Dynamic Capabilities and Performance of Telecommunication Companies in Kenya

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ABSTRACT

The purpose of the study was to assess the effect of dynamic capabilities on organizational performance of telecommunication firms in Mombasa County. The study specific objectives are to determine the effect of sensing capabilities, innovation, reconfiguration capabilities and integration capability on organizational performance. The study is anchored on organizational learning theory, dynamic capabilities theory, performance maximization theory and resource based view. The target population was 37 network facilities providers in Kenya. The study results showed that sensing capability, seizing capability, innovation capability and reconfiguration capability positively and significantly affect the performance of telecommunication companies in Kenya. The study recommends that telecommunication firms should improve their sensing capability, seizing capability, innovation capability and reconfiguration capability so as to increase the performance of telecommunication firms in Kenya.

Keywords: capability, dynamic, innovation, performance, reconfiguration, seizing, sensing.

INTRODUCTION

The dynamic of changes in the world in which current firms operate, has turned into a riskier scenario characterized by volatility, uncertainty, complexity, and ambiguity. Under this environmental turbulence, firms need to be prepared to "pick a path through the fog" (Schoemaker, Heaton & Teece, 2018) by achieving sustainable competitive advantages. Telecom sector has become prominent in the global economy as its contribution to gross domestic product (GDP) has increased significantly. However, the telecommunications industry remains complex and irregular due to market shifts, threats and emergent innovations within the external environment (Yu & Lin, 2017). Since the environment in which telecom exists is marked by heightened levels of uncertainty and emergent threats, firms must adopt new strategies to survive in order to meet performance targets (Alshanty & Emeagwali, 2019). Telecommunication firms have to react to such changes by restructuring their internal environment to increase their ability to become more innovative and competitive (Yu, Wang & Moon, 2022). Dynamic capabilities (DCs) are essential for companies operating in competitive and dizzying environments (Akpan, Eluka, & Sylva, 2021).

The telecommunications industry is facing a fundamental strategic challenge common among utilities and other mature industries. The sector provides vital services on which billions of consumers and virtually all businesses rely. Driven largely by video traffic, global data consumption over telecom networks will nearly triple, from 3.4 million petabytes (PB) in 2024 to 9.7 million PB in 2027. But because providers appear to have little to no pricing power on increasingly commoditized connectivity and data services, revenues from internet access has risen at only a modest 4% CAGR to US\$921.6 billion through 2024. Data consumption associated with gaming will rise at a 21% CAGR between 2022 and 2027, reflecting the continued shift towards online and cloud gaming (PwC, 2024).

The frequent technological changes experience in the telecommunications and other service sectors has globalized the operations of firms in these sectors and blurred any boundary that existed among firms and

countries (Wasono & Furinto, 2018). Thus, consistent change is witnessed in the strategies adopted. Therefore, operations managers and other business executives require dynamic capabilities such as the ability to sense future changes in the environment, seize opportunities available and reconfigure their internal processes and structures to strategically contain with the competition from the globalized and dynamic environment (Zhou, Zhou, Feng, & Jiang, 2017). Dynamic capabilities refer to "firms' ability to integrate, build, and reconfigure internal and external competencies to address rapidly changing environments" (Teece et al., 1997). Dynamic capabilities encompass "the management of capabilities and resources of all functions of the firms, with the overall objective to get a competitive advantage" (Arranz et al., 2020). Barreto (2017) argues that dynamic capabilities systematically solve problems, thus allowing the organization 'to make timely and market-oriented decisions' (p. 271), and to introduce innovative changes to the resource base (Ambrosini and Bowman, 2009; Schilke 2014b; Teece, 2014; Wang and Ahmed, 2007).

Global Performance of Telecommunication Firms

The US Telecom Market size is estimated at USD 443.12 billion in 2024, and is expected to reach USD 530.61 billion by 2029, growing at a CAGR of 3.67% during the forecast period (2024-2029). To fulfill the ongoing demand for faster networks in 2021, the United States telecom industry made further strides in expanding its network capacity with further fiber and wireless deployments. The telecommunications infrastructure has relied on the big three traditional U.S. firms for over 20 years: AT&T, Verizon, and T-Mobile. Tech giants like Amazon, Facebook, Google, and Space X are gradually joining the space of these three. Most of the infrastructure used to transport people's data and content is already owned by the leading IT corporations. In US, as per a GSMA report, in 2021, the country had a smartphone adoption rate of 83%, which is expected to rise to 85% in 2025. Subscriber penetration for FY 2021 was 85%. As per the study, the United States had a 4G penetration was 82% during 2021, compared with 15% and the rest of 3% for 3G and 2G. Concerning 5G adoption, the United States is one of the global leaders. The country is expected to have a 5G adoption of 68% by the end of 2025. Despite AT&T's dominance across the fixed and mobile sectors, the operator was surpassed as the largest U.S. telecoms firm by revenue in 2022 by Verizon. Verizon generated 137 billion U.S. dollars that year, while AT&T generated just 121 billion, down from 169 billion the previous year.

The UK Telecom Market size is estimated at USD 35.90 billion in 2024, and is expected to reach USD 44.92 billion by 2029, growing at a CAGR of 4.59% during the forecast period (2024-2029). According to a study by World Data.info, the United Kingdom had approximately 111.04 million connections under the country code (+44) in the previous year. There were 79.01 million mobile phones among them or 1.2 on average per person. This number is 1.1 mobile phones per person in the United States. The UK telecoms industry generated revenue of 31.8 billion British pounds in 2022, a slight increase from 2021, with growth of around 8.5 percent forecast in 2023.

In China, the total telecom and pay-TV service revenue in China was valued at $456.4 billion in 2022. The market is expected to increase at a CAGR of more than 2% during the forecast period, 2022-2027. The combined business revenue of firms in this sector totaled 1.42 trillion yuan (about 199 billion U.S. dollars), up 6.9 percent year on year. Broadband internet services generated 219-billion-yuan worth of revenue for China's three telecom giants -- China Mobile, China Telecom, and China Unicom -- in the first 10 months, up 9.3 percent over the previous year (Xinhua, 2024).

Regional Performance of Telecommunication Firms

In South Africa, the industry has lost 22% in the last 12 months. As for the next few years, earnings are expected to grow by 40% per annum. The earnings for companies in the Communication Services industry have declined 26% per year over the last three years. Meanwhile revenues for these companies have grown 3.8% per year. This means that although more sales are being generated, either the cost of doing business or the level of investment back into businesses has increased, which has decreased profits (Wallstreet ZA, 2024). The Egyptian telecommunication sector grew by 17% during the second quarter of the fiscal year 2020/21, the highest among all sectors in the economy, proven to be remarkably resilient in the face COVID-19 pandemic and the Delta variant (Emara & Katz, 2023). The Egypt telecom and pay-TV services market size was valued at $5.6 billion in 2022 and is expected to grow at a CAGR of more than 2% during the forecast period, 2022-

2027. Egypt Telecom Market revenue is expected to register a CAGR of 3.65% over the next five years. The major telecom firms with offices in Egypt, including Telecom Egypt, Vodafone, Orange, Etisalat Egypt, and Ericsson, promote innovation by making significant R&D investments consistently.

The Nigeria Telecom Market size is estimated at USD 9.09 billion in 2024, and is expected to reach USD 11.43 billion by 2029, growing at a CAGR of 4.70% during the forecast period (2024-2029). The market is expected to grow at a CAGR of 4.6% during the forecast period, 2022-2027. Government's Nigerian National Broadband Plan to improve fixed and mobile broadband penetration in the country will be one of the key drivers supporting the Nigeria telecom market growth. The continued expansion of 5G and 4G services across the country by MNOs will also create opportunities for network vendors (Ibrahim, Haruna & Omeje, 2024).

In Tanzania, as of June 2023, Vodacom remains the leading mobile provider in Tanzania with a 30 percent market share of mobile subscriptions. Airtel and Tigo ranked second and third, respectively, firmly dividing the market between the three major companies. Tanzania's telecommunication sector revenue hit US$2.2 billion in 2023. Mobile money subscriptions in Tanzania reached 44.35 million subscribers last year. The total telecom service revenue in Tanzania reached USD 2.2 billion in 2023. The market is expected to grow at a CAGR of more than 4% during 2024 and 2028 owing to the rising contributions from mobile data and fixed broadband service segments (The Exchange report, 2024).

Local Performance of Telecommunication Firms

In Kenya, telecom market has witnessed strong growth in recent years and is expected to attain stronger growth over the forecast period to 2025 (PwC, 2023). However, Kenya's telecom market continues to undergo considerable changes in the wake of increased competition, improved international connectivity, and rapid developments in the mobile market. The total telecom service revenue in Kenya will increase at a CAGR of more than 2%, during 2023-2028 period, primarily driven by revenue growth in mobile data and fixed broadband segment. National Broadband Network with broadband targets to be achieved by 2030 in order to ensure 10 Mbps and 100 Mbps speeds for 100% and 80% of the population, respectively and Digital Initiatives aimed at deployment of fiber-optic network across underserved counties will be the market driver in the country.

The country is directly connected to a number of submarine cables. Mombasa is the landing point for LIT's newly completed East and West Africa terrestrial network, while Nairobi country serves as a key junction for onward connectivity to Ethiopia, the Arabian states, and the Far East. While the additional internet capacity has meant that the cost of internet access has fallen dramatically in recent years, allowing services to be affordable to a far greater proportion of the population, the telecom infrastructure remains woefully inadequate. Many millions of people lack any internet access, and what services are available are comparatively slow and expensive.

Statement of the Problem

While the Kenyan telecommunication sector has witnessed tremendous growth in the last decade owing to increased digitization, the market is dominated by a large company, with the closest competitor struggling to get a consistent customer base. Despite this scenario, the telecom infrastructure remains woefully inadequate and as a result, many millions of people lack any internet access, and what services are available are comparatively slow and expensive. For instance, Safaricom PLC announced a 22.2% decline in profits after tax for the financial year ended March 2023. However, revenue from their M-Pesa financial services platform rose by 16.5% due to higher usage, while revenue from mobile internet services increased by 12.5%. Safaricom posted a loss of 25 billion shillings in Ethiopia (Miriri, 2024). For Airtel Kenya, operating profit margins witnessed a fall and stood at 51.3% in FY23 as against 52.9% in FY22. In terms of quality of service, Airtel Kenya Networks Kenya Limited and Telkom Kenya Limited posted an overall performance of 79% and 65%, respectively, against a target of 80% (Communication Authority of Kenya [CAK], 2024).

Barreto (2019) argues that dynamic capabilities systematically solve problems, thus allowing the organization 'to make timely and market-oriented decisions, and to introduce innovative changes to the resource base

(Schilke 2018; Teece, 2020). The dynamic capabilities influence on firm performance has been a core issue among scholars. While the significant interlinkages between dynamic capabilities and performance have recently been conceptually acknowledged, little empirical research has investigated the dynamic capabilities and processes that are associated with this fit in the context of telecommunication firms. Zhou, Zhou, Feng, & Jiang, (2017) revealed a positive relationship between dynamic capabilities and firm innovation. Hsu & Wang (2019) found dynamic capability is a significant organizational asset that is directly correlated with firm innovative performance. Fatoki (2021) revealed dynamic capabilities show a positive effect on performance of hospitality firms in South Africa. This study sought to establish the effect of dynamic capabilities on the performance of telecommunication firms in Mombasa County.

General Objective

The general objective of the study was to establish the dynamic capabilities and performance of telecommunication companies in Mombasa County, Kenya.

Specific Objectives

i.   To establish the effect of sensing capability on performance of telecommunication companies in Mombasa County, Kenya.

ii. To determine the effect of innovation capability on organizational performance of telecommunication companies in Mombasa County, Kenya.

iii. To evaluate the effect of reconfiguration capability on performance of telecommunication companies in Mombasa County, Kenya.

iv. To explore the effect of seizing capability on performance of telecommunication companies in Mombasa County, Kenya.

LITERATURE REVIEW

Theoretical Review

This study is anchored on the following theories; Organizational learning theory, dynamic capabilities theory, performance maximization theory and Resource based view.

Organizational Learning Theory

Organizational learning theory was developed by Chris Agris & Donald Schon in 1978. It's based on the idea that people learn from their mistakes. "The process of detecting and fixing mistakes". The main reason for organizational learning is to adapt to an ever-changing business environment. Organizations want to meet customer needs, but trends and changing technologies influence its ability to keep up. The goal of organizational learning is to improve companies through knowledge management and understanding (Agris & Schon, 1978). It involves the systems and networks to facilitate knowledge creation and transfer within an organization (Schoenecker, & Swanson, 2016). Organizational learning theory describes R&D as a learnable activity and considers innovation a learning process (McKee, 1992). This description indicates that expertise may minimize new product failure rates (Booz, 1982) and increase the consistency of success relative to competitors (Cooper & Kleinschmidt, 1987). Nonetheless, the cumulative learning experiences entrenched in people require time to disperse, integrate, and assimilate at an organizational or "meta-learning" level (McKee, 1992), that is, the absorptive capacity of organizations is not merely the sum of its workers' existing knowledge (Cohen & Levinthal, 1990). This situation is particularly obvious when a company develops a varied technological portfolio in which certain R&D initiatives do not resemble their expertise. The significance of the knowledge and experience is reduced when a new endeavor is unrelated to previously learned knowledge (Cohen & Levinthal, 1990). The theory support innovation variable in the study

Dynamic Capabilities Theory

The Dynamic capabilities theory (DCT) was propounded by Teece, Pisano, and Shuen in 1990s and it is an extension of the RBV theory. The DCT theory suggests that firms should develop the ability to build, integrate, and reconfigure resources and competencies to achieve competitive advantages (Gerulaitiene *et al.*, 2020). According to Chien and Tsai (2021) dynamic capability is the firm's ability to integrate, build and reconfigure internal and external competencies to address the rapidly changing environments (Bag, Gupta, & Kumar, 2021). Based on this conceptualization, scholars argue that dynamic managerial capabilities are a form of dynamic capabilities concerned with the role of managers in refreshing and transforming the resource base of the firm so that it maintains and develops its competitive advantage and performance (Ambrosini & Altintas, 2019; Mostafiz *et al.*, 2021). The DCT theory is concerned with how firms can sustain and enhance their competitive advantage, notably when facing changing environments (Chatterjee, Chaudhuri, & Vrontis, 2021). The DCT theory is a useful theoretical framework to understand how dynamic managerial capabilities contribute to firm performance (Mostafiz, 2020). The theory supported seizing capability and sensing capability variables in the study.

Performance Maximization Theory

Performance Maximization Theory arguesd that optimum production is the result of using the best output and price levels that maximize return. The implementation of this theoretical model can be beneficial to a company while also having an effect on customers when that organization decides to raise commodity prices in order to maximize returns (Al-Hawar, 2014). Benefit maximization is the sole goal of companies, according to traditional economics. As a result, traditional theories are based on benefit maximization. It is regarded as an organization's most rational and profitable business goal. Besides that, profit maximization aids in predicting business behavior as well as the impact of various economic variables, such as price and output, in various market conditions (Kaushik & Rahman, 2015). This theory has faced criticism mainly because of its assumptions. The profit maximization theory, for example, means that businesses are guaranteed of their maximum revenue. Profits, on the other hand, are very unpredictable because they are calculated based on the difference between future sales and expenses. Consequently, it is intolerable for businesses to increase profits in unpredictable times (Dabholkar, 2016). Furthermore, the firm's goal has little to no bearing on how the company is organized internally. For example, some managers seem to spend more than is necessary to increase the wealth or income of the firm's owners. They are found to place a premium on the firm's overall assets and profits as managerial priorities (Rishi & Saxena, 2014). The theory links with dependent variable, performance, in the study.

Resource Based Theory

The Resource Based Theory suggests that dynamic managerial capabilities form the basis for differential firm performance (Barney 2018; Khan *et al.*, 2020; Huy & Zott, 2019; Mostafiz *et al.*, 2021). Scholars argue that the RBV theory of the firm posits that firms gain competitive advantage through bundles of valuable and rare resources and sustain that advantage over time when such resources are difficult to imitate or non-substitutable by competitors (Gupta, Modgil, Gunasekaran, & Bag, 2020). The Resource Based Theory has two critical assumptions which are that resources must be heterogeneous and immobile. In this case, the first assumption is that capabilities, skills and other resources possessed by the firm differ from one firm to the other (Barney, 1991). For instance, if the firms could possess similar amount and mix of resources, they could not come up with varying strategies to compete with one another because what one firm can accomplish the other can too hence no competitive advantage can be realized. Resource based view theory assumes that competitive advantage can only be achieved by firms who can use different set of resources. Secondly, the RBV assumes that the resources possessed by firm are immobile and cannot be moved from one firm to the other. This immobility of resources makes it difficult for the organizations to copy competitors' resources hence failure to come up with similar strategies (Müller & Jugdev, 2012). Under the resource-based view of the firm, dynamic capabilities (DCs) might be a fundamental source of competitive advantage, as they develop resources and capabilities having an effect on organizations' competitiveness and performance (Barney, 1991; Fainshmidt et al., 2016). The theory is appropriate in explaining reconfiguration capabilities in telecommunication firms.
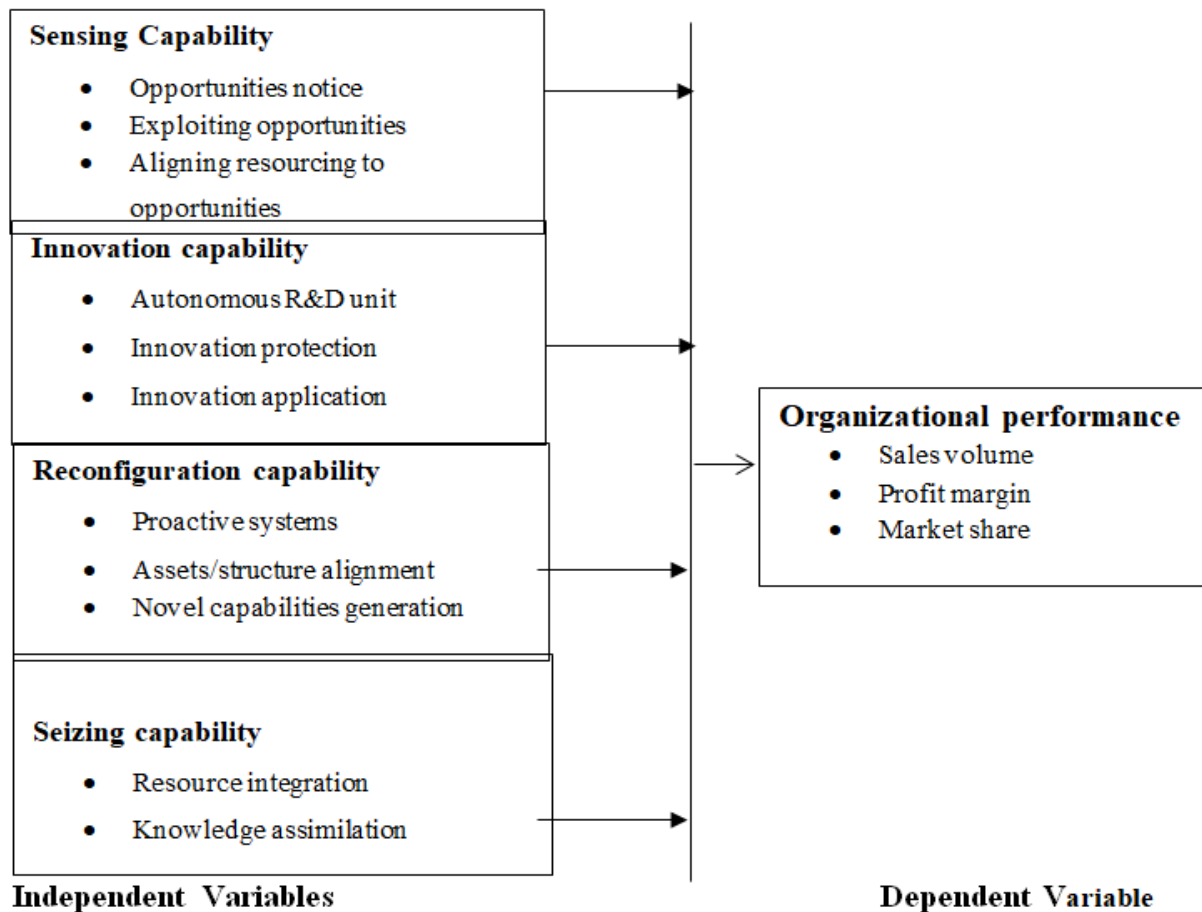
Conceptual Framework

Figure 2.1: Conceptual Framework

Empirical Literature Review

Pundziene, Nikou and Bouwman (2021) researched on the nexus between dynamic capabilities and competitive firm performance. Drawing on the theory of dynamic capabilities, we developed a framework as a way to better understand the role of open innovation, which could then help to better explain the relationship between firms' dynamics capabilities and their competitive firm performance. Based on the empirical data of 465 firms operating in innovative and non-innovative industries, we employed structural equation modelling (SEM) to examine the research hypotheses and the path relationships in the proposed model. The SEM analysis revealed that a firm's dynamic capabilities significantly impact its open innovation performance and that open innovation, consequently, impacts the competitive performance of the firm.

Fainshmidt, Pezeshkan, Frazier, Nair, and Markowski (2017) assessed dynamic capabilities and organizational performance. First, the study evaluated the two core theoretical tenets of the DCV: Dynamic capabilities are positively related to performance, and this relationship is stronger in industries with higher levels of technological dynamism. We find support for the former (r 5 0.296) but not for the latter, though results suggest the existence of moderators. Abou Kamar, Albadry, Sheikhelsouk, Al-Abyadh, and Alsetoohy (2023) assessed dynamic capabilities influence on the operational performance of hotel food supply chains. The model is tested using survey data from 160 five- and four-star hotel managers in Egypt and the findings of structural equation modeling. The findings support the proposed model and reveal a positive effect of total dynamic capabilities and the four dynamic capabilities (i.e., collaboration, integration, agility, and reconfiguration) on the operational performance of hotel food supply chains through the mediating role of supply chain resilience.

In Spain, Camisón-Haba, Clemente-Almendros, and Gonzalez-Cruz, 2019) showed that dynamic managerial capabilities are not only determinants for the generation of competitive advantage, but are also significant determinants of superior performance in industrial firms in Spain. The researchers concluded that dynamic

managerial capabilities can be a source of competitive advantage that produce superior performance. Drawing from the resource-based view (RBV) theory, Khattak and Hassan (2019) investigated the impact of management capabilities on financial performance in in small and medium enterprises in the emerging economy of Pakistan. Regression results indicated that management capabilities had positive and significant influence on the on financial performance. In Mexico, drawing on the dynamic capability theory, Treviño and Cantú (2020) focused on the importance of dynamic managerial capabilities on the performance of small family businesses in Mexico. After testing the hypotheses using a structural equation model, results indicated that a positive significant relationship was found between dynamic managerial capabilities and firm performance. Mostafiz (2020) asserted that entrepreneurs should have higher magnitude of dynamic managerial capabilities to increase their abilities to bootstrap resources, which leads to better dominant logic in order to attain superior performance.

In Uganda, Ogola, Marjery, and Bagire (2021) explored the relationship between managerial capabilities and strategic business success in the petroleum industry in Uganda. Based on a quantitative survey data of 186 licensed petroleum companies *in* Uganda, findings indicated that managerial capabilities have positive and significant relationship with strategic business success. Regression results also indicate leadership partially mediated the relationship between managerial capabilities and strategic business success in Uganda. Based on a qualitative analysis of 10 enterprises, Rwehikiza, Charles, and Rutashobya (2019) examined the drivers of managerial capabilities of grain milling firms in Tanzania. The study revealed the key drivers of dynamic managerial capabilities of grain milling firms being owner-manager's serial and portfolio business activities, manager's accumulated experience, manager's formal training, ethnic and family attachments, firm size, firm performance feedback, organizational climate, position held, incubation hubs and nature of the subsector.

Oliver (2018) looked at dynamic capabilities and superior firm performance in the UK media industry. This paper examines the theory of 'dynamic capability' in two UK television broadcasters, BskyB and ITV, and their attempts to transform themselves into multi-product, multi-platform media companies. This research used a multi-method approach. Return on Capital Employed (ROCE) was used as an overall measure of corporate performance as it reflects the assets used by the company to generate profit. Using Comparative Financial Analysis and Content Analysis in a time series, this paper illustrates how the strategic management of media firms can be significantly different for two companies operating in the same sector. Zhou, Hu, Yu, Zhang and Zheng (2022) investigated the influence of IT capability on collaboration and resilience within the supply chain. The empirical study sought cross-sectional data from Chinese real estate sector firms. Analysis reveals a significant association between IT capability and external resilience, while IT capability positively impacts both internal and external resilience. The study affirms that firms taking in a lot of raw material can become more resilient through a focus on improving IT integration and building IT competencies among staff to enhance supply chain resilience hence ensure timely completion of projects.

Gyemanga and Emeagwali (2020) investigated the roles of dynamic capabilities, innovation, organizational agility and knowledge management on competitive performance in telecommunication industry. The study used the survey data from 70 firms in the telecommunication industry in Nigeria. The sample for the study was mainly focused on the telecommunication companies in Nigeria. The survey was administered to high hierarchy executives within the firm since they are more familiar with strategic aspect of the business. A comprehensive list was compiled from the Nigerian Communication Commission, which includes 162 license working telecommunications companies, 70 firms from the list agreed to partake in this survey. Data was collected by means of a questionnaire administered in person to all respondents. Partial Least Square approach of Structural Equation Model (PLS-SEM) was used to examine the research hypothesis. The research results suggest that dynamic capabilities were positively related to both organizational agility and competitive performance. Protogerou, Caloghirou and Lioukas (2021) researched dynamic capabilities and their indirect impact on firm performance. The study's population was drawn from a database listing large and medium-sized Greek manufacturing firms. It includes 1400 firms from almost all sectors which had an annual turnover exceeding 3 million Euros in 1999. The population selection was based on a cross-sectoral approach to ensure sufficient sample size and generalizability of results. The study conducted face-to-face interviews using a structured questionnaire. Empirical findings suggest that dynamic capabilities impinge on operational capabilities which in turn have a significant effect on performance.

RESEARCH METHODOLOGY

Research Design

This study was based on descriptive research design (Stavrum, 2021). The study adopted a descriptive research approach, because data was collected through survey from a population at one specific point in time.

Target Population

Target population was 37 firms consisting of 35 registered tier 1 and tier 2 network facilities provider in Mombasa County, Kenya. Mombasa County is the second largest county in Kenya and all these 37 firms have operations there. The unit of observation was the management staff drawn from operations, engineering, R&D, and technical support which gives a total of 148 staff.

Table 1: Target Population

Strata	Target Population	Sample Size
Operations	37	27
Engineering	37	27
R&D	37	27
Support	37	27
Total	**148**	**108**

Source; CAK (2024)

Sample and Sampling Technique

The study adopted simple random sampling due to the heterogeneous nature of the sample and ensure there is equal representation of all the senior management from the target 37 telecommunication companies in Kenya. The research adopted Slovin's formulae to arrive at the study sample as indicated below.

$$n = \frac{N}{1+N(a)^2} = \frac{148}{1+148(0.05)^2} = 108$$

Where:

N = Total population

n = Sample population

α = Sampling error which is 0.05

Data Collection Methods and Collection Procedure

The study employed a structured questionnaire to collect primary data from the participants. Questionnaires are research instruments used to collect information geared towards addressing specific objectives (Kombo & Tromp, 2013). The questionnaire items were scaled on a five-point Likert scale. The close-ended Likert rating scaled the items on (5, 4, 3, 2 and 1) where 5-strongly disagree, 4-disagree, 3-neutral 2-agrees and 1-strongly agree.

A pilot study was administered in order to test for validity, reliability and practicability of the research instruments (Kothari, 2014). Fifteen respondents were used to study pilot test and they were drawn from Viasat Kenya Limited in Nairobi. Validity Test was conducted by the research supervisor and experts as proposed by Kothari (2014) and Bartlett's Test of Sphericity and the results suggest that the data was suitable for factor analysis. Reliability Test was conducted using Cronbach alpha score and all constructs scored a Cronbach alpha greater than 0.7 thus the instrument was reliable and it was adequate for data collection.

The multiple linear regression model was used as follows;

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$$

Where:

Y is organizational performance

α is regression constant

β is regression coefficients

X_1 is Sensing capability

X_2 is Innovation capability

X_3 is Reconfiguration capability

X_4 is Seizing capability

Ɛ is error term

Data Analysis, Presentation and Interpretation

Validity Results

The study adopted both content validity and construct validity of the questionnaire. Content validity was assessed using expert opinion i.e., supervisor opinion (s) was sought with the view of incorporating their views, criticisms, and/or suggestions in modeling the questionnaire for use in the collection of data for the main study.

Reliability Results

Table 2: Reliability Results

Variables	N of Items	Cronbach's Alpha	Comments
Sensing capability	6	0.751	Accepted
Innovation capability	5	0.720	Accepted
Reconfiguration capability	4	0.711	Accepted
Seizing capability	4	0.779	Accepted
Organizational performance	3	0.801	Accepted

All the constructs score above 0.7 score and this implied that the scale used in this study was reliable and it was adequate for data collection.

Descriptive Analysis of Study Variables

Descriptive analysis was conducted on the study variables to check the mean and standard deviation. The results are presented in the following tables.

Sensing Capability

Table 3: Sensing Capability

	N	Mean	Std. Deviation
We frequently scan the environment to identify new business opportunities	99	3.56	.992
We devote a lot of time implementing ideas for new products and improving our existing products	99	3.36	1.156
Our company is fast in detecting major changes in our industry (e.g., competition, technology, regulation)	99	3.51	.896
We often review the possible influence of changes in our operating environment (e.g., government regulation) on customers	99	3.52	1.034
We often review our product development efforts to ensure they are in line with what the customers want.	99	3.31	1.027

The results indicated that respondents slightly agreed that scanning capability affected performance of telecommunications firms (mean = 3.45, std. dev = .992-1.034). The results are supported by Kurtmollaiev, Fjuk, Kvale & Pedersen (2018) who asserted that supply empirical evidence of the pivotal role sensing capability in boosting service innovation.

Table 4 Innovation Capability

	N	Mean	Std. Deviation
The company has autonomous research and development unit	99	3.95	.691
The company adopt the best practices in our sector	99	3.36	1.035
We are effective in developing new knowledge that has the potential to influence product development	99	3.40	.989
We are effective in transforming innovation to applications	99	3.22	1.174

The results show that respondents slightly agreed to the great extent that innovation capability affects performance of telecommunications firms (mean = 2.78 rounded to 3.0 SD .61-1174). The results agree with Pundziene, Nikou and Bouwman (2021) whose study revealed that open innovation, consequently, impacts the competitive performance of the firm.

Reconfiguration Capability

Table 5 Reconfiguration Capability

	N	Mean	Std. Deviation
We can successfully reconfigure our resources to come up with new productive assets	99	3.27	1.096
We have effective routines to identify, value, and import new information and knowledge	99	3.35	1.215
Our employees bring about changes that are outside their available capabilities	99	3.19	1.104
Our workers effectively identify priced capability elements, connect, and combine them in to new ways	99	3.23	1.292
We ensure the appropriate allocation of resources within our group	99	3.19	1.226

The results show that respondents slightly agreed that reconfiguration capability affects performance of telecommunications firms (mean of 3.25 rounded off to 3 SD 1.096-1.292). The study findings agree with Abou Kamar, Albadry, Sheikhelsouk, Al-Abyadh, & Alsetoohy (2023) who revealed a positive effect of total dynamic capabilities and reconfiguration on the operational performance of hotel food supply chains through the mediating role of supply chain resilience.

Seizing Capability

Table 6: Seizing Capability

	N	Mean	Std. Deviation
The organization has integrated resources	99	3.68	1.008
The financial flow in the organization has been fully integrated	99	3.28	1.152
The cutting edge technology has been integrated in the organization	99	3.12	1.206
The customer needs and firm capabilities are integrated in the organization	99	3.27	1.114

The results shown that respondents slightly agreed that seizing capability affects performance of telecommunications firms (mean= 3.34 SD 1.008-1206) 68).

Organizational Performance

Table 7: Organizational Performance

	N	Mean	Std. Deviation
The firms sales volume has significantly increased over the last five years	99	2.90	.931
The firm has registered increased profit margin	99	3.23	1.132
The firm's market share has significantly increased in the last five years	99	3.10	1.225

The results revealed that respondents slightly agreed that dynamic capabilities affect the performance of telecommunications firms and that their performance had slightly increased (Mean=3.08 SD .931-1.25).

Correlation Analysis Results

Table 8: Correlation Results

		SeC	IC	RC	SC	OP
Sensing capability	Pearson Correlation	1				
	Sig. (1-tailed)					
	N	99				
Innovation capability	Pearson Correlation	.418	1			
	Sig. (1-tailed)	.021				
	N	99	99			
Reconfiguration capability	Pearson Correlation	.176*	.276	1		
	Sig. (1-tailed)	.041	.028			
	N	99	99	99		
Seizing capability	Pearson Correlation	.182*	.358	.255	1	
	Sig. (1-tailed)	.036	.057	.093		
	N	99	99	99	99	
Organizational performance	Pearson Correlation	.459	.417*	.264	.121	1
	Sig. (1-tailed)	.010	.013	.035	.017	
	N	99	99	99	99	99
*. Correlation is significant at the 0.05 level (1-tailed).						

From the correlation results, it can be deduced that sensing capability, innovation capability, reconfiguration capability and seizing capability positively and significantly affects the performance of telecommunications firms in County. This implies that an improvement in sensing capability, innovation capability, reconfiguration capability and seizing capability leads to increased performance of telecommunications firms in Mombasa County.

Multiple Linear Regression Analysis Results

Model Summary

Table 9: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.638[a]	.408	.317	.63309
a. Predictors: (Constant), Seizing capability, Innovation capability, Reconfiguration capability, Sensing capability				

The regression results showed a moderate regression between the study variables. In the model summary, the R^2 is 0.408 indicating that predictors explain 40.8 per cent change in organizational performance of telecommunication firms in Kenya while the remaining 59.02 can be explained by factors outside this study.

Analysis of Variance (ANOVA)

Table 10: Analysis of Variance

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	16.287	4	4.072	16.158	.031[b]
	Residual	23.675	94	.252		
	Total	39.962	98			
a. Dependent Variable: Organizational performance						
b. Predictors: (Constant), Seizing capability, Innovation capability, Reconfiguration capability, Sensing capability						

The results indicate that the model was statistically significant in predicting the relationship between the study variables.

Multiple Linear Regression Coefficients

Table 11: Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.858	.905		2.053	.043
	Sensing capability	.121	.055	.014	2.200	.031
	Innovation capability	.304	.132	.231	2.295	.024
	Reconfiguration capability	.104	.039	.082	2.667	.012
	Seizing capability	.131	.057	.028	2.298	.021
a. Dependent Variable: Organizational performance						

From the regression results, it can be deduced that dynamic capabilities affects performance of telecommunications firms in Kenya. This implies that an improvement in sensing capability, innovation capability, reconfiguration capability and seizing capability leads to increased performance of telecommunications firms. As a result, all the null hypotheses were rejected since dynamic capabilities have been found to positively and significantly affect the performance of telecommunication companies in Kenya.

The derived model was;

Organizational performance = 1.858 + .121 Sensing Capability + .304 Innovation Capability + .104 Reconfiguration Capability +.131 Seizing Capability

CONCLUSION AND RECOMMENDATIONS

Conclusions

From the findings, the study concluded that

i. Sensing capability positively and significantly affect the performance of telecommunication companies in Kenya.

ii. Innovation capability positively and significantly affect the performance of telecommunication companies in Kenya.

iii. Reconfiguration capability positively and significantly affect the performance of telecommunication companies in Kenya.

iv. Seizing capability positively and significantly affect the performance of telecommunication companies in Kenya.

Recommendations

From the conclusions, the study recommends;

i. The management should enhance their sensing capability so as to increase the performance of telecommunication companies in Kenya.

ii. The management should invest in innovation capability so as to increase the performance of telecommunication companies in Kenya.

iii. The management should enhance their reconfiguration capability so as to increase the performance of telecommunication companies in Kenya.

iv. The management should enhance their seizing capability so as to increase the performance of telecommunication companies in Kenya.

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