



What do strategic responses achieve? An analysis of performance of telecommunication firms in Kenya



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ABSTRACT

This study purposed to investigate the effect of strategic responses on performance. The study adopted a descriptive research design. The target population for the study was 3834 employees drawn from four telecommunication firms in Kenya. Proportionate stratified random sampling was used to select the sample size of 385 respondents. The study findings indicated that (i) research and development, technology advancement, and strategic training all had a significant positive effect on firm performance; (ii) technology advancement was found to be a major determinant in the variation of performance of the telecommunication firms. Operational restructuring strategy, however, was found to have a negative effect on performance. The study finally concluded that technological advancement, research and development, and employee strategic training are strategic responses that telecommunication firms should invest into better performance.

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Introduction

Socio-economic revolution across the globe requires firms, including those in telecommunication sector to adapt in order to effectively face the new dynamics. Ensuring that the sector realizes better growth is one significant step to realization of the dynamic economic goal of not only the region but also of the nation (Sharif, 2017, Addae-korakye & Lade, 2019, Bertschek *et al.*, 2016; Matalqah & Warad, 2017).

A number of challenges witnessed in the sector have been blamed on a myriad of issues including conflicting regulatory policies and unhealthy competition (Onguko, & Ragui, 2014). As a result, the sector is faced with product imitation, huge disparities on pricing of products and services by the sector players in which Safaricom is seen to be charging very high prices on similar products and services provided by other players. This forces many potential low-income consumers opting for products and services by other players. For example, acquiring a second fixed line by either Airtel, Telkom or Equitel that charge affordable rates on calls and text messages. However, the network coverage by these companies in the country pauses even worse challenge of network connectivity and poor quality on their voice calls which do not meet the minimum threshold put by the regulator. Ole Kulet *et al.*, (2019) assert that accessibility to reliable telecommunication services such as network bandwidth is limited to major urban areas, what seem to be attributed to poor technology infrastructure.

The government move to do public listing of some of the companies and partial privatization of the public Telkom Kenya in 2008, was believed to could have been a major milestone toward achieving a better performing sector (Namusonge *et al.*, 2017). This initiative led to opening up of Kenyan market for new entrants from foreign market. Their performance have, however, remained wanting over the years of their operation in which some of them have exited or remained struggling with the performance pressure

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from stakeholders (Ole Kulet *et al.*, 2019). Odhiambo and Ogutu, (2011) affirm that in attempt to woo customers, majority of operators have crafted all kinds of strategies such as offering zero charges on services such as voice calls, data, messages and fixed lines. However, Kyengo, *et al.* (2016) point out that despite these strategies, the telecommunication firms in Kenya have continued to incur losses marred with unhealthy competition practices making the industry less attractive for further investments by firms thus slowing down the industry growth (Al-Matari *et al.*, 2014).

Tantalo and Priem (2016) described performance as the amount of what a business entity is able to produce as compared to what it ought to produce. It is how much output a firm gives from a particular amount of input. Majority of studies concur that there exists no standard definition amongst scholars, neither do we have a universally established standard of measuring performance (Sevam *et al.*, 2016, Lin, Yang & Arya, 2009, Gavrea *et al.*, 2011, Mihaela, 2017, Hung & Chi, 2010, Ondoro, 2015). Others, for example Cording *et al.* (2010) contend that lack of a fit between choice of methods of measurement adopted and theory occasionally may render a particular selected methods as the most effective method.

Hung and Chi (2010) caution that researchers should not rely on financial data only during their study but should rather rely on subjective measures since accessibility of financial data may not be made possible by the firms' management for fear of subsequent competition. This confirms the claim by earlier researchers that some firms may not be willing to release the financial data to researchers. Quantitative method which requires absolute data such as those obtained from the firm's financial data and databases may be fallacious, irrelevant or inaccessible to the researcher in one way or another thus can qualify qualitative approach. According to Al Matari *et al.* (2014), financial measures should be adopted for a reflection purposes while market- based measures can be used in anticipating what the future holds. In this study, the researcher adopted non-financial indicators including market size, business efficiency and customer satisfaction.

The means to achieve better performance in the sector has remained unexplored research phenomenon. Strategic Responses are long term measures aimed at improving low performance by ensuring that the productivity of the firm or industry is aligned to the unique consumer demands (Ludenyio and Muli, 2018). Their main objective is to ensure that the firm effectively responds to changes in the environment in which it operates (Kinyanjui & Otieno, 2019). Akher and Barcellos (2011) found that they help the firm improve processes, reduce costs, and improve quality and productivity.

The need for good understanding of the market dynamics is one reason why firms should invest in research and development (R&D) as a game-changing strategy (Sanchez & Perez, 2002). Research enables the firm to collect information about new business developments, understand the behaviour patterns of customers, inform the management about the market trends, equip the firm with the right resources, enable production of only products on high demand and thus put up prices of goods and services accordingly. While evaluating best indicators for effective R&D strategy in firms, Ojanen and Vuola, (2006) suggest availability of R&D overall department, separate R&D units and R&D teams.

Afande (2015) found out that telecommunication firms particularly need a modern technology in order to counter environmental challenges, build and expand their services in all parts of the country that will ensure stable network and internet services. Adesina and Ayo (2010) echoed the same findings that technology is essential for the innovation of new products, improvement of existing ones and enhancement of services to the required standard of quality. The level of technology advancement is measured by the extent a firm realigns its tools and equipment to the needs of new firm strategic plan, inter- departmental and intradepartmental technological functions and available responsive Information Technology (IT) systems to meet the new business dynamics (Ouma *et al.*, 2019).

Evans, Priscilla and Michael (2014) argued that firms can achieve better performance by ensuring the right people are selected for the right jobs, constantly and appropriately reviewing their work, giving feedbacks, equipping them with the necessary skills, creating a good working environment and giving rewards of various forms for good performances (Muathe & Nyambane, 2017, Uzonna, 2013, Bawa, 2017). Walberg (2002) agree that the level of knowledge and skills determine employee efficiency, capability, character, motivational level which constitute important qualities of productivity in an individual. Muathe and Nyambane (2017) further state that even though proper recruitment procedure is necessary, there should be more emphasis on frequent training and development as a way to keep the employees a breast of the environmental changes.

Afande (2015) points out that corporate structure has the potential to positively or negatively affect the productivity and rigid structures with foreign governance strategy hinder creativity and innovativeness since there exist no such room for employees to act according to new business norms (Gil *et al.*, 2011). Corporate restructuring entails significant reconfiguration of financial or business models whereby the former results into change in financial structure of the firm while the latter results into change in how the firm operates (operational restructuring) and aims at maximizing the shareholders wealth.

Restructuring is necessary strategic response to leverage the firm from bad culture that are rooted in rigid processes responsible for poor productivity that is observed in the telecommunication sector. Afande (2015) also notes that even though there are a number of environmental changes related to customer taste and preference, new regulatory policies and modern technology; many firms have not realigned their structures in ways to match these changes and so the dwindling growth of the sector characterised with no expansion of firms.

Currently the sector is regulated by the Communication Authority of Kenya (CA) established in 1999 under the government sector liberalization initiative (Mayaka & Oloko, 2018; Kanyuga, 2019). This move saw private entrants into the market such as Airtel

whose origin is Bharti, India. In Kenya, Airtel began as Celtel in 2000 before changing to Zain and finally Airtel Network Limited in 2004. Other operators that have been in existence include Safaricom, established in 1997 under private ownership before its divestment as a public firm with limited liability in 2002 and has since remained the most competitive firm with the largest market share (Onguko & Ragui, 2014).

Other firms which have existed include Telkom Kenya limited established in 1999 with the ownership of 60:30% between Helios Investment Partners and the Government of Kenya (GOK). Also in existence was Econet Wireless which did not last before was acquired by Airtel (Institute of Economic Affairs, 2018). According to the same report, most of these operators merged, relocated or collapsed leaving only four operators. According to the Communication Authority of Kenya (2020), the four licenced mobile and internet operators include Safaricom, Airtel, Telkom and Equitel. Based on previous studies, among some of the strategic responses adopted by telecommunication firms have included acquisitions, forming mergers, rebranding and outsourcing. However, most of these mergers and rebranding have led to consumers losing track of branding revolutions within the companies (Kapai & Moronge, 2015).

In December 2019, the Communication Authority of Kenya (CA) gazetted the Proposed Acquisition of the Mobile Operations, Enterprise and Carrier Services business of Telkom Kenya Limited by Airtel Networks Limited on the Kenya Gazette before the management of Telkom Kenya withdrew in August 2020. This however made Telkom lose a market share of 0.4% after shutting down almost 90% of its mobile money agent network in preparation for the acquisition deal (CA, 2020).

The sector has not been attractive for prospective investors and instead has suffered investors exit as soon as they enter the market due to hostile business environment (Tharamba *et al.*, 2018). Studies by Research ICT Africa (2019) and World Bank (2019) concur that Kenya, despite having a higher GDP than its neighbours, the cost of internet services remains unaffordable to the majority of consumers while the accessibility is concentrated to the capital town and limited in the secondary towns only but again leaves most rural areas without both network and internet bandwidth. According to Institute of Economic Affairs (2018), the sector is still characterized with poor infrastructure to build such services adversely hindering digital economy and e-commerce which are key pillars of the government's economic reforms.

The sector's expected to be a major boost to rising economic demands in which devolution has taken centre stage and accessibility to telecommunication services forms integral initiatives to push development agenda even to the rural areas expected to be self-reliant by creating their own wealth and consequently contribute to the country's GDP (UNCTD, 2008). To this end, the sector's dwindling performance with respect to the strategic responses combined in this study have not been explained. The study done by Kanyuga (2019), Njoroge, Muathe and Bula (2016) and Afande (2015) reported that poor performance in the sector is attributed to poor strategies employed by the firms, however, the studies suffer a number of study gaps worth investigating. Kanyuga (2019) study, for instance, was limited to the impact of strategic innovation on firm financial performance. Further, the study selected only Safaricom PLC as the firm of study.

Investigation by Afande (2015) included four telecommunication firms and was conducted in Meru County. The researcher found that customer loyalty, changing customer tastes and preferences are the major obstacles to firms' performance. The study suffers limited focus to strategic responses that these firms need in order to solve the performance challenges. Njoroge, Muathe and Bula (2016) although included all firms in the sector, the study only examined the effect of technology investment which despite the current study considering as a suitable strategic response, was not given such attention. Similarly, technology alone is considered a narrow scope given to strategic responses that these firms need to acculturate to improve sector performance.

The broad aim of the study was to investigate the effect of strategic responses on performance of telecommunication firms in Nairobi City County, Kenya. This paper aims to:

- i. To determine the effect of research and development strategy on performance of telecommunication firms in Nairobi City County, Kenya.
- ii. To analyse the effect of technology advancement strategy on performance of telecommunication firms in Nairobi City County, Kenya.
- iii. To establish the effect of employee strategic training on performance of telecommunication firms in Nairobi City County, Kenya
- iv. To establish the effect of operational restructuring strategy on performance of telecommunication firms in Nairobi City County, Kenya.

Literature Review

Theoretical review

Resource-Based Theory

Resource-based is a theory formalised by Barney in 1991 after first publications from 1980 to 1990 including Wanerfelt's work entitled the Resource-Based view of the firm, Prahalad and Hamel's work on Core Competency of the Corporation and initial work by Barney entitled Firm Resources and Sustained Competitive Advantage. The theory provides the ground for the reevaluation of

resources and capacities which a firm employs in order to adopt more effective ones that can sustain performance. The theory assumes that resources and capacities form the strategies which if deployed and utilized well, are of value than the organisation of the industry in which the firm does business (Barney, 1991). Wanerfelt (1984) advanced that the performance of a firm depends on which resources a firm possesses and their strategic usefulness in response to the firm productivity level.

Those who subscribe to this theory such as Lockett and Thompson (2001) argue that only strategically essential resources should be considered a source of better performance. Prahalad and Hamel (1994) refer to resources as distinctive competencies that if strategically applied can improve performance. Competencies refer to the strengths of the firm measured through its technological infrastructures that enable it to innovate new products, improve its processes and raise the quality of products and services to meet the unique demands of the customers (Arend & Lavesque, 2010). Furrer *et al.* (2008), conceptualize capabilities as of value to the firm than the business environment. They are the intangible resources that the firm possesses and help it build strategic business models used to address the performance challenges Kenneth, *et al.* (2011) define them as to include values, brand name, processes and networks that are unique to a specific firm that gives a competitive advantage and consequently higher performance, thus should not be easily identifiable to the competitor (Lockett, *et al.*, 2009).

The theory's focus on internal environment of the firm has been criticised by some researchers such as Hooley *et al.* (1996) who assert that the external environment of the firm cannot be ignored since the two are intertwined and closely interact as the firm strives to attain its productivity goals. The theory provides the basis for evaluation of the firm's resources and capacities as performance tools that firms need to strategically employ to improve on its efficiencies and effectiveness. It makes it possible for the firm management to understand how and which resources combined, can help the firm to penetrate a given market niche, advance its performance and consequently that of the industry.

The model provides the framework to explain the nexus between resources and competencies and firm performance (Madhani & Pankaj, 2010). It provides the ground for better understanding by those charged by the responsibilities of acquiring and deploying the resources to meet the performance goals of the firm. The theory was important to this study due to its connectivity with resource-based interventions that firms can undertake to improve performance. Its adoption in this study was to model the proposition that states performance can be achieved if the firm invests in firm resources and competencies specifically in technology and human competencies through training and development which if strategically deployed, become rare, inimitable and valuable to the firm performance.

Human Capital Theory

Human Capital emerged from Schultz (1961), conceptualised to mean formal education as an investment. Becker (1962), advanced the idea to Human Capital Theory which included general human capital to precisely mean off-the-job training; and specific human capital to mean on-the-job training. It is the stock of knowledge, skills, experience and traits that influence individual's productivity (Dess & Picken, 1999, Acemoglu & Autor, 2012). According to Ployhart, *et al.* (2014), there are human capital resources and strategic human resources which altogether link to firm performance.

Human capital resource refers to the accessible individual or collective (departmental) level capacities including knowledge, skills, and abilities which benefit the productivity of the firm. The focus is on two components namely the individuals and the firm whereby individual attributes such as competencies, adaptability and employability are regarded to have significant relationship with individual high productivity and firm performance (Garavan *et al.*, 2001).

The theory emphasises that investment in employees through formal education, training, engagement and other initiatives relative to the profession ensures continuous improvement on competencies through knowledge, skills, abilities, values and social resources which lead to improvement on individual productivity (Marimuthu, *et al.*, 2009). These attributes help the employees to produce goods and services that ensure customers satisfaction and therefore repeatedly buy from the firm. The investments and initiatives by firms are also a source of motivation which leads to job satisfaction thus commitment on the job and improved individual productivity.

Coff and Raffie, (2015) challenged that human capital can quit their jobs after acquiring skills thus leading forcing the firm to keep training new employees. However, this can be avoided by undertaking various motivational measures that can ensure retention. This theory was very relevant to the study since it proposes the values of human capital through strategic training and development which is a key component of this study and as supported by McCracken, *et al.* (2017). Similarly, the theory proposes that knowledge is an intangible resource distinctive to a firm and gives it intellectual capacity that it utilizes at the advantage of others through robust research and development through unique ideas shared amongst individuals and team units (Kor & Mahoney, 2015).

Diffusion of Innovation Theory

Diffusion of Innovations Theory was advanced by Rogers in 1962 and has since been adopted in a variety of research works in various disciplines including political, science, public health, communications and technology in which the terms innovation and technology have been used interchangeably as a design for an action taken by use of instruments that reduce uncertainty in a cause effect relationship to achieve the desired result. Technology in this case consists of two elements: hardware (physical object) and software (information base). Diffusion is the means of communicating the innovation adopted through certain channels over time so

as to effectively be understood by every member of the social systems who must have some degree of difference in beliefs, education level and social economic status (Rogers, 2003).

The adoption and use of technology progress through key stages such as knowledge about the existence of the new technology, persuasion by key persons and commitment of the management towards the process (Muathe, 2010). Those who are potential adopters of innovation are believed to first evaluate the possible value in terms of cost and benefits, before they can adopt (Ankem, 2004). Technology helps firms to innovate new products which are unique to the customer demands.

Other benefits of technological advancement are demonstrable through firm's capabilities to penetrate the market and grab new business opportunities through research and development (Njoroge, Bula & Muathe, 2016). Previous researchers have criticised the theory. For example, Newell *et al.* (1998) argued that high technological advancements slows down the process of knowledge integration in an entity and is too demanding to the potential user with respect to the technical knowledge required of an individual and so the relevance of the model does not match that of firm learning and know-how (Attewell, 1992).

However, five attributes including relative advantage, compatibility, complexity, trial ability and observability can be used to reduce these uncertainties. Besides, individual's attitudes are shaped by making the individual aware of the innovation at the knowledge stage (Rogers, 2003). Firms which adopt innovation strategies foresee the benefits in terms of both improved products and firm processes, new products for the unique demands of customers and reduction in cost of production.

Knowledge Based Theory

This model considers knowledge as the most important resource of the firm. Subscribers of this theory recognize knowledge as an appreciative and as the most precious asset that gives a firm a higher performance. Knowledge as an intangible resource is embedded in the individuals within the workforce in the form of technical knowledge, management competencies and capabilities and routines of the firms all of which are unique and specific, hardly imitable, not duplicable and non-substitutable thus distinguishes the firm from the rest of its competitors in the same industry (Rugman & Verbeke, 2002). Knowledge capital helps the firm to develop other resources, reconfigure its internal and external capacities to match the environmental changes in such a way that it is able to achieve its objectives. In other words, the more advanced the knowledge, the higher the competitive advantage for the firm.

Knowledge becomes a useful resource for higher performance if shared by the individual primary carrier with the group members and finally with the firm (Vladimirou & Tsoukas, 2001). The theory provides a framework through which firm managers can understand the performance of their firms which depends on how they perceive and utilize knowledge as an asset and so should be keen to eliminate any condition that can hinder knowledge sharing whether at individual, group or firm level.

Grant (2002) and Foss (1996) however, argued that individuals may decide to keep knowledge to themselves. Knowledge sharing is important for individual and firm learning, creation of new knowledge, innovation, problem solving, team performance and overall firm performance (Srivastava *et al.* 2006). Firms can employ innovative knowledge to restructure its internal processes or routines as a strategic response to achieve a better performance.

Empirical Review

Research and Development strategy

Garner, *et al.* (2002) found that not all industries benefit from spending in R&D, a view supported by Eberhart *et al.* (2004) who state that only technologically dependent industries such as those in telecommunication can benefit from spending in R&D. Doraszelski and Jaumandreu (2013) found that periodically investing in research and development strategy equips the firms with knowledge, a non-depreciative resource vital for a competitive advantage. These findings support the hypothesis of the study that R&D has a positive effect on performance of telecommunication firms too.

Study by Sissoko (2013) found that through R&D firms attain a better understanding of the market; customer needs thus strategically position themselves. In the market through strategic pricing and innovated products that can satisfy customers' taste and preference, likewise to processes that reduce cost related to innovation. Generally, the benefits are attributed to low marginal costs and high productivity. Chao-Hung (2011) states that there is equilibrium between R&D cost and benefits and that in eventuality, the costs are outweighed by the capability of internal innovation. The current study also hypothesized that R&D has a positive influence on performance.

Other studies which reiterated positive influence of R&D were McDonald, *et al.* (2008) and Bhagwat *et al.* (2001). These have however been contradicted by other several studies reviewed. Hanel and St-Pierre (2002) conclude that firms are unable to account for the benefits of R&D since some of its parts such as advanced knowledge spill over to competitors which increase the productivity of these competitors. Ayam and Lions (2012) found that there is no positive relationship between high R&D expenditure with the firm's financial performance. The study argue that the benefit of R&D on firm performance will largely be determined by the ability of the top management to put in place effective control measures for the proper management of R&D expenses. These findings contradict the assumption of the current investigation which holds that R&D has a positive impact on performance.

Technology Advancement Strategy and Firm Performance

Njoroge, Muathe and Bula (2016) affirm that there are a number of ways in which telecom companies rely on technology to influence their business transactions perform over and above stakeholders' expectations. Guo, Wang and Wei, (2018) study found that the returns of firms depend on the level of investment in technology such that those whose investment in technology is abnormally negative incur negative returns while those which do, realize abnormally positive returns. A similar findings were echoed by Ndambuki, Bowen & Karau (2017) who emphasized on the need to invest in the latest technology. This study similarly hypothesized that technology advancement has a positive influence on the performance of telecommunication firms.

The findings by Hakala (2011) show that swift and proactive firms are able to combine old and new technology which enable them develop new ideas that are vital in product development. A study by Spanjol, *et al.* (2011) found that technology focused firms are capable of changing their products with the changing needs of the customer and so are able to maintain the loyalty of their customers. Similar findings have been echoed by Ana, *et al.* (2011) that customers find more satisfaction in technologically superior products and services and so the ability of the firm to successfully provide such products and services will make them remain loyal to particular firms. Letangule & Letting (2012) advanced that technology has been found to be essential for building a strong and stable network for better communication which not only reduce firm expenses by conforming to the set regulations, but also ensures that services such as network users can always access efficient quality calls across the firm's network, thus the assumption of the researcher that technology advancement in telecommunication has a positive influence on performance.

Ghaffar and Khan (2014) put it that the survival of firms in a competitive environment depends on how strategic the firm is in investing in technology to enable it carry out a more robust research and development about the market, through which the firm consequently makes well thought out decisions about what products are needed in the market and that it can be used to enhance the skills and knowledge of workers through training, motivation, enhancing creativity and innovation of ideas (Yunus, 2010, Yunus & Waidi, 2011, Lentoimaga *et al.*, 2017). The empirical reviews are in support of the assumption by the current study that technology advancement has a positive influence on performance of telecommunication firms.

Employee strategic training

A study by Tukunimulongo (2016) found that training- on- the job helps the employee to relate the job in the course of learning; which Taylor and Davis (2004) advances that it is a better method for firms to save on time and cost. Shafini *et al.* (2016) in their study argued that off-the-job training is the most effective training and development approach to enable employees increase their productivity and meet increased demands of customers and in turn help the firm make more profits. Similar finding were given by Ramya (2016) and Mtulo (2014) who advance that off-the-job training is properly planned for, with adequate time and better learning facilities, which ensures quality of training as compared to on-the-job training. Brown (2002) categorically put it that training and development has both short term and long term positive effects on performance and that the firms should always conduct need assessment in order to tailor training to the specific needs of the firm since through such, the firm saves on cost, time and at the same time benefits from the trainings. These findings support the hypothesis of the current study that strategic training of employees has a positive effect on performance

Kireru *et al.* (2017) found that employee requires to be well trained to use the new technology to innovate new products and improve old ones. A study by Meyerson and Dewettink (2012) found that training is an effective way of improving performance of individuals by improving their capabilities and attitude towards their work which make them more satisfied and thus become more productive. Many study findings show that the more motivated an employee is, the more committed and thus, productive they become. Motivation is the source of individual productivity (Saeed & Asghar, 2012) and on the other hand productive employees tend to retain their jobs which is a source of sustainable performance for the firm (Amin *et al.*, 2013).

Competent employees not only do things the right way to reduce cost but are also creative which improves quality of products and services to satisfy the customer demands (Njagi *et al.*, 2018). Similar findings have also been revealed by a number of scholars such as Otieno *et al.* (2015) who state that training should also involve induction training to have new employees understand the performance goals of the firm and the means to those goals from the start of their employment as an early way of reducing wastes. These findings above have been supported by Sultana, *et al.* (2012), Elnaga and Imran (2013), Bassam (2015) who found that training improves employee's productivity in Pakistani telecommunication industry. In the context of Kenya telecommunication industry, Gitonga *et al.* (2016) found that cultural diversity provides a diverse pool of skills and knowledge whereby through interaction, they learn from each other about their work, become more engaged at work, more committed and productive. The empirical findings similarly support the current hypothesis that strategic training impacts positively on performance.

Operational Restructuring strategy and Firm Performance

A study done by Akumu and Nzulwa (2018) focusing on delayering, virtualization, business process engineering and outsourcing established that by restructuring the technology through virtualization, delayering processes eliminated those employees who did not possess the right attributes for the job leaving only those who were qualified. Riany *et al.* (2012) established that portfolio restructuring is the most frequently practised strategy in the mobile service industry but is the least effective in realization of higher market share compared to financial restructuring. However, organizational restructuring is the most effective for market growth. The findings contradict those of Waithaka and Kimencu (2018) in the context of Kenya Commercial Bank that the portfolio restructuring

strategies have a significant positive effect on performance as well as Waweru and Maina (2019) who found that portfolio restructuring in the Kenya Police Force improved quality service which increased confidence in the police's service as compared to before. The current study hypothesized that operational restructuring could have a positive influence on performance of the telecommunication firms. Karanja (2015) also found that structure of the organization namely management, organization structure, technology and employees' new roles would affect how individual employees would perform in the context of Postal Corporation of Kenya which agrees with the current study that operational restructuring has a positive influence of performance of telecommunication firms. Kwaning, *et al.* (2014) in attempt to ascertain the nexus between organization restructuring and various measurements of performance established that firm restructuring significantly improves financial performance in terms of profitability ratios, capital adequacy ratio and cost efficiency in the context of Ghanaian Banks. Harwood, *et al.* (2016) opposed that better performance can be attained through work engagement rather than restructuring hence firms should maintain or improve on how employees are motivated, empowered and aligned to their jobs. Elsewhere, Kithinji *et al.* (2017) found that operational restructuring lacked any significant relationship with the performance; asset restructuring had a significant negative effect on performance while capital restructuring had a significant positive effect on performance. Ghosh and Dutta (2014) analysis of 10 cases of mergers and acquisitions out of 25 successful cases that took place between 200 and 2010 in the Indian telecommunication found that mergers do not have positive effect on the market share as well as earnings per share. Only the ratios of employee compensation to profit after tax improve. Additionally, Petkova and Do (2012) and Julio *et al.* (2016) contend that as a result of many factors, there is no value that accrues to the shareholders out of mergers and acquisitions. This contradicts the overall assumption held by this study that restructuring has a positive influence on performance of these firms.

Research and Methodology

Research Design

In line with the overall study objective in which the researcher sought to collect information and give an accurate description of the performance of the telecommunication firms in Nairobi City County without manipulation of the environment, the study adopted descriptive research design (Hair, *et al.*, 2010, Muathe, 2010). Kothari (2004) and Hair *et al.* (2010) state that descriptive research is the most appropriate when the researcher intends to produce holistic data to answer research questions in a particular context.

Target Population

The study used proportionate stratified sampling to create four strata drawn from four departments including Customer care, research and development, human resource and IT departments in all the four telecommunication firms. In the strata created in each firm, the researcher targeted the senior managers, middle level managers, lower-level managers and rank and file level totalled to 3834 employees.

Sampling Technique and Sample Size

According to Mugenda and Mugenda (2003), sampling is a process of selecting representative subjects of the entire targeted group for study while a sample confines to a portion of elements from the group. Upagade and Shende (2012) describe sampling technique as the methods and procedures that a researcher uses to select the sample size for study. To achieve this, proportional stratified random sampling was applied to get the required sample size from the population. According to Latham (2007), proportionate random sampling generates a higher precision, reduces error and ensures the sample size is more representative of the target population. The sampling was guided by Mugenda (2008) who assert that when the target population is 1000 and more, 10% of the total population is an adequate sample for the study and if the population is less than 1000, 30% of the total population gives an adequate sample size. The sample size therefore was 385 respondents.

Data Collection Instruments

The researcher collected primary data by administering structured questionnaire which gave uniform responses (Cooper & Schindler, 2006); prepared in form of both hard copies and e-questionnaire which motivated many respondents who were at first reluctant to receive the former due to the fear of contracting the Covid-19 virus. Similarly, this helped the researcher receive responses in real time with no cases of incomplete questionnaire. The hard copy format was administered to the willing respondents under strict observation of the aforementioned protocols. The copies were then collected back after two or three weeks depending on how fast each respondent could finish.

Validity

The instruments of study were tested for face and content validity. This helped the researcher to establish the appropriateness of the question by sequence, ensure clarity, average time needed for completion and free from ambiguity so as to convey the intended meaning. Ambiguous and inappropriate questions were therefore revised while missing data were taken care of at the SPSS output.

Reliability

The items were found to be reliable with different Cronbach alpha coefficient values of between 0.7 and 0.9 as indicated in table 1.

Table 1: Reliability Test of the Main Study

Variable	Number of Items	Cronbach Alpha (α)	Remarks
Research and Development Strategy	7	0.749	Reliable
Technology and Advancement Strategy	9	0.804	Reliable
Employee Strategic Training and Development	11	0.819	Reliable
Operational Restructuring Strategy	9	0.706	Reliable
Firm Performance	4	0.773	Reliable
Overall	40	0.908	Reliable

Source: Survey Data (2021)

Cronbach alpha coefficient test in table 1 revealed that the study had the overall reliability ($\alpha = 0.908$). Employee strategic training and development had the highest reliability ($\alpha = 0.819$) followed by technology and advancement strategy ($\alpha = 0.804$). Firm performance was reliable at ($\alpha = 0.773$) while research and development strategy had ($\alpha = 0.749$). Finally, operational restructuring strategy was reliable ($\alpha = 0.706$). It was observed that all the variables were reliable at a Cronbach alpha coefficient of greater than 0.7 threshold adopted for the study.

Data Analysis

After collecting data, the researcher ensured that data was first edited and free from errors then coded to change non-numerical type to numerical form for easier entry (Muathe, 2010 & Nafula, 2017).The data was then analysed quantitatively using descriptive statistics with the help of SPSS, version 23. According to Mugenda and Mugenda (2003), descriptive statistics helps the researcher to describe or summarize data in a more meaningful way. In this study, descriptive statistics was formed of mean and standard deviation. The study employed multiple regression analysis to show the relationship between the dependent variable and the independent variables (Saleemi, 2010).

The model formula:

$$P = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_n X_n + \epsilon$$

Multiple regression model:

$$P = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \epsilon$$

Findings and Discussion

Regression Analysis

To investigate the potential effect of strategic responses on performance of telecommunication firms in Kenya, there was a need to empirically analyze the data using the regression model whose results are presented in table 2.

Table 2: Strategic Responses and Firm Performance

Model Summary						
Model	R	R Squared	Adjusted R Square	Std. Error of the Estimate		
1	.523 ^a	.273	.264	.59062		
ANOVA^a						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	40.541	4	10.135	29.055	.000 ^b
	Residual	107.789	309	.349		
	Total	148.330	313			
Regression Coefficients						
Model		Unstandardized coefficients		Standardized coefficients	T	Sig.
		B	Std. Error			
1	(Constant)	1.308	.250		5.222	.000
	Research and Development Strategy	.190	.064	.177	2.964	.003
	Technology Advancement Strategy	.382	.068	.344	5.632	.000
	Employee Strategic Training and Development	.163	.069	.153	2.358	.019
	Operational Restructuring Strategy	-.083	.069	-.074	-1.209	.228

a. Dependent Variable: Firm Performance

b. Predictors: (Constant), Research and Development Strategy, Technology Advancement Strategy, Employee Strategic Training and Development, Operational Restructuring Strategy

Source: Survey Data (2022)

The model summary in Table 2 shows an adjusted R^2 of 0.264, indicating that the four independent variables that is; research and development, technology advancement strategy, employee strategic training and development and operational restructuring strategy jointly explained 26.4% of variation in performance of the telecommunication firms in Nairobi City County, Kenya. The remaining 73.6% of the variation is explained by other variables not used in the study. The correlation coefficient (R) of 0.523, equally implies that there is a strong positive correlation between strategic responses and performance of these firms. In addition, the F statistic for $F(4, 309) = 29.055$ was greater than the F critical (table value = 2.17), meaning that the overall model was significant and adequate to predict performance. Analysis of Variance's (ANOVA) was used to make simultaneous comparisons between the means. The test examined if there was a significant relationship between dependent and independent variables. The ANOVA statistics revealed that the data was suitable for making conclusion on the population's parameters as the calculated probability of 0.000 is less than the 0.7 threshold adopted.

The beta coefficients showed that out of the four independent variables investigated, three were positively and significantly affecting performance. Research and development strategy $\beta = 0.177$, $P = 0.003$ implies that the firms consider research and development an important strategy and consequently practiced to a large extent through allocation of resources, increasing research and development expenses whenever the market size declines. Notably, the availability of research teams in the firms created room for consultations whose effectiveness was also supported by the quality of research equipment. These findings were in tandem with those of Guo *et al.*, (2018) that research and development has a significant effect on market share. Similar findings were also reiterated by Sissoko, (2013) who found research and development a good strategy used by firms to innovate new products that can match the changing customer tastes and preferences.

The significant positive coefficient of technology advancement strategy, $\beta = 0.344$, $P = 0.000$, mean that telecommunication firms have put focus on the technology dimensions including adoption of new technology to innovate new products. Additionally, the firms have given priority to more responsive IT systems which have potentially ensured that customer complaints and diverse demands are met in real time. The evidence that the firms are adopting new technology is also an indication that the firms' managements possess ICT knowledge which is a major determinant when firms have to advance on technology (Muathe, 2010). The findings were as per the expectation and consistent with the view held by Ndambuki, Bowen and Karau (2017) and Pelser (2014) who revealed that for the firm to sustain product innovation, business efficiency and delivery of quality services above the expectation of the large number of customers, firms need to invest in the latest technology which is fast, accurate and safe.

The coefficient of employee strategic training and development was positive; $\beta = 0.153$, $P = 0.019$, the construct contributes positively and significantly to well productivity of the firms. Notably, continuous upgrading of employees' skills should be guided by a clear firms' training policy manual that guides on the procedure of how employee skills shall be upgraded upon successful recruitment in order to make them more efficient in delivery of services as also found out by Njagi *et al.*, (2018). The skills acquired can in turn be vital in operation of new technology which is a major determinant in performance as also found out by Kireru *et al.*, (2017). However, the beta coefficient of operational restructuring strategy turned negative ($\beta = -0.074$, $P = 0.228$). Which is an indication that carrying out of operational restructuring in the firms through mergers of business units, processes impacts negatively impacts on the performance of the firms as replicated by Riany *et al.*, (2012), Petkovic and Do (2012) and Julio *et al.*, (2016).

Finally, the results indicate that if all the other factors were held constant, an additional unit in research and development strategy, technology advancement strategy and employee strategic training and development would increase performance of telecommunication firms by 0.777, 0.344 and 0.153 units respectively while a unit increase in performance of operational restructuring strategy will decrease the firms' performance by -0.74 units. The regression equation predicting the influence of the various components of the independent variable on the dependent variable firm performance was estimated in the equation below as follows:

$$Y = 1.308 + 0.177X_1 + 0.344X_2 + 0.153X_3 - 0.074X_4 + \varepsilon$$

Where;

Y= Firm Performance

β_0 = Constant (1.308)

Beta Coefficients = (0.177, 0.344, 0.153 & -0.074)

X_1 = Research and Development Strategy

X_2 = Technology Advancement Strategy

X_3 = Employee Strategic Training and Development

X_4 = Operational Restructuring Strategy

ε = Error Term

Conclusion

The study concludes that strategic response is an effective means to realization of a better performance. If the strategic responses are adopted and implemented by telecommunication firms, several challenges unveiled in the study can be solved. The study recommends adoption and implementation of the right strategies in response to poor performance. Further, the telecommunication should prioritize on the dimensions of such strategic responses that are transformative to the performance of the firms.

This study concludes as follows: That research and development strategy has positive and significant effect on performance of telecommunication firms. The significant effect was attributed to the components including research and development teams, quality research and development equipment and sufficient research expenses. The study concludes that these are suitable components of research and development that can help the telecommunication firms to improve performance.

The study also concludes that technology advancement is a critical strategy that telecommunication firms need in order to improve performance and reach the global standards. Technology advancement is a major determinant in telecommunication firms since it also determines the effectiveness of research and development, training of employees and operations of these firms and to serve customers in larger numbers up to the remote parts of the country. Thirdly, employee strategic training positively and significantly contributed to performance of the firms. This was attributed to the following components of employee strategic training: performance training and development programmes, leadership training and development programmes and finally talent training and development programmes. The study concludes that these are suitable attributes of employee strategic training and development that can be adopted by telecommunication firms to improve performance.

The research also concludes that the fourth strategic response, operational restructuring did not have a significance nor a positive effect on performance of telecommunication firms evident in the study findings. The study, therefore holds that operation restructuring through merging business units, downsizing and new management teams do not help telecommunication firms in improvement of performance. The study further concludes that other than the strategic responses investigated in this study, realization of improved performance by telecommunication firms may also be attributed to other strategies/ factors not captured by the study.

Taking into consideration the results and conclusion of this study, the following recommendations for policy and practice were worth noting: That the managements of the telecommunication firms should make their research departments more vibrant by allocating the right and sufficient resources to enable them carry out studies on how to conduct business in a manner that satisfies their customers. This will enable them know which products are on high demand and innovate new products aligned to the customer taste and preference.

Secondly, the managements of the telecommunication firms should invest in the latest technology including 4G and 5G to ensure competitiveness and to expand these network coverages to most parts of the country including urban centres and rural areas that have no accessibility to telecommunication services. These will not only increase accessibility to customers but will also ensure strong reliable networks across the country that will enhance effective and affordable communication that customers need to run businesses. Thirdly, the managements of the telecommunication firms should develop clear policies on training and development of their employees. This will ensure that all employees improve on their skills to be able to perform their jobs efficiently. The management of telecommunication firms should be cautious when carrying out operational restructuring and should only focus on the beneficial forms of restructuring that will motivate employees and improve quality of services they offer to their customers.

The research focused on Nairobi City County the capital city of Kenya where the firms' headquarters are found and thus though the findings give valuable lessons in the industry, the results should be generalized to the rest of the country with caution. The current research investigated direct effect of strategic responses on performance. Future researchers may investigate the effect of these variables under a mediating variable.

Additionally, the current research measured performance of telecommunication firms in Nairobi City County using three non-financial indicators. The research therefore recommends that future researches can measure performance using financial indicators based on the current independent variables and since non-financial indicators are broader, future investigations may also expand to include other non- financial indicators that were not included in the current investigation. Finally, the current independent variables adopted as the strategic responses to poor performance have broader dimensions that can influence performance. The current research therefore recommends expansion of these dimensions in future investigations so as to include more dimensions.

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