit change innovation strategies leads to a 40.2% increase in organization performance; given by the coefficient of determination r square at .402 from regression analysis. The study also found out that a unit change in exploratory innovative strategy, disruptive innovative strategy and outcome driven innovative strategy leads to an increase in organizational performance with coefficients of .234, .647 and .375 respetively; while a unit change in cannibalization leads to a decrease in organizational performance with a coefficient of -.609. The study recommended that the management of the telecommunication industry in Kenya should set aside adequate budget to establish proper technological infrastructure, hire qualified experts, and create avenues to share innovative ideas, set up a research and development department and create a conducive environment for innovation and the government should create a business environment that encourages and supports innovation in the telecommunication industry. The study suggested that further studies should be carried out on other determinates that affect organization performance.

Key Words: *exploration innovative strategy, performance, telecommunication industry, Safaricom PLC, Nairobi metropolis, Kenya*

INTRODUCTION

The 21st century business environment has become highly competitive and it is therefore essential for business organizations to become innovative in order to stay ahead of its competitors. As consumer tastes and preferences change more rapidly, organizations innovatively move fast and adjust their products and services to respond to these trends (Drucker, 2014). Innovation leads to product and process improvements and this allows organizations to grow and become more efficient leading to high performance. The ability of an organization to innovate is important to maintain it competitiveness and improve its performance (Wanyoike, 2016). Binker, Bower, Drezner, Lee and Lorel (2003) argues that the main basis for an organizations long term success is continuous innovation thus leading to high performance and growth. Organizations that do not choose to innovate put themselves at risk (Kotler, 2000); therefore, innovation should not be used as a luxury but a necessity (Kaplan & Warren, 2007).

Innovation is the process by which an idea, imagination or invention is translated into a product or service that creates value for which consumers pay. Innovation is also defined as an organization's processes and changes in the product that do not only come from scientific discovery but also from a mixture of already existing technologies in a new way. According to Shqipe, Gadaf and Velad (2013), innovation has to do with an intentional utilization of information, imagination and initiative to deliver major or different resource values and includes all processes that generate new ideas and transform them into useful products. Muthoni (2017) and Urbancova (2013) observed that oftenly, Innovation results when the company applies ideas to further satisfy customers' needs and expectations. During this process, organizations transform their current products to some improved ones or produce new ones. This is innovation implementation.

STATEMENT OF THE PROBLEM

Despite innovation being a key driver of sustained competitive advantage, it continues to incur substantial costs leading to increased emphasis on evaluation of return on investment. This evaluation rarely occurs within organizations thereby making it difficult to find innovation and adopted innovative strategies effects on organizational performance and success. A study by Odhiambo (2015) indicates that most studies on innovation strategies have focused on financial strategies, organizational structure, technology and training & development on immediate outcomes rather than longer term impact of innovation strategies on organizational performance. Innovation and choice of innovation strategy to adopt is of great significance in all sectors of the economy in a dynamic business environment (Gathara, 2009). Innovating and adopting an excellent innovation strategy requires a firm to be prepared to know when and how best to make necessary adjustments in order to respond to the ever changing business environment. The Kenyan business system has not fully integrated innovation and as a result, most telecommunication firms have not been able to perform optimally. The local telecommunication industry has experienced a lot of cut throat competition on price wars, tilting market share all

pointing to the need for innovation. Local telecommunication companies have not been able to develop innovative and technological competencies to acquire and apply knowledge to produce products and services that meet their customer needs and expectations. However, some companies like Safaricom have shown some degree of innovativeness and have been able to come up with outstanding innovations like M-pesa, Masoko Africa, Fuliza among others. This has led to Safaricom PLC increase its market share and outperforming other telecommunication firms in Kenya since they have not had notable innovations. Businesses need to constantly innovate in order to ensure optimal performance and success. Organizations that do not choose to innovate put themselves at risk (Kotler, 2000) and continuous innovation activity in an organization leads to organizational growth and long-term success (Rosenbush, Brinkman & Bausch, 2011). According to data published by the Communications Authority of Kenya (2018), Safaricom PLC enjoys a market share of 65.4 percent while other players in the industry (Airtel Networks Limited, Finserve Africa Limited, Telkom Kenya Limited, Sema Mobile Services and Mobile Pay Limited) have a combined market share of 34.6 percent. The purpose of this study is to examine how implementation of exploration innovative strategy influences organizational performance of the telecommunication industry in Kenya.

GENERAL OBJECTIVE

The general objective of the study was to examine how implementation of exploration innovative strategy influences organizational performance of the telecommunication industry in Kenya.

THEORETICAL REVIEW

Job-to-be-done Theory

This theory was developed by Christensen in 2005. It states that markets grow, evolves, and renew whenever customers have a job to be done, and then buy a product to complete it (to get the job done). A job to be done is the process a consumer goes through whenever he/she aims to change their existing life situation into a preferred one, but cannot because there are constraints that stop them (Ulwick, 2017). It describes outcome driven innovation as a process that puts theory into practice. The theory seeks to identify and address the unmet needs in a market segment and once these are known then a winning product can be conceptualized. The theory makes outcome driven innovation more predictable. Christensen (2005) asserts that predictability of success of a product is possible through outcome driven programs.

The theory is based on the notion that customers purchase goods and services in order to get a "job" done. The "job" here means unmet needs of a customer and by understanding and identifying these unmet needs, a company can be able to come up with products and services that will address these needs and win over the customer. Anderson, Potočnik, and Zhou, (2014) explains that customers do not want a product but want help in getting the job done, therefore, companies should not define themselves by the products they produce, but by the need they are trying to address. For example, a client may not want just any beverage in the morning, they

want a ready and hot beverage. While people purchase goods and services to get jobs done, and while goods and services come and go, the underlying job to be done and satisfaction does not go away.

This theory according to Ulwick (2017), explains the outcome driven innovation as a six-step process of coming up with goods and services that will be purchased by customers as seen and explained on the figure below;
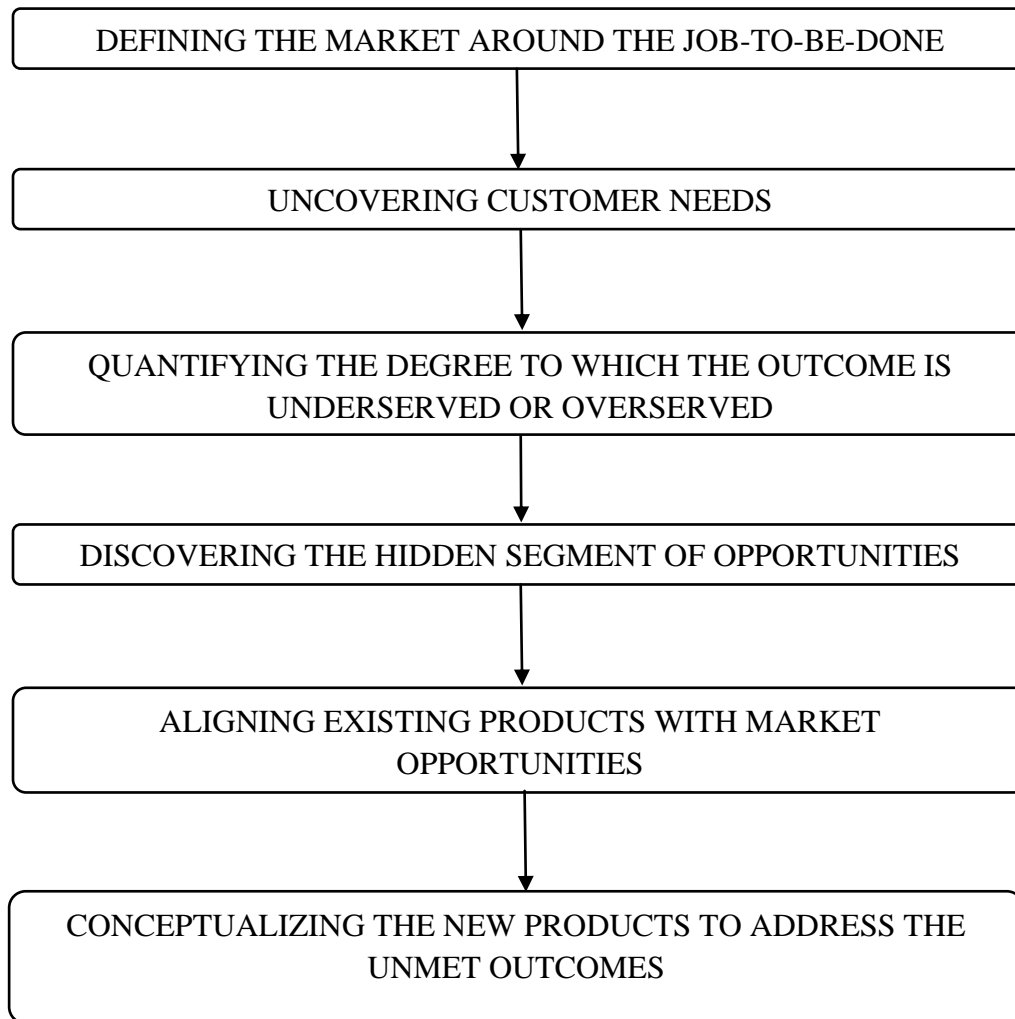
```
┌─────────────────────────────────────────────────────────────┐
│      DEFINING THE MARKET AROUND THE JOB-TO-BE-DONE           │
└─────────────────────────────────────────────────────────────┘
                              │
                              ▼
┌─────────────────────────────────────────────────────────────┐
│                 UNCOVERING CUSTOMER NEEDS                    │
└─────────────────────────────────────────────────────────────┘
                              │
                              ▼
┌─────────────────────────────────────────────────────────────┐
│   QUANTIFYING THE DEGREE TO WHICH THE OUTCOME IS            │
│            UNDERSERVED OR OVERSERVED                         │
└─────────────────────────────────────────────────────────────┘
                              │
                              ▼
┌─────────────────────────────────────────────────────────────┐
│    DISCOVERING THE HIDDEN SEGMENT OF OPPORTUNITIES          │
└─────────────────────────────────────────────────────────────┘
                              │
                              ▼
┌─────────────────────────────────────────────────────────────┐
│      ALIGNING EXISTING PRODUCTS WITH MARKET                 │
│                 OPPORTUNITIES                               │
└─────────────────────────────────────────────────────────────┘
                              │
                              ▼
┌─────────────────────────────────────────────────────────────┐
│   CONCEPTUALIZING THE NEW PRODUCTS TO ADDRESS THE          │
│               UNMET OUTCOMES                                │
└─────────────────────────────────────────────────────────────┘
```

Figure 1: Outcome Driven Innovation Process

Source: Ulwick (2017)

Ulwick (2017) asserts that Jobs-to-be-done theory tells us much more about consumers, strategies, goods and services and how managers should re-think in the areas of business, growth and innovation. The outcome driven innovation process is explained below;

Defining the market around the job-to-be-done. While most institutions/firms tend to define a market around a product, technology or a solution, when applying jobs-to-be-done theory, a

market is defined as an executor of jobs and the jobs that executor is trying to do. The theory defines a target market as a group of people plus the job they are trying to do. Defining the market around the job to be done enables innovation transformation from an art to a science, providing a central focal point to define all customer requirements, it more accurately defines competition, acts as protection against disruption and provides global insights into the market (Christensen, 2007).

Help customers get the entire job done/uncovering customers' needs - Customers do not want to use different products and services working together to achieve their goals. They want a single product that helps them get a complete job done. The key to success is making out, from the customer's angle, just what the complete job is and ensuring that the job is the focal point of value creation. According to Christensen (2005) and Ulwick (2017), to understand what the customer is trying to achieve, a firm must first seek knowledge to understand the different types of customer needs. These include; the core functional job to be done, consumption chain jobs, the desired outcomes tied to the core functional and consumption chain jobs, related jobs, emotional and social jobs, and the buyer's desired financial outcomes and expectations.

Measure the extent to which the outcome is underserved or excessively served. West and Bogers (2014) showed that greatest opportunity to do the job better and at the same time use few resources are prioritized once the extent to which each outcome is excessively served or inadequately served is known. Knowing whether or not inadequately served and excessively served portions exist in a target market informs the institution of the growth strategy (or strategies) to be followed (Tom, 2012). One market may consist of several inadequately served parts, while another market may consist of several excessively served segments. In the former case, a disruptive strategy would fail because no part/ portion in the market is excessively served. On the other case a differentiated strategy would fail since there is no part or portion of the market that is inadequately served. Making a decision on which market portions to target and how to target them becomes a critical strategic decision (Tom, 2012).

Discover hidden segments of opportunity. Most markets are not similar and portions of consumers exist with sets of unique unmet needs which any company must discover to make innovation predictable Ulwick (2017). Align existing products with market opportunities: Tukker, Chater and Anderson (2017) explain that this alignment should be determined on the basis of which offers best meet the unmet outcomes or best meet the most important customer outcomes in each outcome segment. For a certain segment, certain products in the portfolio are most likely to be more naturally suited.

Conceptualize the new products to address the unmet outcomes – An effective strategy for the product portfolio informs a company; how to improve its existing goods and services to meet unmet customer needs in each targeted results based portion of the market, what completely new offers are needed to tackle the remaining market opportunities, and what course of action will ultimately get the whole job done on a single platform (Tom 2012).

However, according to Katarina (2013), there is no clear consensus on what constitute jobs to be done and that since competition is on products of the same category, customers will search, according to this theory, for an optimal solution but not limited to a certain product category.

Open Innovation Theory

Developed by Henry Chesbrough in 2003, Open innovation is the use of "purposeful inflows and outflows of knowledge to accelerate innovation internally while also expanding the markets for the external use of innovation". This theory involves strategic, managed information exchanges with actors outside an organization's boundaries, aimed at integrating their resources and knowledge into the innovative process of the organization itself. Herzog (2013) observes that Open innovation is based on the recognition that companies can leverage knowledge from multiple sources to enhance innovation and thus add value to customers. For example, when basing on an open innovation model, a company does not seek to generate the best ideas on its own, but seeks to make optimal use of internal and external ideas, to be more efficient in managing costs and risks, and to accelerate the development of technology (Chesbrough, 2006).

Vergara, Vergara and Polo (2015) demonstrate that open innovation can be seen as the reverse of the traditional model of vertical integration where activities of research and development done internally leads to products that are developed internally and then distributed by the company. It is the intentional use of knowledge on inbounds and outbounds accelerate internal innovation and expand markets for external innovation use respectively. Open innovation inflows refers to the use of external sources of innovation within a company; for instance, a company may license a technology developed elsewhere, integrating that component into its own technology solution instead of seeking to develop an equivalent in-house solution (Tuan, Nuan, Giang & Ngoc (2016).

Outflows Open Innovation, on the other hand, refers to the use of external course of action to develop and market innovations; for instance, a company may license its product to another company that can help further develop the product by obtaining the necessary regulatory approvals or by out-licensing the distribution invention (Chesbrough & Crowther, 2006). The combined innovation process joins together the outbound and inbound dimensions; rather than sharing existing resources and expertise, firms work together to develop new solutions and knowledge. This involves cooperation on working together closely such as a joint venture or a looser affiliation.

According to Nuryakin (2018) the theory assumes that companies should use both internal and external ideas and marketing courses of action in their efforts to improve their offering. Open innovation treats research and development as an open systems core innovation process, the theory assumes wide distribution of knowledge and that organizations with the most advanced research and development need to find out, bring together and influence sources of external knowledge (Lanyi, 2008).

According to Kogan, Papanikolaov, Seru and Stoffman (2017) and Oliver, Ellen and Henry (2010), open innovation can be organized into different perspectives; The Spatial perspective, being close to centers of excellence enables a company to increase its absorptive capacity, thus promoting access to the knowledge and skills of the best talents in the world without having to employ them. The structural perspective shows that firms are moving towards a trend of outsourcing research and development and alliances. This leads to cost reduction and specialization. The user perspective; where users are integrated into the process of innovation to understand their latent needs and integrate their hidden knowledge of application. The supplier perspectives when integrated provide knowledge from users who cannot be directly accessed by a company for feedback. The leveraging perspective where intellectual property can be bought or sold to create new revenue streams.

Wim and Nadine (2013) explains the open innovation funnel, where outside information is obtained to reinforce competences within and to accelerate the company's innovation process and in where unused information existing within an organization is monetized through external market paths. External knowledge is brought in the company to develop new goods and services or businesses, or internal knowledge is marketed to other companies that bring it into effective action for the development of their own new products. According to Adner (2012), unless explicitly linked to the corporate strategy, the full potential of open innovation cannot be realized.

Disruptive Innovation Theory

This theory was developed by Christensen in 1995. According to him, innovation is a process; and disruptive technologies are those that are inferior, provide different values from main stream technologies and are not important to mainstream customers. According to Christensen and Raynor (2015), disruption is a process where a small company with little resources is able to challenge an already established company in the market by coming up with a simple application product or service at the bottom of the market which then continuously moves up market eventually displacing already established firms.

Lara, Kolasani and Ramamurthy (2014), observed that firms tend to innovate faster than the needs of the consumers thereby ending up producing too complicated products in the market through sustaining innovations with the hope maximizing profitability. However, this action unwittingly opens a pathway to disruptors who seek to serve the neglected bottom market and serve them with simple application products which are inexpensive. These products often have lower gross margins, smaller target markets and are unattractive as existing solutions when compared against traditional performance metrics (Govindarajan & Kopalle2006).

The theory shows that as incumbents concentrate on improving their products and making them better and better for their most demanding customers (cash cow), they exceed the needs of some segments and ignore the needs of others. New entrants successfully target these segments which

are ignored/overlooked and deliver a suitable product or service usually at a lower price hence the process of disruption starts here. According to Adner (2012), as incumbents concentrate on the profitable segments in the upmarket, they ignore the activities of the smaller companies serving the low end markets who gradually move upmarket delivering the performance that they require while preserving the advantages that drove their success. When the upmarket customers start adopting the new entrant's products and services in volume, then disruption is said to have occurred. This is described in the figure below;
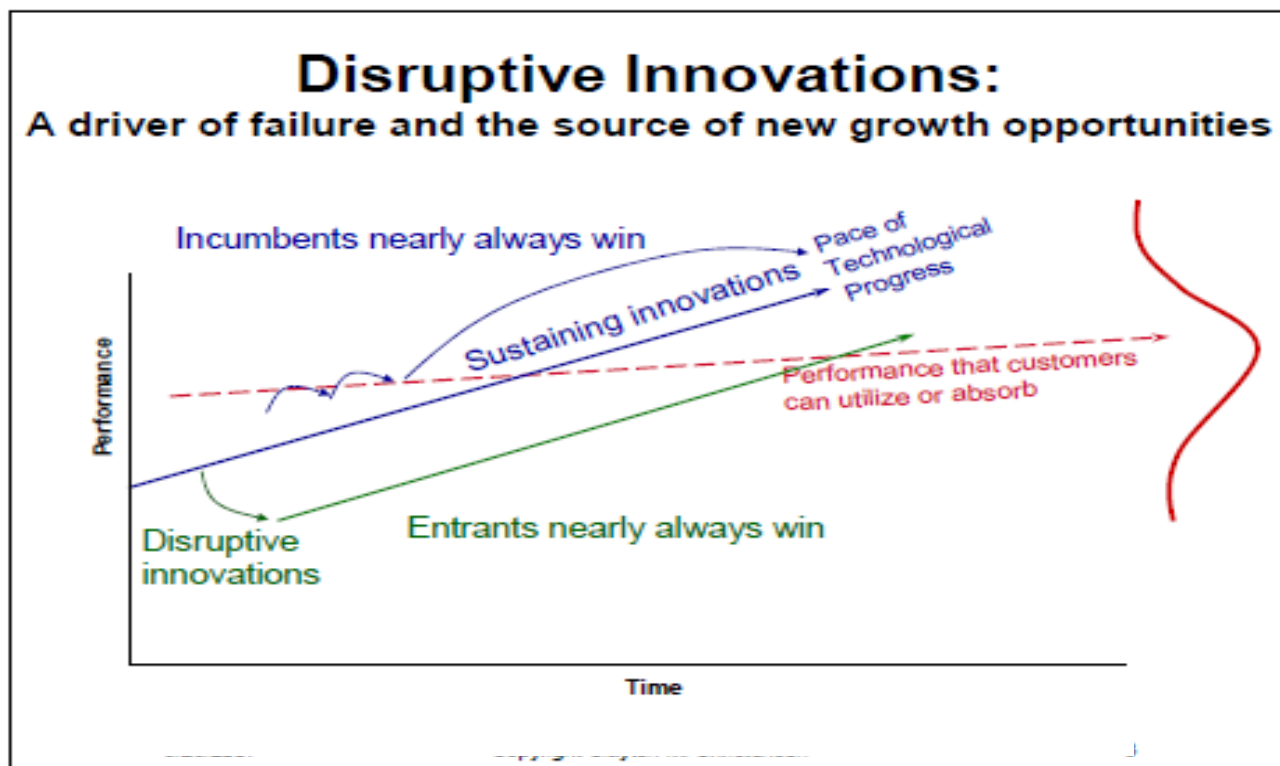
Figure 2: Disruptive Innovation

Source: Christensen (2007)

Govindarajan and Kopalle (2006) say that for disruptive innovations to take place the following has to be fulfilled that is; disruptive innovations must originate from low end or new market footholds and that products of new entrants don't catch on with up-market/mainstream customers until the standards of these products catches up with their standards. However Chao and Kavadias (2012) disagree with the theory as it does not model reality. They argue that incumbents are well aware of the innovations by the new entrants, but their business environments do not allow them to respond to the actions of the new entrants when they first come up, because they are not lucrative enough at first and they can take their scarce resource away.

Diffusion of Innovation Theory

This theory was developed by E. M. Rodgers in 1962 to explain how in communication, a thought or goods and services use picks up with speed and is adopted and spreads through a particular populace or social system. Adoption according to Rodgers meant the individuals or elements in a social system behave differently from what they previously were doing. The important thing to adoption (diffusion to be possible) is that the idea, goods and services must be perceived as new or innovative by an individual person or entity.

Robinson (2009), Kim, Kumar and Kumar (2014) and Harrison, Jaumandreu, Mairesse and Peters (2014) proponents of the theory observed that for one to promote an idea or innovation, it is important to have knowledge on the characteristics of the target populace that will assist in or block the adoption of the idea or innovation. These characteristics led to the formation of adopter categories as: The innovators; are those who are interested in new ideas, take risks, often the first ones to develop new ideas and also first ones to try the innovation. Very little or nothing is done to appeal to this individuals as a strategy. Early adopters; who embrace opportunities of change, are comfortable in adopting new ideas, enjoy leadership roles and are the ones who represent opinion leaders. Strategies to appeal to this group of people include how-to manuals and informational sheets on implementation.

The other category is the Early majority who adopt new ideas before the normal person but normally need to first see that the innovation is working before they can adopt it. They are rarely leaders and strategies to appeal to this group include success stories and evidence of the innovations/idea's effectiveness. The late majority category are skeptical of change and will only adopt an innovation after it has been tried by the majority. Strategies to attract this population include information on how many people have tried and successfully adopted the idea/ innovation. The last group are the Laggards who are very skeptical to change, are conservative and are bound to tradition. To appeal / attract this group to an innovation is through use of statistics, pressure from people of other adopter groups and fear appeals (Ionescu & Dumitru, 2015; Conto, Júnior, Valle, &Vaccaro, 2016 and Rodgers, 2005)

Diffusion of innovation theory seeks to explain why, how and at what rate new ideas and technology are adopted and spread. According to Capo, Brunetta and Bocardelli (2014), diffusion is the process by which an innovation is communicated over time among the participants in a social system. The theory focuses on five areas namely; the characteristic of an innovation which may influence its adoption, the decision making process which occurs as individuals consider adopting a new concept, product, service or process, the character of individuals that make them more likely to choose to take up an innovation, the result or effect for individuals or society of adopting an innovation and the communication channels used in the adoption process (Beyene, Shi & Wu, 2016 and Tangkit & Panjakajornsak, 2016).

As observed by Rodgers (2005) and supported by Porter & Lee, (2015), Norman and Verganti (2014) and Nuryakin (2018) communication is key and the decision making process of diffusion occurs through a communication channel over time among members of a similar social system. Robinson (2009) supports the theory by saying that for diffusion to take place, an idea or concept must be adopted by the users and that the adoption process is a five step process being; first, an individual must first be exposed to an innovation but lacks information about it, secondly, the individual is interested and seeks more details related to the innovation, third, the individual takes the concept and decides whether to adopt or eject it based on its advantages or disadvantages, fourth, he takes up the innovation and employs it at a varying degree assessing its usefulness while seeking further information about it, and finally, he makes a decision to continue using the innovation (Hatch, 2014 and Nandwa 2016).

The theory further shows that for innovations to diffuse or spread, it must have relative advantage, compatible, simple, easy to experiment with and produce observable results. The theory is important in that when designing and introducing a concept/ innovation, you need to know the percentage of users who have taken the innovation and it gives the innovator an insight on how to design his /her concept (Ebner, 2013). The theory however does not take into account the resources disposable to an individual to adopt / try a new idea/innovation.

EMPIRICAL REVIEW

Exploration strategy is an adaptive fundamental activity undertaken by firms in response to changes in the highly competitive environment. The business environment keeps changing continuously, therefore company's need develop a strategy respond to these changes otherwise they would be thrown out of business by those causing these changes and those that respond to the changes. Exploration is the coming up with something new; it's about search, discovery, new products, services and processes, new innovations and new frontiers. According to Henrich (2012), organization exploration refers to the search for new knowledge, use of unfamiliar technologies and creation of products with unknown demand; it focuses on knowledge discovery, integration and research & development. Exploration strategy challenges the status quo and the expected outcome from the implementation of this strategy is the production of a new product, development of a new service or creation of a new market.

A study by Abou-Moghli, Abdalla and Muala (2012), Galunic and Eisenhardt, (2011); Benner and Tushman (2013) observed that organizations have difficulty in making the tradeoffs and since exploration and exploitation involve different organizational routines and capabilities, specializing in one of them is easier than undertaking the two activities at the same time. However Greve (2014) posits that organizations that are able to explore and exploit at the same time in parallel experience a result of huge payoffs, generally perform better and are able to sustain their markets and create new ones in the process.

A study by Katila & Ahuja, (2012) and He & Wong (2014) revealed that inclination towards exploration results in undesirable high costs of failed experiments and inadequate rewards from successful ones; and also leaning towards exploitation may not be detrimental in the short run, or even in the long run if the environment is stable, but it reduces the organization's capacity to discover opportunities and respond to environmental changes. A common expectation, therefore, is that balancing exploration and exploitation activities is preferable, although in the short run the costs of insufficient exploration may not be apparent. The study concluded that there is positive correlation between a balanced exploration and exploitation activities and organization performance (Katila & Ahuja, 2012; He &Wong, 2014).

RESEARCHMETHODOLOGY

Research Design

In this study, the researcher adopted a descriptive research design. This design describes the current state of affairs and can often lead to the formulation of important knowledge principles and the solution to major problems (Kombo & Tromp, 2006). This design allows for collection of information through interviews or administration of questionnaires to a sample of individuals about their attitudes, opinions, customs or all sorts of educational or social issues (Orodho, 2005). This was useful in assessing the influence of exploration innovative strategy on performance of the telecommunication industry in Kenya.

Target Population

The target population for this study was the management and employees of Safaricom PLC outlets. This study focused on all 58 Safaricom outlets in Nairobi Metropolis. In total, 4167 employees were targeted in this study.

Sampling Technique

This study adopted a stratified random sampling technique. This involved dividing the target population into homogeneous groups called strata (Cooper & Schindler, 2008). To obtain sample elements for the study, the researcher then picked a random sample from each stratum proportional to the stratum size in terms of their population. A sample size is a statistical determination of an appropriate group to gather data from which it can be generalized to represent a target population as a whole. To obtain the population size for this study, the researcher used the Yamane's formula.

$$n = N / (1 + Ne^2)$$

Where: n is the sample size; N is the size of the population; e is the error of 5 percentage points

This formula uses a confidence level of 95% and takes to account an error of 5%. Safaricom PLC branches in Nairobi have a total population of 4167 employees (Safaricom Sustainability Report, 2018) and using the Yamane's formula the sample size was 365 employees.

Data Collection Instruments

Primary data was used in this study. Primary data was collected by the use of questionnaires and provided an effective way of gathering data in a short period of time with a high response rate (Mugenda & Mugenda, 2003).

Data Analysis

Once data had been collected from the field, the researcher organized all questionnaires by filtering. This enabled the researcher to check the completeness of the items and avoid errors and omissions. The items were then coded and were readied for analysis using the Statistical Packager for Social Sciences (SPSS). The analysis was then carried out using means, standard deviations as well as inferential statistics including regression analysis. The descriptive statistics also included the use of frequencies and percentages. In order to present the findings, Figures and Tables were used. The adopted regression model took the following form;

$$Y_i = \beta_0 + \beta_1 X_1 + \varepsilon$$

Where: Y = Organizational performance; X_1= Exploration innovative strategy; ε = Random error term of the regression model

In interpretation of the regression results, the study focused on three outputs; the Model Summary, an Analysis of Variance (ANOVA) and the regression coefficients with p-values. The model summary gave the findings of the coefficient of determination which indicate how a proportionate change in organizational performance is explained by changes in innovative strategies. The ANOVA Table was used in comparison of the value of F critical and F calculated to determine whether the overall model is significant or insignificant. The p-values were used to determine the significance of the study variables where a comparison was made between the established p-values and 0.05. P-values of less than 0.05 showed that the relationship was significant.

RESEARCH RESULTS

The main objective of the study was to investigate the influence of exploration innovative strategy on organizational performance of the Telecommunication Industry in Kenya. To verify, this study used regression analysis. This summey provides an insight ability of the regression to effectively account for the total variation in organization performance. The Table 1 below demonstrates how observed y-values are highly dispersed around the regression line.

Table 1: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.634[a]	.402	.391	1.61260

a. Predictors: (Constant), explorative innovation strategy

Table 1 shows that the coefficient of determination R square is .402 this translate to 40.2%. This finding indicate that only 40.2% of organizational performance is influenced by change in exploration innovative strategy, indicating that there are other factors that affect organizational performance of the Telecommunication Industry in Kenya.

An Analysis of Variance (ANOVA) was carried out to determine the overall significance of the regression model. Table 2 gives the breakdown of the findings.

Table 2: Analysis of Variance

	Sum of Squares	df	Mean Square	F	Sig.
Regression	492.828	4	123.828	47.791	.000[b]
Residual	733.335	283	2.591		
Total	1226.163	287			

a. Dependent Variable: organizational performance
b. Predictors: (Constant), explorative innovation strategy

In view of the results in Table 2, the significance value is 0.000(which is less that 0.05) indicates that the overall model is statistically significance in predicting how explorative innovation strategy affect organizational performance of the Telecommunication Industry in Kenya. The F critical at 5% level of significance is 2.403 from the Standard F-tables. Since F calculated (value = 47.791) is greater than the F critical, this shows that the overall model was a good fit.

The findings on beta coefficients and the p-values on the study variables are shown in Table 3.

Table 3: Regression Coefficients

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	5.364	2.182		2.458	.015
Exploitative and explorative innovation strategy	.234	.059	.198	4.001	.000

a. Dependent Variable: organizational performance

Table 3 above presents results of the beta coefficients as well as the p-values for each independent variable. The regression function extracted using the unstandardized beta is as follows:

Organizational Performance = 5.364 + .234 Explorative innovation strategy

From the findings, holding all factors constant (explorative innovation strategy), the coefficient for organizational performance of the Telecommunication Industry in Kenya would be 5.364. The findings further indicate that taking all other independent variables constant, a unit increase in exploitative and explorative innovation strategy leads to a 0.234 increase in organizational performance of the Telecommunication Industry in Kenya.

In summary, respondents agreed on exploration innovation strategy and how it influences performance of their firm. The study identified that employees are not penalized for new ideas that do not work, their company continuously engages in activities that have created new markets or increased market share, management actively sought innovative ideas, program and project managers promote and support innovative ideas, experimentation and creative processes, constantly modify design of our products to raise their quality, during the last financial year, they have produced new or significantly improved services and employees participated in training programs. The study also identified that a unit increase in explorative innovation strategy leads to increase in organizational performance of the Telecommunication Industry in Kenya.

CONCLUSION

Exploration innovation strategy and performance has significant effect on organizational performance. Employees are not penalized for new ideas that do not work, their company continuously engages in activities that have created new markets or increased market share, management actively sought innovative ideas, program and project managers promote and support innovative ideas, experimentation and creative processes, constantly modify design of our products to raise their quality, during the last financial year, they have produced new or significantly improved services and employees participated in training programs and a unit increase in exploitative, explorative innovation strategy leads to increase in organizational performance of the Telecommunication Industry in Kenya.

RECOMMENDATIONS

The greatest challenges faced by telecommunication industry in Kenya when trying to innovate include the high costs of developing new products, high cost of implementing new strategies, inadequate technological infrastructure, shortage of expertise, rigid regulating practice that discourages innovation, lack of a research and development department, lack of avenues to share innovative ideas and lack of top management support being the most faced challenges.

The study makes the following recommendations. The management of the telecommunication industry in Kenya should set aside adequate budget to establish proper technological infrastructure, hire qualified experts, and create avenues to share innovative ideas, set up a research and development department and create a conducive environment for innovation.

The government should create a business environment that encourages and supports innovation in the telecommunication industry. This should be in form of offering tax exemptions on the technologies required come up with more innovative products and relaxing the rigid regulating practices that discourages innovation.

The government of Kenya needs to establish policies that will create an enabling environment to allow telecommunication industry in Kenya to innovate. The policies should be aimed at streamlining the rigid regulating practice that discourages innovation among telecommunication industry. Further, the government should come up with policies aimed at reducing the cost of technologies needed by the telecommunication firms in order to be able to offer more innovative products.

The management of the telecommunication firms should create policies aimed at encouraging and promoting innovation. These policies should be aimed enabling the firms to hire personnel with the right expertise; establishing research and development departments; creating avenues for share innovative ideas and top management supporting and funding innovative ideas.

REFERENCES

Abou-Moghli, A. A., Al Abdallah, G. M., & Al Muala, A. (2012). Impact of innovation on realizing competitive advantage in banking sector in Jordan. *American Academic & Scholarly Research Journal, 4(5), 1.*

Adner, R. (2012). *The wide lens: A new strategy for innovation.* New York, NY: Portfolio/ Penguin)

Anderson, N., Potočnik, K., & Zhou, J. (2014). Innovation and creativity in organizations: a state-of-the-science review, prospective commentary, and guiding framework. *Journal of management*, *40*(5), 1297-1333.

Anthony Ulwick, (2014). What customers want: Using outcome-driven innovation to create breakthrough products and services. ISBN 0-07-140867-3

Anthony W. Ulwick (2017). Outcome-driven innovation (ODI): Jobs-to-be-done theory in practice. *Strategyn*

Apple Corporation (2014). *Apple press info: Iphone Announced.* Apple

Autio, E., Kenney, M., Mustar, P., Siegel, D., & Wright, M. (2014). Entrepreneurial innovation: the importance of context. *Research Policy, 43(7),* 1097-1108.

Aziz, N. N. A., & Samad, S. (2016). Innovation and competitive advantage: Moderating effects of firm age in foods manufacturing SMEs in Malaysia. *Procedia Economics and Finance, 35, 256-266.*

Balaz V & Williams A. M (2012). Diffusion and competition of voice communication technologies in the Czech and Slovak Republics. *Techol. Forecast. Soc. Chang. **79**(2) 393 404*

Beyene, K. T., Shi, C. S., & Wu, W. W. (2016). The impact of innovation strategy on organizational learning and innovation performance: Do firm size and ownership type make a difference? *South African Journal of Industrial Engineering, 27(1), 125-136.*

Binker J., Bower A. G., Drezner J. A., Lee G., Lorrel M., Smith G., Timson F., Trimble G. & Obaid Y. (2003). *Innovation in the Aircraft Industrial Base: Past Performance and Current Prospects.* RAND Corporation.

Capo, F., Brunetta, F., & Boccardelli, P. (2014). Innovative business models in the pharmaceutical industry: A case on exploiting value networks to stay competitive. *International Journal of Engineering Business Management, 6 (Godište 2014), 6-23.*

Chao, R.O. & Kavadias, S. (2012). A framework for managing portfolio: when and how to use strategic models. *Management Science, 59(7), pp. 907–921.*

Chatzoglou, P., & Chatzoudes, D. (2018). The role of innovation in building competitive advantages: an empirical investigation. *European Journal of Innovation Management, 21(1), 44-69.*

Cherrington D. J., (1989). *Organizational behaviour: The Management of Individual and Organizational Performance.* Allyn and Bacon

Christensen, C. M. & Raynor, M. E. (2015). *The Innovator's Solution: Creating and Sustaining Successful Growth.* Boston, MA: Harvard Business School Press.

Christensen, C. M. (2007). The ongoing process of building a theory of disruption. *Journal of Product Innovation Management, 23, pp. 39–55*

Chesbrough H. W (2006). *Open Innovation: The new imperative for creating and profiting from technology.* Harvard Business School Press, Boston MA.

Chesbrough H. W (2006) *Open Innovation: A new paradigm for understanding industrial. In: Chesbrough HW, Vanhaverbeke W, West J (eds) Open innovation: researching a new paradigm.* Oxford University Press.

Chesbrough H. W & Crowther A. K (2006) Beyond hightech: Early adopters of open innovation in other industries. *R&D Management 36, 229-236*

Communication Authority of Kenya (2018). *Four quarter sector statistics report for the financial year 2017/2018 (April to June 2018).* Government of Kenya Publication

Conto, S. M. D., Júnior, A., Valle, J. A., &Vaccaro, G. L. R. (2016). Innovation as a competitive advantage issue: A cooperative study on an organic juice and wine producer. *Gestão & Produção, 23(2), 397-407.*

Cooper, C. R., & Schindler, P. S. (2008). *Business research methods* (10 ed.). Boston: McGraw-Hill

Drucker, P. (2014). *Innovation and entrepreneurship.* Routledge.

Osabuley, E & Okoro, C (2015). Political risk and foreign direct investment in Africa: The case of Nigeria telecommunications industry. *Thunderbird International Business Review.*

Ebner, W. C. (2013). *The diffusion, adoption, and implementation of a nationally-recognized innovative program in special education* (Doctoral dissertation). University of Southern Carlifornia, Los Angeles, USA.

Everet M. Rodgers (2003). *Diffusion of Innovations.* 3rd Ed. Macmillan Publishing Co., Inc New York, NY, 10022

Everet M. Rodgers (2005). *Diffusion of Innovations.* 4th Ed. Macmillan Publishing Co., Inc New York, NY, 10022

Fluid Surveys Team (2014). *Survey Design, Collecting Data, Research Design, Effective Sampling, Response Analysis*

Gathara P. (2009). *Application of innovation in developing strategy at Safaricom Limited* (Masters dissertation). University of Nairobi, Nairobi, Kenya.

Gebauer H., Worch H. & Truffer B., (2012). Absorptive capacity, leaning process and combinative capabilities as determinants of strategic innovation. *European Management Journal, 57-73.*

Govindarajan, V. & Kopalle, P.K. (2006). The usefulness of measuring disruptiveness of innovations ex post in making ex ante predictions. *Journal of Product Innovation Management, 23, pp. 12–18.*

Grant, R. M. (2016). *Contemporary strategy analysis: Text and cases edition*. John Wiley & Sons.

Greve H. (2014). Exploration and exploitation in product innovation. *Research Gate*

Gudolin M. & Guseo R. (2016). Product cannibalization: A new Lotka-Voitera model for asymmetric competition in ICT's. *University of Padua, Italy.*

Gupta, M. (2011). Identification of factors affecting product cannibalization in Indian automobile sector. *International Journal of Computational Engineering & Management, Vol. 12, April 2011, 83-87.*

Harrison, R., Jaumandreu, J., Mairesse, J., & Peters, B. (2014). Does innovation stimulate employment? A firm-level analysis using comparable micro-data from four European countries. *International Journal of Industrial Organization, 35, 29-43.*

Hatch, M. (2014). *The maker movement manifesto: Rules for innovation in the new world of crafters, hackers, and tinkerers*. New York: McGraw-Hill Education.

He Z. L. & P. K. Wong (2014). 'Exploration vs. exploitation: an empirical test of the ambidexterity hypothesis.' *Organization Science, 15, 481–494.*

Henrich G. (2007). Exploration and Exploitation in product innovation. *Research Gate.*

Henrich G. (2012). Exploration and Exploitation: industrial and corporate change. *Research Gate.*

Herzog P (2013). Open and closed innovation: Different cultures for different strategies. *Betriebswirtschaftlicher Verlag Gabler, Wiesbaden.*

Ion E., & Criveanu M. (2016) Organizational performance. A concept that self seeks to find itself. *Economic series. Vol 4, 179 – 183.*

Ionescu, A., & Dumitru, N. R. (2015). The role of innovation in creating the company's competitive advantage. *Eco forum Journal, 4(1), 14.*

Kaplan M. J. & Warren A. C. (2007). *Patterns of Entrepreneurship*. (2nd Ed). New York, NY: John Wiley and Sons Inc.

Kariuki, A. N. (2017). Effects of Innovation Strategy in Enhancing Competitive Advantage among Commercial Banks in Kenya. *(Doctoral dissertation, United States International University-Africa).*

Kariuki, J. N. (2014). The effect of strategic innovation on performance of mobile telecommunication firms in Kenya (Unpublished master's thesis). *University of Nairobi.*

Katarina S. (2013). *Strategic Innovation: A review and a theoretical framework*.

Katila, R. & G. Ahuja (2012). 'Something old, something new: a longitudinal study of search behavior and new product introduction.' *Academy of Management Journal, 45,1183–1194.*

Kim D. Y., Kumar V. & Kumar U. (2012). Relationship between Quality and Management Practices and Innovation. *Journal of Operations Management, 30 (4), 295-315*

Klewitz, J., & Hansen, E. G. (2014). Sustainability-oriented innovation of SMEs: a systematic review. *Journal of Cleaner Production, 65, 57-75.*

Kogan, L., Papanikolaou, D., Seru, A., & Stoffman, N. (2017). Technological innovation, resource allocation, and growth. *The Quarterly Journal of Economics, 132(2), 665-712.*

Kombo, D. K. and Tromp, L. A. (2006). *Proposal and thesis writing: An introduction.* Nairobi: Pauline's Publication of Africa

Kotler P. (2000). *Marketing management: The millennium edition.* Prentice-Hall (UK) Limited, London

Lanyi, B. (2008). Innovation as the key of the pharmaceutical companies' competitive advantage: *Scientific Journal on Agricultural Economics, 51(19).*

Lara, A., Kolasani, A., & Ramamurthy, B. (2014). Network innovation using open-flow: A survey. *IEEE communications surveys & tutorials, 16(1), 493-512.*

Lee, J., Kao, H. A., & Yang, S. (2014). Service innovation and smart analytics for industry 4.0 and big data environment. *Procedia Cirp, 16, 3-8.*

Les Robinson (2009). *Enabling Change: Diffusion of Innovations.* http://creativecommons.org/licenses/by-nc-nd/2.5/au/deed.en

Levinthal, D. A. & J. G. March (2014). 'A model of adaptive organizational search.' *Journal of Economic Behavior and Organization, 7, 217–242.*

Markides C. C. & Oyon D. (2010). *What to do against disruptive business models (when and how to play games at once).* MIT Sloan Management Review, 42-49.

Merceline A. Obonyo (2015). *Growth strategies and performance of Safaricom Limited in Kenya.*

Mommen, A., & Jilberto, A. E. F. (2017). *Regionalization and globalization in the modern world economy: perspectives on the Third World and transitional economies.* Routledge.

Mugenda, O. M. & Mugenda, A. G. (2003). *Research methods: Quantitative and qualitative Approaches.* Nairobi: African Centre for Technology Studies.

Muthoni, B. M. (2017). *Effect of Innovation on Competitive Advantage in Fast Moving Consumer Goods, A Case Of PZ Cussons East Africa Ltd.* (Doctoral dissertation, United States International University-Africa).

Nandwa, W. (2016). *Effects of Innovation Strategies on Financial performance: A Survey of Insurance Firms in Eldoret.* (Doctoral dissertation, Kisii University).

Natalia I., (2014). *Does innovation influence firm performance and is it worth doing? Case of Ukraine.* Kyiv School of Economics.

Njeri A. (2017). *Effects of Innovation Strategy on Firm Performance in Telecommunications Industry: A case of Safaricom Kenya Limited.* United States International University Africa

Noorani, I. (2014). Service innovation and competitive advantage. *European Journal of Business and Innovation Research, 2(1), 12-38.*

Norman, D. A., & Verganti, R. (2014). Incremental and radical innovation: Design research vs. technology and meaning change. *Design issues, 30(1), 78-96.*

Nuryakin, U. M. Y. (2018). Competitive Advantage and Product Innovation: Key Success of Batik SMEs Marketing Performance in Indonesia. *Academy of Strategic Management Journal, 17(2).*

Obonyo M (2015). *Growth Strategies and Performance of Safaricom Limited in Kenya*. University of Nairobi

Odhiambo P. C. (2015). *Innovation and service quality in telecommunication industry in Kenya.* University of Nairobi

Oliver G., Ellen E. & Henry C. (2010). The future of open innovation. *https://doi.org/10.1111/j.1467-9310.2010.00605.x*

Orodho, J.A. (2005). *Elements of Education and Social science Research Methods*. Nairobi: Masola Publishers,

Oteri O. M., Kibet L. P. & Ndungu E. N. (2015). Mobile Subscription, Penetration and Coverage Trends in Kenya's Telecommunication Sector. *International Journal of Advanced Research in Artificial Intelligence, Vol 4 No. 1*

Parker, G., & Van Alstyne, M. (2017). *Innovation, openness, and platform control*. Management Science.

Porter, M. E., & Lee, T. H. (2015). Why strategy matters now. *New England Journal of Medicine, 372(18), 1681-1684.*

R. Tom (2012). "Outcome-Driven Innovation: A New Approach to Tackling Over-the-Top Services?" *Analysis Mason.*

Reguia, C. (2014). Product innovation and the competitive advantage. *European Scientific Journal, ESJ, 10(10).*

Rosenbusch N., Brinkmann J. & Bausch A. (2011). Is Innovation always beneficial? A meta-analysis of the relationship between innovation and performance in SME's. *Journal of Business venturing, 26, 441-457*

Rozar T. (2014). *Disruptive Innovation: Product Matters*. Society of Actuaries

Safaricom (2019). Accessed online at https://www.safaricom.co.ke/find-our-shops on 15/01/2019

Safaricom (2018). *Safaricom Sustainability Business Report 2018*. Accessed online at https://www.safaricom.co.ke/sustainability_report_2018/

Sandberg B. (2012). *Creating the Market for Disruptive innovation: Market Proactiveness at the Launch Stage.*

Shqipe G., Gadaf R. & Velad R. (2013). Innovation strategies and competitive advantages. Modern economics: problems, trends, prospects. *8 (1) 10-26*

Tangkit, K., & Panjakajornsak, V. (2016,). The radical innovation affecting competitive advantage of the Thai furniture industry. In management and innovation technology international conference (MITicon). *2016 (pp. MIT-204). IEEE.*

Thomas, L., & Ambrosini, V. (2015). Materializing strategy: the role of comprehensiveness and management controls in strategy formation in volatile environments. *British Journal of Management, 26, S105-S124.*

Tuan, N., Nhan, N., Giang, P., & Ngoc, N. (2016). The effects of innovation on firm performance of supporting industries in Hanoi, Vietnam. *Journal of Industrial Engineering and Management, 9(2), 413-431.*

Tukker, A., Charter, M., Vezzoli, C., Stø, E., & Andersen, M. M. (2017). *System innovation for sustainability 1: Perspectives on radical changes to sustainable consumption and production*. Routledge.

Urbancova, H. (2013). Competitive advantage achievement through innovation and knowledge. *Journal of Competitiveness, 5(1).*

Van Oort, F. G. (2017). *Urban growth and innovation: Spatially bounded externalities in the Netherlands*. Routledge.

Vergara, F., Vergara, L. F., & Polo Otero, J. (2015). The Impacts of Open Innovation Strategies on Innovative Performance: The Case of Colombian Food and Beverage Firms. *In DIEM: Dubrovnik International Economic Meeting (Vol. 2, No. 1, pp. 259-275).*

Wallace, D. (2017). *Environmental policy and industrial innovation: Strategies in Europe, the USA and Japan*. Routledge.

Wan F, Williamson P. & Yin E. (2015). Antecedents and implications of disruptive innovation: Evidence from China. *Elsevier*

Wanyoike, M. P. (2016). *Relationship between innovation strategies and competitive advantage in the logistics firms in Mombasa County, Kenya.* (Doctoral Dissertation, School of Business, University of Nairobi).

West, J., & Bogers, M. (2014). Leveraging external sources of innovation: a review of research on open innovation. *Journal of Product Innovation Management, 31(4), 814-831*

Wheelen T. H. & Hunger D. (2010). *Strategic Management and Business Policy.* Pearson Prentice Hall, 12th Edition.

Wim V. & Nadine R. (2013). *Enriching open innovation theory and practice by strengthening the relationship with strategic thinking.*