

**INFLUENCE OF ORGANISATIONAL INNOVATIONS TOWARDS CRISIS
MANAGEMENT: CASE STUDY OF SAFARICOM KENYA LIMITED,
NAIROBI COUNTY**

JOSEPH WACHIRA MUIRU

A Thesis submitted in partial fulfillment for the Degree of Master of Business

Administration (Strategic Management)

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DECLARATION

Declaration by the Candidate

This thesis is my original work and has not been presented for a degree or any other award in any other University.

Signature Date

JOSEPH WACHIRA MUIRU

REG NO BUS-3-1793-1/2021

Declaration by the University Supervisor

This thesis has been submitted with our approval as University Supervisors.

Signature Date

Dr. Vivian Cherono

School of Business and Economics, Kenya Methodist University

Signature Date

Mr. Samuel Muli

School of Business and Economics, Kenya Methodist University

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DEDICATION

This thesis is dedicated to my family who provided me with an environment that allowed me to do the work. The researcher cannot ignore the unwavering moral support they provided.

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Thanks to God for using His might to give me the ability to do this task. I want to thank my supervisors, Dr. Vivian Cheronno and Mr. Samuel Muli for their support, wisdom, and patience as I wrote this thesis. Your encouragement inspired me and helped me learn more about this research. Special thanks to members of staff of the school of education, KEMU University for their patience, correction, and input in the study. I am quite appreciative of my family's support and encouragement.

ABSTRACT

Organizational innovations and crisis management have many commonalities. A crisis can take on a variety of forms. A crisis can force a company out of business if it is not handled effectively. The overall goal is to study to investigate the influence of organizational innovations on crisis management at Kenya's Safaricom PLC. The specific objectives were to: determine the influence of top management leadership innovation for innovation on crisis management; establish the influence of product innovations on crisis management; find out the influence of market innovations on crisis management; and determine the influence of process innovations on crisis management at Safaricom PLC Kenya. This study is supported by both the resource-based view theory and the dynamic capability theory. The study's target population consisted of 111 Safaricom Kenya workers from various departments. Thirty three employees, or 30% of the target group, made up the study sample. A structured questionnaire served as the study's data-collecting tool. The data was coded and then examined using the statistical package for social sciences (SPSS) version 25 application. The data were examined using both descriptive statistics (frequency, means, and percentages) and inferential statistics such as regression analysis. In order to display the findings, graphs, and tables were used. The study found that senior management commitment or leadership did not substantially predict effective crisis management. Product innovation was shown to be a highly significant antecedent of crisis management. Process innovations contributors to crisis management. The research also revealed that market innovations were strong crisis management predictors. Following these findings, the study is recommended as follows. The senior management team should think about putting measures in place to make sure that crisis management practices that encourage innovations are promoted and used. The senior management group at Safaricom PLC has to consider investing in research and development (R & D) in order to create effective product innovation strategies that concentrate on enhancing product performance and product quality in times of crisis. In order to improve effective crisis management, the management of Safaricom PLC might think about conducting update training for its process innovation personnel. The management of Safaricom PLC should consider strengthening the market innovation strategy. Market innovators need to be empowered so as to be able to critically analyze the causes of the existing equilibrium during crisis and carefully deconstruct it. The research can assist Safaricom Kenya Limited in developing long-term planning policies.

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ABBREVIATIONS AND ACRONYMS

CDMA	Code Division Multiple Access
CEO	Chief Executive Officer
COVID	Corona Virus Disease
GSM	Global System for Mobiles
ICT	Information and Communication Technology
IT	Information Technology
KPTC	Kenya Posts and Telecommunications
NPD	New Product Development
R&D	Research and Development
SMEs	Small and Medium Enterprises
WHO	World Health Organization

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

In today's global labor market, organizations face increasing complexity and unpredictability, making them vulnerable to low-probability, high-impact crises (Głodziński & Marciniak, 2016). One such crisis has been the COVID-19 pandemic, which has caused severe disruptions across various industries. To effectively address such unforeseen and major challenges, organizations must adopt crisis management techniques (Corsini et al., 2021; Ferrigno & Cucino, 2021). From a global perspective, organizations face increasing complexity and must embrace innovation to manage crises effectively.

Innovation is a critical driver of success and sustainability for organizations worldwide, and it is an essential component of crisis response plans (Alharbi et al., 2019). The telecommunications industry, in particular, has been at the forefront of innovation, continuously advancing with technologies like IoT, 5G networks, AI, cloud computing, cybersecurity, and communication formats (Husami, 2022). The COVID-19 pandemic and increased global connectivity have presented telecom companies with opportunities to expand their customer base and introduce innovative products and services (Edgar, 2022).

Sub-Saharan Africa's population will be made up of 45% women by the end of 2019. Mobile service subscribers numbered 477 million. The local mobile market will pass many noteworthy milestones over the next five years, including a half-billion mobile subscribers in 2022. One billion mobile connections are expected by 2024, and by

2025, 50% of consumers will be subscribers (GSM Association, 2020). Sub-Saharan Africa has witnessed significant growth in the mobile service sector, with a projected 477 million subscribers by the end of 2019 (GSM Association, 2020).

One of the most important and complex issues that commercial firms must deal with is organizational innovation. This is due to the fact that research has demonstrated that innovation has a significant influence on the success and sustainability of a business (Alharbi et al., 2019). This improves adaptability and creativity, which promotes the creation of technical advancements (Monson, 2017). Plans for crisis response must include innovative organizational practices as a necessary component. In this constantly changing world, the telecommunications industry has not lagged behind, as it continues to undergo advancements on an annual basis.

Effective crisis management requires competent leadership. Senior leaders must identify environmental changes; introduce novel strategies, and spot risks to enhance organizational performance (Hughes et al., 2018). To succeed in crisis management, leaders must possess specialized talents to foresee, handle, and resolve future challenges that threaten the organization's viability (Al-Omari et al., 2020). Leadership commitment to innovation is crucial. Top management can demonstrate this by establishing a direction for innovation, allocating resources, defining structures, and fostering a culture that supports innovative activities (Wu et al., 2021).

Notably, In Ghana, telecom companies have developed mobile applications and SMS-based platforms for crisis communication and emergency response, as identified by Asamoah & Boateng (2019). These tools serve as effective means for disseminating vital information to subscribers during various crises, including natural disasters and public health emergencies. Additionally, these companies have adopted remote work and digital collaboration tools, (Fosu et al., 2020), enhancing both business continuity and adaptability when responding to rapidly evolving situations. Furthermore, their investments in renewable energy solutions (Owusu & Antwi), contribute to ensuring uninterrupted service delivery, particularly in remote areas, thus reducing dependency on conventional power sources and bolstering the resilience of telecom infrastructure during crises.

Nigeria boasts the world's most robust platform for idea dissemination, supported by a substantial consumer base in Africa of 149.2 million people (Nigerian Communication Commission [NCC], 2017). This burgeoning subscriber base has consistently yielded substantial benefits for businesses, with telecommunications contributing significantly to the nation's Gross Domestic Product (GDP), accounting for 9.1% of it (Shaffer et al., 2018). Recent years have seen Nigerian telecommunications companies embracing organizational innovations for crisis management, such as the establishment of dedicated crisis management teams and protocols (Adesegun, 2019; Obi & Amponsah-Tawiah, 2020). These teams vigilantly monitor global and local developments, particularly during crises like the COVID-19 pandemic, devising strategies to mitigate risks and ensure business continuity. Furthermore, investments in advanced data analytics and AI-based tools for predictive analysis have enabled early crisis detection and proactive decision-making

(Akanbi et al., 2021). Cybersecurity has also taken center stage, with Nigerian telecom companies implementing cutting-edge security solutions to safeguard their networks and customer data, recognizing cyber threats as a significant source of crises in the digital age (Akande et al., 2021).

In Uganda, Kenya, and Tanzania, due to the development of mobile technology, there are already 70.98 million consumers worldwide, or more than 58% of their entire population. There are 15 million, 29.2 million, and 26.8 million customers in each of the three nations, respectively. 74% of the population of Kenya, Tanzania, and Uganda all use mobile services, with Kenya having the greatest penetration rate at 62 percent and 42.4%, respectively (Golparvar-Fard, 2015).

In Kenya, the telecommunications industry has undergone significant growth and transformation. It has played a crucial role in bridging the digital divide and increasing access to communication services across the country. The COVID-19 pandemic has highlighted the importance of a robust telecom infrastructure, enabling remote work, e-learning, and digital healthcare services. Local research and development initiatives in Kenya are essential for addressing specific challenges and opportunities within the telecommunications sector. Leaders in Kenyan telecom companies need to demonstrate effective leadership and commitment to foster innovation (Wu et al., 2021). They should allocate resources, define structures, and promote a culture that supports innovative activities, ensuring the sector's continued growth and resilience.

Innovation in processes, such as improved production techniques, cost savings, and better customer service, is vital for the local telecom industry (Dwivedi, 2020).

Moreover, advancements in ICT play a crucial role in enhancing the efficiency and quality of support activities like purchasing, accounting, and maintenance (Kylliäinen, 2022).

Kenya, like many African countries, is part of the global telecom landscape, benefiting from the broader trends in the industry. As the world witnesses developments in IoT devices, 5G networks, AI, cloud computing, and cybersecurity (Husami, 2022), Kenyan telecom companies have opportunities to adapt and thrive in this changing landscape (Edgar, 2022). This means that local leadership and process innovation are essential for the sector's growth and sustainability in Kenya. The telecommunications sector plays a pivotal role in connecting people and driving innovation, especially in response to global challenges like the COVID-19 pandemic.

Kenya's mobile market has shown remarkable progress, with 15 million customers and a 74% population penetration rate for mobile services (Golparvar-Fard, 2015). The ability of companies in Kenya to innovate and adapt to market changes has proven vital, especially during times of crisis like the COVID-19 pandemic (De Ramos, 2022). Research indicates that research and development (R&D)-intensive businesses in the region were better equipped to withstand the pandemic's impact compared to non-R&D-intensive businesses (De Ramos, 2022).

In Kenya, three mobile service providers: Airtel Kenya Limited, Safaricom Limited and Telkom Kenya Limited control a large portion of the country's communications business. The major services offered are simple phone and text messages, or SMS, with data, facsimile, voicemail, and electronic mail being supplied to a lesser extent.

Through organizational improvements, Safaricom has developed into the region's current giant in the East African continent. There were 46.35 million data users and 29.15 million broadband subscribers, correspondingly, when the financial year 2021–2022 that ended in December 2021 was in its second quarter. Kenya's ICT regulator Communications Authority reports that there were 28.36 million combined 3G and 4G customers during the study period (Abuya, 2022).

Table 1. 1

Summary of Market Share for Fixed and Mobile Broadband Coverage

Data Service Provider	Subscriptions	Market share (%)
Truth Wireless	600	0.1
Telkom Kenya	4.4K	0.6
Others	4.4K	0.6
Dimension Data	11.1K	1.4
Mawingu	11.4K	1.4
Liquid	14K	1.8
Poa!	71K	9.0
JTL	157K	19.7
Wananchi Group	229K	28.7
Safaricom	293K	36.8

The industry has a market structure that is unique in terms of technology and services, with There are many service categories that are individually licensed as infrastructural or facility public telecommunications service providers and as none facility telecom operators. The Communications Commission of Kenya's list of approved operators also includes VoIP-using IBGOs like Access Wireless Ltd., Jamii Telecom Ltd., Flashcom Ltd., wireless LLOs like Popote Wireless Ltd., and and PDNOs like Kenya Data Network.

Safaricom Limited, a leading Kenyan telecommunications company, offers a broad range of communication and mobile financial services. Established in 1997 and headquartered in Nairobi, it has become the largest telecommunications provider in Kenya with a significant market share. Safaricom's renowned flagship product, M-Pesa, has transformed Kenya's financial landscape by providing mobile money services for sending and receiving money, bill payments, and various financial transactions, empowering millions previously unbanked. The company's commitment to innovation, customer-centricity, and extensive network coverage has fueled its continued growth and dominance in Kenya's telecommunications industry (Safaricom Company Limited, 2022).

Safaricom Limited as a division of KPTC was established in April 1997 to offer mobile phone services. In order to create a joint venture business, Vodafone Plc Group of the UK purchased 40% of the shares on May 26, 2000, leaving TKL with 60%. (Safaricom Limited, 2021). Through Vodafone Kenya Ltd., Vodafone transferred 5% of its stock to Mobitelea Ventures Ltd., an offshore company with Guernsey Island registration. (The East Africa, 20-26 November 2006; Daily Nation,

9 March 2007; 10 August 2007). The company's goal is to "be Kenya's mobile communication leader" by making users' lives better and encouraging greater mobile connectivity across communities, businesses, and individuals. The company's guiding principles are customer pleasure, employee happiness, individual and group accomplishments, and CSR (Safaricom Company Limited, 2022).

The aggressive marketing tactics used by Safaricom and the availability of its products in regions with no competing competitors (Abuya, 2022). A crisis in an organization can be both dangerous and advantageous. The business philosophy at Safaricom is to be conscious of the risk and see the opportunity. A business model includes value capture, value creation and delivery procedures, which demonstrate how organizations make money by providing their value offerings. Businesses may give customers with the value offer by using value development and delivery methods to obtain a competitive edge (Baldassarre et al., 2017).

Whereas data is progressively getting to be the foremost crucial figure for trade organizations, data innovation is becoming popular due to its perceived influence on the performance of firms (Mithas et al., 2011). Smart data, specifically, is present of concern for both professionals and analysts. Considering the differences in data innovations and their usefulness to trade firms, theorizing the impacts of IT capability as a common principle on trade execution, does not satisfactorily address the potential for smart data to impact organizations. Smart data is beneficial because

commercial enterprises have realized the value generated by a firm utilizing smart data (Boyd & Crawford, 2012).

As a result of the fierce competition in Kenya's telecommunications industry, Safaricom has made the sensible decision to concentrate on organizational innovation as a way to differentiate itself from rivals by providing services and goods that are distinctive and meet fresh customer expectations (Kanyingi, 2018). Investment is also directed at transforming innovation into a crisis management tool. In order to better meet the demands of its customers and the general public, Safaricom is eager to expand the scope of its innovative problem-solving approach (Safaricom Company Limited, 2022).

The Chief Business Development Officer post was added thanks to a restructuring of our Strategy and Innovation Division by Safaricom Ltd in the 2019 fiscal year. Currently, there are five teams that make up the Business Development Division: Market Research, Strategy, Consumer Insights, Innovation, Big Data and Analytics, and Regional Growth. These are regarded as valuable resources for crisis management. Whether the organizational innovations used at Safaricom help to efficient crisis management is vital to ascertain (Safaricom Company Limited, 2022). In order to give communities with timely early warnings for catastrophes and lessen their negative consequences, the organization launched an SMS-based information platform in conjunction with the Kenya Red Cross Society in 2018. All Safaricom customers had access to the M-Salama platform. In order to help users make quick

decisions on how to avoid danger, the program provides information on approaching or upcoming natural calamities like floods, famine, and drought (Wasonga, 2018).

1.2 Statement of the Problem

Organizations must be well-prepared to survive and thrive during and after crises, necessitating the adoption of innovative organizational strategies. Fresh strategic plans focused on process improvements and execution is crucial for maintaining a competitive edge in the ever-changing and highly competitive telecommunications sector. The telecommunications industry, given its global competition and dynamic market environment, greatly benefits from innovations, and Safaricom, one of Kenya's largest businesses, must prioritize innovation to meet customer demands and stay ahead of emerging technologies (Ngugi & Mutai, 2014). Despite extensive research on the relationship between organizational innovations, organization performance, and growth, limited emphasis has been placed on how these innovations impact crisis management in the Kenyan telecommunications industry (Letangule & Letting, 2012). Studies by Njoroge et al. (2016) indicate positive effects of innovations on operational effectiveness for Kenyan telecom providers, but there is a gap in research on the specific link between organizational innovations and crisis management in this context.

While existing research has explored the relationship between organizational innovations, organizational performance, and growth, there exists a significant research gap concerning the specific role of organizational innovations in crisis management within the telecommunications sector, particularly in the context of Safaricom, one of Kenya's largest telecommunications businesses. Safaricom's importance in the industry necessitates a deeper understanding of how organizational innovations impact its crisis management capabilities. This means that there is limited research focusing on innovative organizational strategies as crucial elements of crisis management in the Kenyan telecommunications industry, with specific emphasis on Safaricom Limited.

As a highly dynamic and competitive sector, the telecommunications industry relies on innovation to meet evolving customer demands and stay ahead of emerging technologies (Ngugi & Mutai, 2014). While studies have indicated positive effects of innovations on operational effectiveness for Kenyan telecom providers (Njoroge et al., 2016), the specific link between organizational innovations and crisis management in this context remains underexplored. Consequently, a comprehensive study investigating the impact of organizational innovations on crisis management, both at Safaricom and within the broader Kenyan telecommunications landscape, is essential to ascertain how these strategies can enhance resilience and maintain competitiveness during times of crisis. Innovation is highlighted as a crucial strategic goal for Safaricom to keep up with emerging technologies, customer products, and demands. Therefore, a study investigating the impact of organizational innovations on crisis management at Safaricom and in the wider Kenyan telecommunications context is necessary to better understand how these strategies can enhance resilience and competitiveness during times of crisis.

1.3 Research Objectives

1.3.1 General Objective

The general objective was to examine the influence of organizational innovations on crisis management at Safaricom Public Limited Company Kenya, Kenya.

1.3.2 Specific Objectives

The specific objectives of the investigation were:

- i. To determine the influence of top management innovation for innovation on crisis management at Safaricom Public Limited Company

- ii. To establish the influence of product innovations on crisis management at Safaricom Public Limited Company innovation strategies
- iii. To find out the influence of market innovations on crisis management at Safaricom Public Limited Company
- iv. To determine the influence of process innovations on crisis management at Safaricom Public Limited Company

1.4 Research Hypotheses

The following were the research hypotheses of the study.

- Ho₁ Top management innovation does not have a statistically significant relationship with crisis management at Safaricom Public Limited Company.
- Ho₂ Product innovations do not have a statistically significant relationship with crisis management at Safaricom Public Limited Company.
- Ho₃ Market innovations do not have a statistically significant relationship with crisis management at Safaricom Public Limited Company.
- Ho₄ Process innovations do not have a statistically significant relationship with crisis management at Safaricom Public Limited Company.

1.5 Research Justifications

The research is of importance to Safaricom Limited, which reportedly has adopted organizational innovations in crisis management, highlighting the macroeconomic and direct environmental factors responsible for corporate innovation management. Furthermore, the academic fraternity has to impart knowledge on crisis management concerns to both students and lecturers, as well as how they might enhance good

impacts and stop or lessen the negative ones. Additionally, it can offer a location for additional study on the subject.

The study focuses on Safaricom among other telecom companies and is conducted in Nairobi for several reasons. Firstly, Safaricom is a major player in Kenya's telecom sector, making it a pertinent case study for investigating the influence of organizational innovations on crisis management in the Kenyan context. Secondly, Safaricom's history of innovation provides an ideal environment to study how different innovation types impact crisis management, given its introduction of innovative products, services, and processes. Lastly, Nairobi's status as Kenya's capital and economic hub, along with its proximity to key decision-makers at Safaricom's headquarters, makes it a practical research location, ensuring comprehensive exploration of the topic within the context of a major Kenyan telecom company.

When crisis is effectively handled, then the organization can be able to meet its goals and objectives, and this includes meeting its obligations to stakeholders, who include shareholders, creditors, the government as well as its customers. The customers can be able to satisfactorily get value for their money. Safaricom PLC executives who seek an understanding of the centrality of experimentation to aid discoveries and development of new business models that contribute to it is important because business models are learned over time and cannot be anticipated.

The study on the influence of organizational innovations on crisis management at Safaricom Public Limited Company Kenya is warranted due to several reasons. Firstly, as the largest telecommunications provider in Kenya, Safaricom plays a crucial role in the country's communication infrastructure, making it essential to comprehend how their innovations impact crisis management. With a significant market share and customer base, Safaricom's ability to innovate and handle crises can have significant implications for Kenya's telecommunications sector and overall economy.

Moreover, Safaricom's transformative mobile money service, M-Pesa, has revolutionized financial inclusion in Kenya. Studying Safaricom's organizational innovations in crisis management becomes imperative to ensure the continued success and resilience of M-Pesa during challenging times. The choice of Safaricom for the study is justified by its market leadership and diverse services, leading to unique challenges and responses that can offer valuable insights for other telecom companies. Focusing on Nairobi, Safaricom's headquarters and operational hub, allows for comprehensive analysis of crisis management strategies and organizational innovations, while also providing insights into how such practices function in a dynamic and competitive market in East Africa.

1.6 Significance of the Study

1.6.1 Significance to the Government of Kenya

The research is significant since it can help Safaricom Kenya Limited in developing long-term planning policies. The report can help the GoK when developing a

favorable climate for competition among companies in the telecommunications sector. Firms within the telecommunication industry may have information on superior techniques to serve their clients.

1.6.2 Significance to the Management of Safaricom Kenya

The management of Safaricom Kenya may utilize the study findings to strengthen the influence of organizational innovations towards on effective crisis management. The most influential organizations will be identified and the weak ones enhanced on the basis of the study recommendations. Specific study results can help the management of Safaricom Kenya assess and evaluate the impact of their strategic model of innovations in crisis management.

1.6.3 Significance to Students and Future Scholars

The study is significant to students and future scholars since it may provide knowledge of organizational innovation in crisis management. Further research on the variables that contribute to the success of the firm and Safaricom PLC specifically can develop and put into action fresh strategic plans if they want to stay relevant in the marketplace. The findings and recommendations from this study can be used to develop or build on theory.

1.6.4 Significance to Other Mobile Telecommunications Companies

Mobile telecommunications companies in Kenya namely Airtel and Telkom can find it useful to familiarize with this study because Safaricom PLC dominates the industry

in Kenya. Competitors in Kenya as well as those in the region can find it useful to benchmark with Safaricom PLC and find ways in which they can innovate in the areas of top management leadership, product innovations, market innovations, and process innovations. In addition, competitors may gain better understanding on why some firms do better than others.

1.7 Scope of the Study

The research was conducted at Safaricom Kenya Limited, Nairobi County headquarters, among the managers, senior managers, and heads of departments (HODs) at the divisional and functional levels. The headquarter is preferred because that is where the leadership of the organization stems from. These are favored since they were well positioned to provide the desired information strategically. The confine of the study was an examination of the contribution of product innovations, top management leadership innovation for innovation, market innovations and process innovations towards the efficacy of crisis management. The study lasted for six months.

1.8 Limitations and Delimitations of the Study

1.8.1 Limitations of the Study

Not all employees of Safaricom were considered given the limited resources such as time, and financial resources. The study was done in the Safaricom headquarters situated in Nairobi. The study focused on the middle and top management levels in Safaricom Confidentiality issues on matters of private business are highly regarded

by business people. The researcher anticipated this as an impediment to the process of data collection. However, the investigator engaged the relevant authority to convince them. The letter of transmittal from the University was found handy during this process.

Regardless of its specificity, respondents can be hesitant to supply the details requested. So as to resolve this constraint, the participants were given the assurance that the information provided is confidential and they will also be notified of the intent of the research, which in this case was for academic research purposes only. The thesis focused at Safaricom Public Limited Company, whose performance parameters and characteristics influencing the outcome of the analysis could not represent the entire world. The situation at Safaricom Public Limited Company, Nairobi County offices may not necessarily apply to other counties. The researcher ensured fair representation in the data collection tools. However, still it is possible to generalize the results to other companies, but with caution.

1.8.2 Delimitation of the Study

Research study was done only at Safaricom Public Limited Company, Nairobi offices, other branches outside Nairobi did not take part in the research. The study is also delimited to the managers, senior managers, and heads of departments (HODs) at the divisional and functional levels. Other categories of staff were excluded, as they were considered not relevant to the study.

1.9 Assumptions of the Study

The assumptions that the selected participants would provide the data and information would be accurate and that the sample to be selected would be representative enough of the population.

1.10 Operational Definition of Key Terms

Crisis management: This refers to implementing tactics created to assist an organization in dealing with a sudden and major unfavorable incident (Marker, 2020).

Innovation: This is the process of turning an innovation or concept into an item or the product or service that customers find valuable or are prepared to pay for. It encompasses the purposeful use of creativity, knowledge, and initiative to derive new or more important values from resources. It also covers all procedures used to produce fresh concepts and transform precious materials into usable products or services (Innolytics, 2022).

Market Innovation: This is the process of putting new marketing strategies into practice, which entails major adjustments to the positioning, design, packaging, promotion of the product, and price strategy. (Polder et al., 2010)

Organizational Innovation: This is referring to the implementation of new corporate policies, decision-making processes, and methods for managing external interactions (Manual, 2005).

Process Innovation: This refers to the action of improving the logistic and production methods significantly. This refers to the adoption of new company procedures, decision-making processes, and methods for managing external interactions (Peralta et al., 2017).

Product Innovation: This is a reference to the procedure for offering new products or services or significantly enhancing those that already exist (Porumboiu, 2021).

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter analyses and elaborates past reviews relevant to the research study. Each section is presented in terms of defining the concepts and empirical literature on the relationship between variables. In this case, the literature presents the three research objectives from a global, regional and local impact of organizational innovation in crisis.

2.2 Theoretical Framework

This study is supported by the Dynamic Capability Theory, the Resource Based View Theory and Innovation Diffusion Theory (IDT).

2.2.1 Dynamic Capability Theory

The dynamic Capacity Theory was described as "the ability of the business to Blend, expand, and reconfigure internal and external capabilities to manage dynamically changing settings" by Teece et al. (1997) article Dynamic Capabilities and Strategic Management. The word "dynamic" refers, according to Teece (2013), to the extent to which competences may be updated must be flexible in light of evolving business circumstances. Capabilities, however, emphasize how important strategic management is in the appropriate adoption, capacity for transformation, and updating

organizational techniques, internally and externally sourced resources are used, and core competencies to match such characteristics and functions with the shifts in the rapidly evolving business environment (Poulis et al., 2013). The dynamic capability approach is centered on how well the business could replenish its resources in response to environmental changes (Poulis et al., 2013).

The Dynamic Capability Theory is highly relevant to a study on the influence of organizational innovations on crisis management at Safaricom Public Limited Company, Kenya. This theory emphasizes an organization's ability to adapt, learn, and reconfigure its resources and capabilities in response to a changing environment, allowing it to effectively respond to crises and gain a competitive advantage. In the context of Safaricom, which operates in a dynamic and competitive telecommunications industry, understanding how dynamic capabilities enable the company to innovate and manage crises becomes crucial.

The Dynamic Capability Theory supports the argument that top management innovation for innovation is essential for crisis management at Safaricom. The theory suggests that top management's ability to identify opportunities, promote innovative thinking, and facilitate the implementation of new ideas is crucial during crises. Investigating how Safaricom's top management fosters a culture of innovation and how this influence crisis management strategies can provide valuable insights.

The theory holds that product innovations play a significant role in crisis management at Safaricom. Dynamic capabilities allow the company to develop and introduce new products and services to address crisis-related challenges and changing customer needs. Studying how Safaricom's product innovations contribute to crisis management can uncover the effectiveness of such strategies.

The theory holds that market innovations are essential for Safaricom to manage crises successfully. Dynamic capabilities enable the company to adapt marketing strategies, target new customer segments, and explore new market opportunities during crises. Understanding the impact of Safaricom's market innovations on crisis management can highlight the company's ability to navigate challenging market conditions.

Process innovations also have a critical influence on crisis management at Safaricom. The Dynamic Capability Theory suggests that the company's ability to continuously improve processes, streamline operations, and respond efficiently to crises is vital for its resilience. Investigating how Safaricom's process innovations contribute to crisis management can shed light on the effectiveness of such approaches in ensuring smooth.

The Dynamic Capability Theory provides a conceptual framework for understanding how Safaricom's organizational innovations and dynamic capabilities contribute to crisis management. By exploring the specific objectives of the investigation, researchers can gain insights into the different dimensions of Safaricom's innovative practices and their impact on effectively managing crises in Kenya's telecommunications industry.

The theory helps understand why organizational innovation is critical in the rapidly changing business environments occasioned by crisis. The theory helps us understand the contributory role of these innovations towards effective crisis management. The theory describes the fundamental need of adjusting organizational resources, competencies, and skills, both internally and externally, to synch such capabilities with shifts in the constantly changing business environment.

2.2.2 Resource Based View Theory

The Resource Based View (RBV) Theory was initially put out by Wernerfelt (1984) and Barney (1991) and other researchers later modified and improved it. The approach highlights how crucial internal organizational resources are to a firm's strategy and success (Barney et al., 2017). Resources from within the company include all of a company's possessions, talents, competencies, capabilities, firm traits, organizational procedures, information, and knowledge that may be used to assist it in formulating plans to improve its effectiveness and efficiency. The RBV theory places emphasis on the intangible abilities necessary to maintain the firm's resources while also recognizing tangible and intangible resources as important factors in overall performance (Alavi & Leidner, 2001).

The Resource-Based View (RBV) theory is highly relevant to a study with the stated objectives, as it provides a theoretical framework for understanding how a firm's internal resources and capabilities, including innovations, can impact its competitive advantage and overall performance. In this case, the RBV theory can help elucidate the relationship between different types of innovations and their influence on crisis management at Safaricom Public Limited Company. Here's how RBV theory aligns with each specific objective:

The Resource-Based View theory asserts that a firm's competitive advantage can be attributed to its unique and valuable resources. In this context, top management innovation can be seen as a valuable resource that contributes to the firm's ability to

manage crises effectively. RBV emphasizes that firms should leverage their unique resources, like top management innovation, to gain a competitive edge.

RBV theory highlights that firms can achieve sustained competitive advantage by possessing and leveraging resources that are rare and difficult to imitate. Product innovations, if unique and valuable, can provide such a resource. Understanding how product innovations impact crisis management can shed light on how Safaricom can utilize its product development capabilities to mitigate crises.

The Resource-Based View theory suggests that firms should focus on resources and capabilities that are not only valuable but also non-substitutable. Market innovations that create unique market positioning or customer relationships can be non-substitutable resources. Examining their impact on crisis management can reveal how Safaricom's market strategies contribute to resilience during crises.

The theory also underscores the importance of firm-specific resources and capabilities. Process innovations, if they create operational efficiencies or cost advantages unique to Safaricom, can be a source of competitive advantage. Investigating how these process innovations affect crisis management can provide insights into how Safaricom leverages its internal processes for crisis mitigation.

In summary, the Resource-Based View theory offers a robust theoretical framework to understand how different types of innovations, as internal resources and capabilities, can influence crisis management at Safaricom Public Limited Company. It helps in recognizing the value of these innovations as strategic assets and how they contribute to the firm's competitive advantage and resilience during crises.

2.2.3 Innovation Diffusion Theory (IDT)

The Innovation Diffusion Theory (IDT), proposed by Everett Rogers, explains the spread and adoption of new ideas, products, services, or innovations within a social system. Diffusion is the process by which an innovation is communicated over time among members of a social group. An innovation is considered new by its adopters and can be any novel idea, practice, or object (Rogers, 2003).

IDT outlines five key stages in the adoption process of innovations: knowledge, persuasion, decision, implementation, and confirmation. During the knowledge stage, individuals become aware of the innovation's existence and potential benefits. In the persuasion stage, they actively seek information to understand how it works and its advantages. The decision stage involves individuals deciding whether to adopt or reject the innovation based on the information gathered. Implementation is when individuals put the innovation into use, and during the confirmation stage, they evaluate its outcomes and decide whether to continue using it (Rogers, 2003; Robinson, 2009).

The relevance of IDT to the study on the influence of organizational innovations on crisis management at Safaricom Public Limited Company is significant. Firstly, IDT provides a framework to understand how various organizational innovations, such as top management, product, market, and process innovations, are adopted within the company. This analysis can help researchers assess the diffusion process across different departments and levels at Safaricom. Secondly, the theory helps in identifying barriers to adoption, such as the perceived advantage of an innovation, compatibility with existing practices, complexity, trialability, and observability. By recognizing these barriers, the study can pinpoint potential challenges to adopting

organizational innovations for crisis management at Safaricom. Thirdly, IDT offers insights into the rate of adoption, enabling predictions on how quickly different organizational innovations for crisis management might be embraced within the company.

Moreover, the theory underscores the importance of effective communication channels and strategies in the diffusion process, which can aid Safaricom in designing better strategies to promote the adoption of innovations for crisis management. Lastly, IDT's confirmation stage allows for the evaluation of the outcomes of adopting specific organizational innovations for crisis management at Safaricom, thereby informing decisions for continuous improvement.

IDT explores the process through which innovations are communicated and adopted within organizations. It helps explain how innovations, such as new management practices, products, marketing strategies, or operational processes, spread and influence an organization's overall performance. In this study, IDT will be used to examine the adoption and impact of various organizational innovations on crisis management at Safaricom. It will shed light on how innovations diffuse across different departments and levels of the organization and their role in enhancing crisis preparedness and response.

2.3 Empirical Literature

This section provides the empirical review of the research.

2.3.1 Crisis Management

A company must use skillful preparation and a pro-active reaction to totally prevent a crisis, reduce its intensity and length, or turn it into an opportunity, according to Appel (2020). An unexpected event or situation is referred to as a crisis when it instantly jeopardizes priority or limits the company's capacity to run or grow.

Today's corporate environment is dynamic and largely predictable. Additionally, due to the fierce competition among project-based firms, customers want more project execution flexibility in terms of timing, affordability, quality, and breadth. Numerous entities manage to balance sustainability and unsustainability as a result of the aforementioned variables. To avoid degradation, the business should routinely implement the crisis management concept. Risk management, one of the most popular tools supporting business operations, seems insufficient in the aforementioned situations. This study's main objectives are to describe how crisis management functions in project-based firms and to gauge the scope and significance of organizational innovations. The organizations that carry out diverse tasks for outside clients are the research topics. The primary component of corporate operations, it is the firms' core business. Here are some instances of project-based organizations: IT businesses, construction firms, shipyards, producers of specialty machinery, etc. The entities based on projects each have unique traits. They require specific strategies for the organizational structure and assisting management tools. A number of researchers have investigated project-based organizations. Regarding the function of innovations in crisis management, there remains a gap, nonetheless. An increase in environmental uncertainty can be observed, which makes the problem urgent. The economy's unpredictability affects the organization in a variety of ways,

which might lead to improvement or decline.

Anderson (2018) believed that in an uncertain world, change was a necessary evil for survival. Effective crisis management can help prevent them. If change management attempts are unsuccessful, crisis management is required. According to Galpin (1996), a crisis might serve as the catalyst for organizational change management, "indicating the necessity for change". Crisis-driven adjustments, however, typically do not persist (Murray & Richardson, 2002). How to make such reforms persist and prevent further catastrophes is the scientific topic at hand.

Both proactive and reactive crisis communication tactics, have their purposes and necessitate careful planning. No business should ever wait until an issue gets out of control before coming up with a plan. There, enterprises fall apart, management gets fired, and organizations fail. In light of this, we'll talk about what crisis communication is, how proactive and reactive crisis management tactics differ, and how they affect reputation management.

The triangle innovation management model is created. The relationships between the three ideas are emphasized. Theories of change management the intentional transition from stage A to stage B is known as organizational transformation. After examining the many definitions of organizational change, Struckman and Yammarino (2003) came to the conclusion that too many occurrences within organizations were given the title "change." According to the authors, organizational change is a deliberate reaction to factors both inside and outside of an organization. Research on organizational transformation has been categorized into four categories by Armenakis and Bedeian (1999) and among these are study on material, context, processes, and criteria. Nutt (2003) integrates process and structure. He asks us to

take into account both the structure and the process of organizational transformation while doing study on this topic.

The descriptive nature of structural research highlights the characteristics of organizational change, such as strategy, leadership, and others. Research on the procedure shows how businesses operate. The process study was provided in both typologies, and Nutt's structural research from 2003 is comparable to content research (Mansaray, 2019). These two will make up the triangle model of change's components. The first element is referred to as the type of change and the second element is referred to as the process of change in this article. There are pushes for change and forces for stability in any organization (Leana & Barry, 2000).

A third vital component is the organization's willingness to change, which is equally important to the sort of change and the way it is implemented as fundamental building blocks in any model for managing change. The readiness elements serve as a link between determining what must change and actually putting the change into action. Struckman and Yammarino (2003) integrate change kinds and change preparedness but do not take the process into account. The third element of the change model will be the ability to change (Alas, 2007).

During crises, certain companies run the risk of going out of business (O'Reilly III & Tushman, 2011). As a result of the detrimental effects they have on every aspect of the external business environment, crises jeopardize business organizations' initiatives and hinder their success (Dhochak & Sharma, 2015). For instance, due to the inefficiency of the capital markets, a lack of transparency, and flaws in the economic component, organizations have relatively few funding possibilities during times of crisis (Mason & Harrison, 2015; Cowling et al., 2012). In order to assist

SMEs in overcoming the difficulties posed by crises, governments should encourage NGOs to provide them with a variety of assistance measures, such as counseling, instruction, guidance, and emotional support.

2.3.2 Organizational Innovation

During a crisis, it is more necessary to modify the core to accommodate shifting client needs. Other necessary actions include recognizing and quickly attempting to address new opportunity areas brought on by the altering environment, reassessing the portfolio of innovation initiatives to ensure that resources are allocated adequately, and creating the foundation for post-crisis growth to stay ahead of competitors throughout the recovery phase (Zou & Fan, 2020). The development of new markets and the discovery of new sources for raw materials, modifications to the firm's positioning in the market, and the organization's economic, social, and environmental policies will be modified are a few examples of innovations that may be utilized to save a company from a crisis.

Less information is readily available to organizations in less developed countries (like Vietnam), and property rights are not as efficiently safeguarded (Welter & Smallbone, 2011). They thus, struggle to innovate like their peers in developed countries (Nguyen et al., 2013). Given this environment's organizational instability and limited resources, it seems natural that Vietnamese businesses use organizational innovation more often than any other sort of innovation (Nguyen et al., 2013). Through practice, students develop knowledge that improves their performance the more they use it. The findings of this study demonstrate that businesses in Vietnam

should place a greater emphasis on ethical business conduct and workplace innovation since these two factors greatly enhance performance. Businesses can implement any of the organizational innovation components either independently or simultaneously as organizational innovativeness in other areas has no effect on how well a company performs in terms of innovation.

Sapprasert and Clausen (2012) investigated organizational innovation's consequences. Numerous Norwegian businesses continued to innovate their organizations between 1999 and 2004, which exacerbated the (good) effects of organizational innovation on their output, according to Heckman two-step estimation, which was used to prevent potential sample selection bias. The findings also show that many businesses engaged in various organizational innovations and reaped the advantages, and that the interaction between organizational and technology innovation boosted these gains. The survey also found that while smaller businesses are better suited to gain from organizational change, older and larger businesses are more likely to try it.

Organizational innovation culture is essential for crisis management, according to Niemien (2020). If employees can actively promote innovation within the business if there are consistent, clear patterns of conduct, then a company can be called to have an innovation culture. A substantial barrier to innovation was recognized by 64% of the research, according to Niemien (2020), meta-analysis, as the topic receiving the least support from the culture. Only 6% of CEOs said they were satisfied with their innovation performance; this was explained by a lack of commitment and assistance.

According to Zaied and Affes (2016), organizational innovation boosts a company's success through enhancing work quality, information exchange, learning capacity,

and the utilization of new technology and expertise. Therefore, organizational innovation should potentially improve business performance. The findings of this study suggest that enterprises in Vietnam should take innovation in workplace structure and corporate procedures more seriously because these two elements have a significant positive effect on output. Organizations can implement any of the organizational innovation components independently or simultaneously since organizational innovativeness in other areas has little impact on organizational innovation success in one particular field. In fact, organizational innovation may increase worker satisfaction and productivity at work as well as reduce administrative and transactional costs, both of which may increase profitability even in times of crisis, according to Manual (2005).

Zou and Fan (2020) claim that between 1999 and 2004, several Norwegian businesses continued their organizational innovation efforts, which enhanced the (good) organizational innovation's influence on employees' performance. When a crisis occurs, like the one experienced in organizations are currently experiencing, a significant financial and human toll is incurred. There is significant social and economic disruption as well as the abandonment of assets and human capital. Disruption, which precedes many of these processes, leads to the introduction of new business models. For illustration, the financial crisis of 2009 caused the creation of markets for underutilized assets, which, owing to technology, caught incumbents off guard as consumers sought out desperately needed extra cash sources and gave rise to the sharing economy. The SARS pandemic of 2002, which ravaged Asia and prompted its citizens to seek shelter in their homes. China became the epicenter of

social commerce innovation after sparking the development and widespread adoption of e-commerce there.

Under normal operating conditions, project-based businesses innovate by creating new or enhanced services for present or potential clients or by creating new technologies that may be utilized to address clients' problems more effectively than existing ones (Hoyer et al., 2020). The innovations that are being offered aid the examined firms' core businesses directly and boost their strategic position so that they may compete more effectively. The PLC of, say, product innovation, particularly design and dissemination, is lengthy, costly, and may have a temporal lag. Therefore, in crisis situations, they should not be the first-line reaction actions.

Muiru (2022) conducted study on organizational innovations and their breadth and relevance as well as the characteristics of crisis management in project-based firms. The study found that organizational innovations are the essential elements of crisis response approaches. As they attempt to improve their organization's agility, flexibility, and control over ongoing efforts, the entity will see immediate benefits from applying organizational innovations.

2.3.3 Top management leadership innovation for Innovation

According to Griffith et al. (2018), it is crucial to have good leadership in the workplace since it significantly affects employee engagement. According to Stiles et al. (2018) and Zhu et al. (2019), tasks and objectives are accomplished in a satisfying manner with devoted personnel when people are involved in the outcomes.

Additionally, leadership encourages more talks and discourse about opposing viewpoints, fostering a climate of ideas that is conducive to creativity. In their investigations, it is confirmed that managers in the examined company highlighted leadership as one of the elements of organizational innovation. According to Baraldi et al. (2017), the management of the company and the internal and external factors required for innovation to occur are connected.

~~relationship with organizational~~
Zou and Fan (2022) studied the links between organizational innovation, HR diversity strategies, and top management commitment. According to data gathered from 195 high-tech businesses in China, senior management's dedication has a favorable influence on the adoption of HR diversity policies, which in turn can enhance organizational creativity. Additionally, the application of HR diversity methods mediates the link between top management's dedication and organizational creativity.

In a study by Chadwick et al. (2015) it was found that top management's encouragement may have a favorable effect on workers' attitudes, making it easier to adopt new regulations smoothly. The part senior management support plays in putting HR strategies into action has also been researched extensively in the past. For instance, the support of the CEO and senior management team, according to Tootell et al. (2009), may increase the HR systems' acceptance as a tool for guiding the organization's operational and strategic decisions. Chadwick et al. (2015) carried out a quantitative analysis and found that middle-level managers are more likely to deploy HR systems when they perceive the CEO to be placing attention on SHRM. Given the little data from earlier research, it is plausible to assume that top

management's commitment (i.e., support, focus) is anticipated to have a favorable influence on adopting and putting into practice diversity management strategies.

In order to comprehend organizational innovation, Jabbar (2022) did a research to examine the connection between the traits of transformational leadership and the latter. 71 individuals, includes those from the city of Erbil's top five private corporations, took part in the study. The analysis for the current study was carried out by the researchers using an empirical quantitative technique. The study found that a wide range of various factors affect organizational creativity. The leadership style has been shown to be one of the most critical elements influencing organizational creativity.

Elenkov and Manev (2005) investigated the link between top management leadership and innovation. Three research questions are resolved: Are senior managers' leadership qualities a deciding element in how they influence innovation? Does leadership depend on the sociocultural environment? Does top-impact management's on creativity in the relationship between leadership and top-management depend on the sociocultural context? Information from 12 European nations is used to answer these queries. The findings demonstrate that top-management innovation is significantly influenced by leadership variables. According to the culture-specific notion of leadership, the sociocultural context has a direct impact on leadership and alters its relationship with organizational innovation.

Providing leadership is one of organizational management's primary duties since strong leadership may increase businesses' competitiveness and help organizations accomplish their goals by balancing their resources and workforce (Pitelis & Wagner, 2019; Samba et al., 2018). Employees that lack strong leadership

occasionally lack the motivation to carry out their duties in a creative and efficient way, which restricts their capacity to handle problems (Al-Zahrani, 2018).

Samra et al. (2019) opine that during crisis, top management is in charge of making sure that the resources are in place to execute innovation strategies, including people with the necessary skills, money and other resources, tools and techniques, communication and awareness-raising initiatives, and strategies for external collaboration and intellectual property protection. Institutional support influences business performance and product and process innovation in a beneficial way.

According to Saffar and Obeidat (2020), the handling of workplace crises is statistically significantly impacted by strategic leadership methods in all aspects. It was suggested that OOREDOO Q.S.C. (Ooredoo), Qatar - Company emphasis more on examining and evaluating its internal conditions to determine the positives and negatives in it and detect potential predictors of the manifestation of the crisis, helping it to determine the best ways to address its areas of weakness and maximise its strengths, as well as taking the obligatory precautions to avoid crises from happening and significantly lowering their effects and adverse effects.

According to Hughes et al. (2018), strategic leadership allows for the successful development of both people and groups inside the company. Organizations also benefit from SL methods since they help leaders create their organizations' vision, purpose, strategy, and culture. Executives that engage in strategic leadership also have a better understanding of the environment in which their company works. By creating and reshaping company culture, deciding where to put resources, governing policies, and promoting consensus about the future, the leader may also have an impact on the intended organizational goals.

During the COVID-19 epidemic in Indonesia, Dwiedienawati et al. (2021) investigated the factors that affected perceived efficacy in crisis management and firm reputation. In May 2020, a descriptive quantitative survey including 293 individuals from various Indonesian organizations was carried out. Data analysis was carried out using SEM-LISREL. The results demonstrate that the success of crisis management was favorably affected by transformational leadership, team responsible for crisis management, proper communication, and frugal innovation, all of which will enhance the company's reputation.

Ho et al. (2016) used data from bank lending and leverage to examine the connection between CEO complacency and the financial crisis. The MOC hypothesis was used in the investigation. This research was quantitative. According to the study, businesses with overconfident CEOs suffer greater performance declines during a crisis and ultimately have a higher likelihood of failing. In non-crisis years, numerous loans made by overconfident banks were in default or very close to default, resulting in significant capital losses. This suggested that senior management leadership may influence crisis management in a favorable or bad way.

In a study by Fener and Cevik (2015) it was established that in order to prevent and deal with organizational crises, strong and efficient top management leadership was essential, particularly in the context of the era's developments in technology and information and the impacts that may arise at any time. Nevertheless, the research was carried out in a different geographical location other than the location of the current study.

Koch-Bayram and Wernicke (2018) conducted a study titled "Drilled to obey? The qualitative research, "Ex-military CEOs and Financial Misconduct," was founded on

the MOC theory. According to the study, businesses run by former military executives less likely to experience a less likely to experience a business catastrophe brought on by false financial reporting. The separation of the CEO and board chair positions strengthens this bad connection.

According to Lee and Welliver (2018), a strategic leader needs to be on the front lines, exude passion and tenacity, and take full accountability for the disaster, and this is crucial. Additionally, leaders need to have total control over their team members and be aware of everything going on around them since anything small that is initially disregarded might later become a big problem. The strategic leader must address all issues, no matter how little, and must take the initiative to find solutions. He must overcome obstacles one at a time.

The necessity for businesses to develop a leadership style that can support organizations in effectively navigating, continuing, and holding in the volatile and unpredictably competitive world you currently face. An effective top management leader, in Shao's opinion, is one who comprehends and makes sense of environmental disruption and ambiguity and who offers a vision and a plan that will help the business develop and innovate.

In the Iraqi city of Erbil's ministry of planning, Hasan and Rjoub (2017) looked into the link between leadership philosophies and crisis management. A quantitative approach was employed to pursue the goals of this study. The survey includes 630 individuals. According to the research, charismatic leadership has the best value of all leadership philosophies. The study concluded that charismatic leadership has become more rigorous in recent decades and that business growth strategies often call for modification at times of crisis.

Mbogo (2020) examined the leadership responsibilities played in the management of education crisis in Kenya during the COVID-19 epidemic. The analysis showed that the Ministry of Education's leadership choices were entrusted with analyzing the impact of COVID and developing practical alternatives without compromising the standard of instruction. Mbogo contends that the problem was managed by competent leadership at the Ministry of Education. The study highlights the crucial part that leaders play in crisis management.

2.3.4 Product Innovation

The definition of "new product" and an explanation of its parameters can be found throughout the literature. Sheng et al. (2015) define product innovation for multinational corporations as the ability to introduce and create new products that will satisfy needs across different geographic marketplaces. "One that the company needs fresh marketing for, communicates the essential improvements, but stays away from any changes that would necessitate simple advertising," says Crawford of a new product (Kim et al., 2016). There are various categories for categorizing "new items." These new products can be divided into four groups. These products have undergone substantial upgrades, have been added, and have been repositioned.

A high degree of perceived crisis may lead to higher new product performance, citing Samra et al. (2019) examination of how businesses manage crises in new product development (NPD) in the United States. 119 NPD teams from high-tech companies are surveyed to obtain data in order to assess the theory's viability. According to the study, an excellent strategy to handle crises is to develop new goods

or services. The findings demonstrate that formal communication serves as a lone mediator in the connection between perceived problems and the performance of new products.

Product innovation during times of crisis was examined by (Wenzel et al., 2020)). The researchers observed that people are nevertheless receptive to improvements and ideas during a crisis. Organizations should modify their offerings in order to meet the demands of the current situation and to gain an advantage going forward, firms should continue to innovate and renovate even when there is a crisis. It's critical to have a product to compare a remodel or innovation to given that there is an overall absolute difference in ratings before and after a crisis, independent of the product lifecycle.

Xiao et al. (2016) investigated whether knowledge sharing always results in improved team decision-making. The disguised profile condition for creating new items was examined in the study. According to the report, this problem may be resolved by successfully launching a new product and using competent NPD process management. The NPD team might develop a new item to address such a dangerous problem.

Strategic reactions to crises were the focus of a study by Wenzel et al. (2020). The research found that since early in a social crisis, it is challenging to generate new product ideas since private companies must initially prioritize preserving current operations in the near term, whereby layoffs and other cost-cutting measures are regularly necessary. The study's conclusions showed that making enhancements to products helped in crisis management.

Ndesaulwa et al. (2017) identified two factors that contribute to product innovation's positive effects on competitiveness of the business and results. The first problem is that upgrades to products and new technical breakthroughs will be viewed as a significant boost to the success of the firm rather than as cost-effective alternatives. Moreover, these expenditure requirements are linked to the costs of manufacturing in order to demonstrate how effectively this business is employing its capital. A larger ratio also demonstrates management's openness to embracing and becoming a smaller percentage, on the other hand, illustrates the reverse, displaying an outdated, uninnovative approach to company development.

The majority of facilities for research and development (R&D) in the chemical industries either are closed down or have restricted access, according to Velegol (2020). Despite their desire to create during this time, many of the traditional innovation strategies are no longer necessary for R&D executives and organizational managers. You are not alone in this and neither are they; virtually every business in the chemical process industries (CPI) is presently coping with related issues and is concerned about the future. In an effort to continue being relevant to their employers while at the same time balancing competing demands, less time is being spent by engineers and researchers in labs or on-site facilities.

2.3.5 Process Innovation

Process innovation is without a doubt the least desirable type of innovation. It is the grouping of assets, persons, and equipment used to produce, provide, and maintain an item or provide a service. Business processes may be created or enhanced in a

variety of ways. Process innovation may be seen, for instance, in the advancement of systems for accounting and customer service as well as the tools, procedures, and software tools that help the delivery and distribution networks. Modifications to production tools and technology, such as the software used in product design and development, can also be viewed as a type of process innovation (Differential, 2020).

Management processes, operational processes, and supporting processes are the different categories of business processes that call for innovation in times of crisis. All company functions are planned, organized, coordinated, and controlled by management procedures. The procedures that make up the organization's core business and the main value stream are referred to as operational processes. Activities that support the core processes are referred to as supporting processes. They assist the company in establishing a setting that will improve the performance of its key operations. Accounting and technical support are two examples (Izquierdo, 2020).

The addition of new elements to a business's production or service operations in order to produce a thing or offer a service is known as process innovation (Peralta et al., 2017). More precisely, it describes modifications to processes made as a result of substantial advancements in hardware, software, and/or technology with the goal of lowering costs or raising quality. Efficiency is the primary driver of process innovation, thus a business must leverage technology to increase the efficacy in the development of new products. In other words, innovation in processes is essential for innovation in products, which results in the effective introduction of new products (Peralta et al., 2017)

Adopting a fully new or considerably better production or delivery method is known as process innovation. This entails material modifications to procedures, tools, and/or software (Dwivedi, 2020). In terms of resources, knowledge, and technology utilized to create, sell, and sustain an item or service, process innovation is concerned. In order to get the best outcomes, technology or other things may need to be adjusted. Dwivedi claims that in addition to this, it also covers improvements in software and technological systems that help firms with their supply chain management and delivery processes. It consists of strategies that can assist a business with accounting and customer service.

In Malaysia, Alshorman et al. (2020) looked into how process innovation affected company performance and the function of design management. This study employed a quantitative research design technique to gather data from 386 respondents who were chosen from Malaysia's product industries. The required information was gathered using a validated questionnaire and a simple random sampling. The results of the investigation showed a substantial connection between process innovation, design management, and financial success in Malaysia's product sectors. Design management also played a role in moderating this relationship.

Process innovation implementation has the potential for competitive advantages, Kowo et al. (2018) also said that innovation is a big contributor to increased productivity. Further process innovation might also benefit the company's products, which could result in the development of more product innovation initiatives.

In Lagos State, Akpoviro et al. (2019) investigated the effects of process innovation on organizational performance. Major telecom company workers in Lagos State, Nigeria were given 114 copies of a questionnaire to complete in order to

collect primary data that would be used to treat and test the proper study questions and hypotheses. The study employed the survey method and the Cronbach Alpha coefficient to assess test-retest reliability. SPSS was also used to test the study's hypotheses. The research found a strong link between service changes and sales volume as well as a strong effect of process innovation on organizational performance.

2.3.6 Market Innovation

Market innovation involves expanding the scope of target markets and devising optimal strategies for serving these markets effectively (Mitchell et al., 2019). Its primary objective is to discover improved and novel ways to cater to existing target markets while also identifying new and promising market segments. The critical starting point in this process is the identification of potential markets, a task facilitated through meticulous market segmentation (Walker et al., 2021). To maximize corporate profitability, market segmentation is essential, as it involves breaking down a broader prospective market into more manageable segments. Inadequate market segmentation can result in an unfavorable mix of target markets, potentially leading to misjudgments regarding potential revenue streams.

According to Zhabin et al. (2016), the problem of erratic organizational performance may be addressed using the crisis management marketing system's modeling. With the aid of the marketing strategy, organizations will be able to adapt to the changes in the external environment, which is a system for analyzing customer preferences. The satisfaction and creation of demand for products and services constitute the

cornerstone of marketing management. The implementation of marketing operations designed to maintain the current level of resistance and it has led to the organizing of contact with the external world and the structuring of the internal environment.

Maldonado et al. (2018) conduct a study to look at how technological skills affect the quality of small companies (SMEs) in Mexico's growing economy and regional growth. The approach utilized was quantitative, and formal equation modeling was used to evaluate the assumptions (SEM). Data were gathered by polling 308 businesses located around the Mexican State of Aguascalientes who responded to questionnaires. According to the study's conclusions, innovation in management, marketing, and goods has a positive and substantial influence on the firm return of Mexican SMEs.

Benefit segmentation has gained popularity in recent years (Begunca, 2021). It is predicated on the analysis of consumer attitudes and the idea that, to a large extent, wants and benefits are what create and shape markets. This type of segmentation places an emphasis on "use events," or how consumers try to get advantages when making specific purchases. This segmentation technique works well for dividing a large prospective market into relevant market opportunities. Its efficacy is based on the idea that different use needs for the same core product may exist for the same consumer. This actually happens quite frequently, for instance when a person travels for business in first class but for leisure in second class. Every need has the potential to be a business opportunity.

The relatively understudied connection between crisis management and marketing innovation was the focus of Lundell and Varga's (2021) survey on how Swedish SMEs respond to the COVID-19 epidemic-related economic crisis. Seven

participants who were in charge of marketing were interviewed in an exploratory qualitative research of Swedish small and medium-sized firms in a semi-structured method. The findings identify three key regions, which include A new type of crisis management is emerging as a result of technological advancements and the current business environment, it is one reason why respondents to this survey frequently use marketing innovation as a crisis management tactic. Marketing innovation helped the businesses surveyed practice better crisis management.

Alosani et al. (2020) investigated how innovation and strategic planning may improve Dubai Police's organizational performance. Out of the original 150 surveys sent, only 95 were received and ready for analysis. Using the regression method in SPSS, the data were analyzed and the hypotheses were tested. By lowering transaction and administrative expenses, boosting employee happiness at work, gaining access to non-tradable assets, or lowering the cost of supply, organizational innovations frequently increase organizational performance (Avermaete et al., 2003).

In the wake of an economic crisis, Lichtenthaler (2021) investigated how to benefit from innovation. This conceptual study, particularly the innovation-based view of company success, builds on earlier conceptual and empirical investigations. In reaction to the COVID-19 issue, a lot of businesses have reduced their spending on innovation. But as the financial crisis of 2008–2009 shown, these quick cost cuts might have a significant impact on competitiveness. Additionally, a number of first-order innovation cases from the COVID-19 pandemic crisis show that businesses may profit from a range of ideas that go well beyond product creation. Researchers and executives should thus focus on second-order innovations, which characterize

the dynamic change of innovation management, and the range of innovation kinds beyond product development.

Adamu et al. (2020) looked into how marketing innovation affected the success of SMEs in Nigeria. For the study, a sample of 203 small and medium-sized furniture enterprises was selected. There were 198 valid questionnaires examined. Results reveal that marketing innovation strategies have a positive impact on small and medium-sized firms' productivity. The report came to the conclusion that SMEs should work toward implementing marketing innovation in their areas of company operations given the good impact it has had on many organizations.

According to Osei et al. (2016), one of the main driving engines behind growth plans for penetrating new markets, boosting sales in already-established industries, and providing SMEs a competitive advantage is technology. These items can command a price premium because to the fact that new products, marketing, pricing, and place of distribution create new markets and provide conspicuous advantages over rival products in old markets, leading to higher-margin sales growth., innovative companies can operate at higher levels of productivity. This indicates that SMEs in which partake in the development of a distribution plan will perform better than their rivals and significantly raise the standard of their distribution, which will have a good effect on their results (revenue).

Mugo and Macharia (2021) performed study on market innovation and competitive advantage of telecoms companies in Kenya. 26 operational Kenyan telecommunications enterprises totaled 247 responses from mid- and top-level managers in a standardized questionnaire utilized as the primary data gathering technique through both offline behavior and online interactions. The study's findings

showed that creative distribution channels had a major impact on Kenyan telecommunications businesses' ability to compete, but that advertising and promotions had less of an impact. Researchers came to the conclusion that market innovation has a big impact on how competitively advantaged Kenyan telecoms enterprises are as a result of this. According to the report, telecommunications businesses should collaborate and cooperate to build market distribution channels that have the potential to boost their competitive edge.

Soi (2016) used the cases of Safaricom Limited, Airtel Limited, and Telkom Kenya Limited in Nairobi to research the effects of innovation strategies on the performance of Telecommunication businesses in Kenya. The study's target audience consisted of 276 managers from three significant businesses in Kenya's telecoms industry. A list of senior, medium, and lower-level managers from Kenya's major telecommunications companies served as the study's sample frame, and for this study, standardized questionnaires were mostly employed to gather primary data. The study found that strong anti-competitor marketing activities, environmental analyses, and responses to change were used by market innovators to influence the performance of telecom companies in Kenya.

Better serving targeted markets is the second goal of market innovation. Again, although with more precision, this activity depends on correctly analyzing purchase preferences. Understanding buying preferences is essential since consumers are likely to choose the offers they find most appealing, just like with "benefit segmentation." Analysis of purchasing preferences is frequently carried out intuitively. This may yield unexpectedly fruitful outcomes. Mathur and Kenyon (1997) who contend that consumers with varied user demands acquire the same key

product features in different ways, offer a compelling case for amplifying buyers' purchasing preferences. For instance, some consumers like buying in "commodity-buy" mode. Customers who are familiar with the key aspects of the product experience this. In this purchasing approach, neither distinctive product qualities nor differentiating assistance are sought. Cost is the only factor considered while making the choice. Some consumers like making "product-buy" purchases. In this mode, knowledgeable customers search for the finest core product qualities and are prepared to pay more for them. Less experienced buyers prefer to purchase in a "system-buy" mode, where they are prepared to pay extra for crucial product features and support in the form of guidance. Finally, some buyers choose to go through the "consulting-buy" process. Only acquiring and using the core product is the only advice they want, and they are willing to pay for it.

2.4 Summary of Research Gaps

From the literature review, it emerges that organizational innovations can contribute positively to crisis management. Studies such as Samra et al. (2019), Hughes et al (2018) and Dwiedienawati et al (2021) show that in crisis management top management commitment and leadership are crucial contributors. Wenzel et al. (2020) found that product improvements made a beneficial difference in crisis management. Benadate and Kising'u (2019) found that Process innovation affected competitive advantage during a crisis in a statistically substantial manner.

Most of the studies have been carried out in different geographical locations, for instance, United States of America, Samra et al. (2019), Alshorman et al. (2020) in

Malaysia, and Akpoviro et al. (2019) in Nigeria. This limits the generalization of their findings to the current study which is being carried out in Kenya. Some of these countries are developed countries as opposed to the location of the current study.

The review also shows that reveals a contextual gap, where most studies appear to link organizational innovation aspects to other dependent variables other than crisis management. For instance, Ndesaulwa et al. (2017) studied product creativity has a beneficial impact on organization productivity, Alshorman, Alzoughool, Khalaf, and the influence of process innovation on company performance was examined by (Alshorman et al., 2020) while the effect on organizational performance of telecom workers was examined by (Akpoviro et al., 2019). The review also shows that Adamu et al. (2020) investigated marketing innovation's effect on SMEs' performance.

It, therefore, emerges that the literature presents and reveals gaps in the form of geographical location, and contextual limitations. This, therefore, justifies the need to conduct a study on the contribution of organizational innovations toward effective crisis management at Safaricom PLC, Kenya.

2.5 Conceptualization

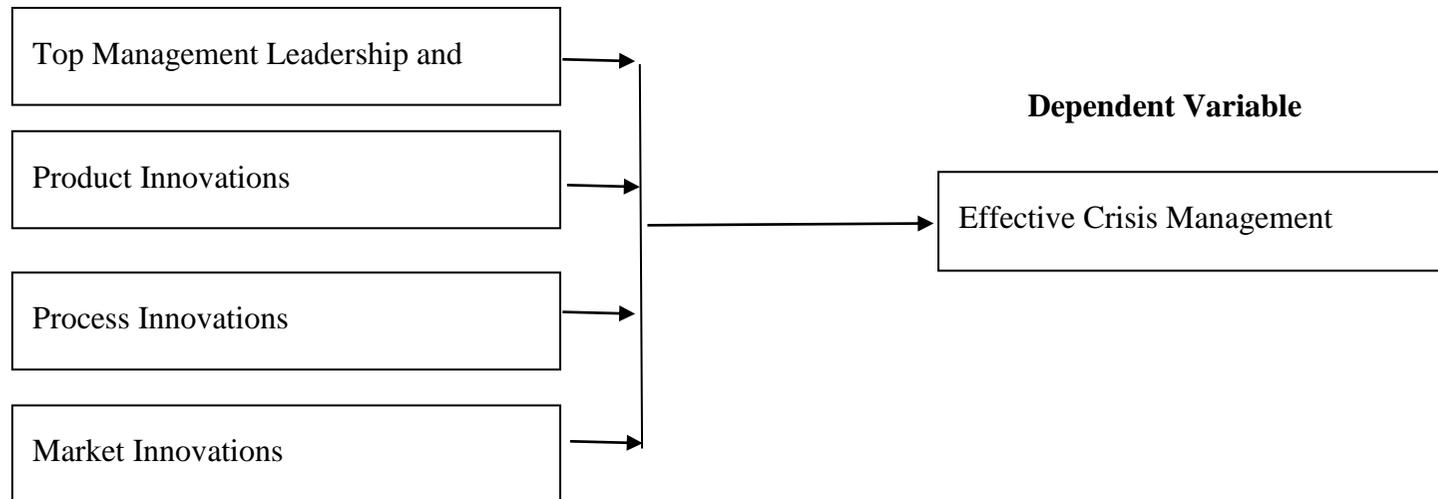
An illustration of the relationship between dependent and independent variables is called a conceptual framework (Mugenda & Mugenda, 2003). In this research, financial literacy is the dependent variable, while the organizational innovations outlined in chapter one is the independent factors.

The conceptual framework created in this study serves as a solid foundation for carrying out more surveys to gather empirical data to improve knowledge of the role organizational innovations play in successful crisis management at Safaricom PLC, Kenya.

Figure 2. 1

Conceptual framework

Independent variable



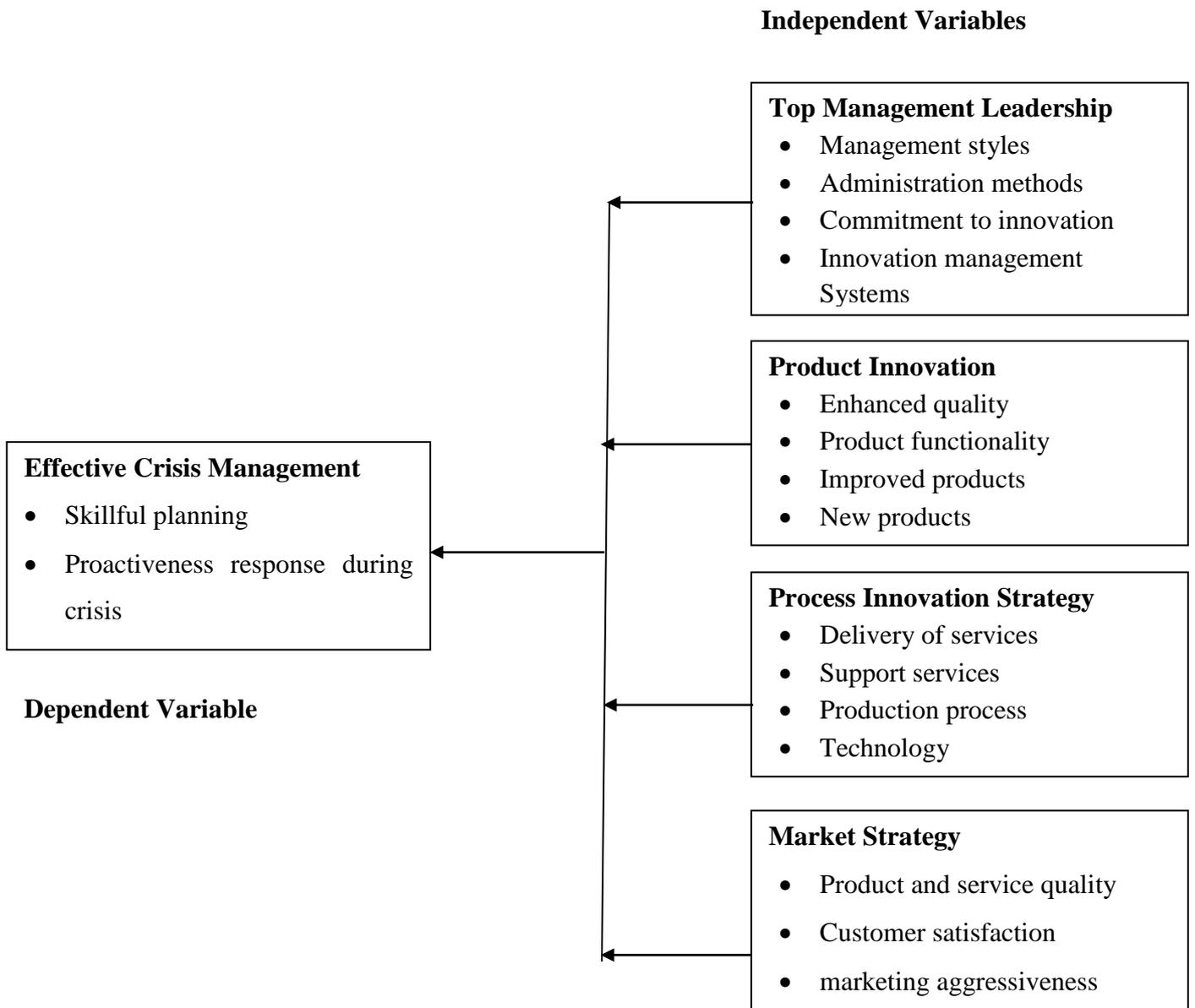
This study conceptualizes that top management leadership innovation to innovation, product innovations, market innovations, and process innovations contribute positively toward effective crisis management at Safaricom Kenya Limited.

2.6 Operationalization Framework

The relationship between the independent variables and the dependent variable is depicted in the operationalization framework below. Additionally, it lists the metrics employed to gauge each of the variables.

Figure 2. 2

Conceptualization of the Study Variables



CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The methods and processes that were employed to accomplish the specified research objectives are covered in this chapter. The chapter discusses the study design, the target audience, the data gathering process, the pilot testing process, the validity and reliability test, the data analysis, and ethical considerations.

3.1.1 Research Philosophy

This study was quantitative in nature and thus, the ideal philosophy was positivism. Quantitative research methodology is based on Positivism. According to this research theory, it is possible to understand the social world objectively (Zukauskas et al., 2018). Predictions in this situation can be based on the previously seen and described realities and their interactions with one another. The ideology is in favor of gathering and analyzing numerical data.

3.2 Research Design

A descriptive survey was employed as the study's research design. According to Malhotra et al. (2014), a descriptive survey research design involves monitoring and summarizing a subject's behavior without making any changes to it. This is a scientific approach. Questionnaires could be used for collecting data with this design.

The design was adopted since it is anticipated to provide an opportunity to use quantitative methods of data collection. Accordingly, research findings are expected to be comprehensive. The design was also considered appropriate since helped in the management of quantitative data gathered through questionnaires.

3.3 Population of the Study

A complete group of people, things, or events with observable characteristics is referred to as the population (Kothari, 2019). The units for which the study's results are intended to be generalized are referred to as the target population. The managers, department heads and senior managers at Safaricom PLC were the study's target population. Every day, they perform management and departmental tasks for the business. As a result, they can identify the elements that provide Safaricom Kenya Limited with an industry-leading advantage in crisis management. Therefore, this group was in a good position to offer crucial data for this investigation. Six (6) functional divisions and three (3) revenue centers make up Safaricom Limited.

Financial Services, Enterprise Business Unit (EBU), and Consumer Business Unit are the three revenue centers (CBU). Risk management, corporate affairs, strategy and innovation, customer operations, technology, and resources are some of the functional divisions. The study focused on 3 categories of the target population (managers, department heads and senior managers) who work in 1. Three people who work in each functional division and revenue center are listed below (managers, department heads and senior managers). The target population will comprise of a total of 37 managers, 37 department heads and 37 senior managers thus, totaling to 111 individuals.

Table 3. 1

Target Population

Division/Revenues Center	No. of Centers / Divisions	Target Population (Division x 3persons)
Financial services	8	24
Enterprise business unit	8	24
Customer business unit	10	30
Risk management dept	3	9
I&T dept	3	9
Human resources dept	5	15
Total	37	111

3.4 Sample Design and Sample Size

The study sample size was determined by Sharma (2020) recommendation of 30%. According to the authors, a 30% study sample can often provide a reasonably representative sample of the population. While it does not cover every single unit, it can still capture a diverse range of characteristics, allowing for meaningful insights and generalizations. In this case, the sample of staff was included in the study sample and was distributed as provided in Table 3.2

Table 3. 2

Sample Distribution Matrix

Division/Revenues Center	Target Population (Division x 3 persons)	Sample Size (N x 30%)
Financial services	24	7
Enterprise business unit	24	7
Customer business unit	30	9
Risk management dept	9	3
I&T dept	9	3
Human resources dept	15	5
Total	111	33

Table 3.2 reveals that 33 senior management staff, or 30% of the target population translating into a sample size of 11 managers, 11 department heads and 11 senior managers. The study used a stratified random sampling approach. Because the study's population was diverse, stratified random sampling was utilized. The target population consisted of senior management staff from various divisions and revenue centers, each with unique characteristics and responsibilities. By using a stratified sampling approach, the researchers ensured that each stratum (division/revenue center) was well-represented in the sample. This approach helped capture the diversity within the population and improved the generalizability of the findings to the entire senior management group. This was because the employees were categorized by their departments.

The use of Stratified Sampling Technique in this study is justified due to the diverse nature of the senior management staff population in various divisions and revenue centers. Stratified sampling allowed for the representation of each stratum, ensuring that the unique characteristics and responsibilities of each division and revenue center were adequately accounted for in the sample. This approach enhances the generalizability of the findings to the entire senior management group, as it captures the diversity within the population.

Purposive sampling technique was used to select for the sample for Directors, Heads of Departments and senior managers. The use of purposive sampling for Directors, Heads of Departments, and senior managers is justified as these individuals held critical positions and are likely to possess unique insights and perspectives relevant to the research objectives. Selecting them purposefully ensured that the study includes key decision-makers and influential members of the organization.

The application of Purposive Sampling Technique for selecting Directors, Heads of Departments, and senior managers is also well-justified. These individuals occupy pivotal positions within the organization and are likely to possess specialized insights and perspectives relevant to the research objectives. Purposively selecting them ensures that the study includes key decision-makers and influential figures, providing valuable and in-depth information crucial for the research's comprehensiveness and depth.

3.5 Instrumentation

This study used a structured questionnaire containing statements on a five-point Likert scale as the data gathering tool. The questionnaire was developed to meet the research objectives: the first portion asked about the respondents' demographic characteristics, while the second section (B to E) asked about the research objectives in chronological order.

A questionnaire, according to Malhotra et al. (2014), is a tool used to collect data from a large number of people who contribute information for research by responding to a printed set of questions.

3.6 Data collection Methods

A letter of introduction was obtained by the researcher from the university so as to enable the researcher in obtaining permissions from appropriate authorities. The National Council of Science, Technology, and Innovation (NACOSTI) were also contacted for a permit. The researcher presented the introductory letter and permit to Safaricom Kenya's Head Office, and was granted the permission to perform the study in the organization.

In this study, primary data was used. Primary data were gathered through surveys. The personnel at the Safaricom Headquarters (HQ1, HQ2, and HQ3), the Customer Operations Center in Mlolongo, and the Safaricom stores in several locations in the CBD, including Moi Avenue and I & M, also received the questionnaires. The surveys were left for the researcher to pick up once they had been completed.

Additional information was gathered from published publications and business documents, such as the 2020 Safaricom Annual Report.

The data collection procedure employed a "drop and pick" method, involving several key steps. Firstly, the researcher prepared clear and structured questionnaires. After contacting the selected participants, including Directors, Heads of Departments, and senior managers, the questionnaires were physically delivered to designated locations within the organization. Each questionnaire was accompanied by an explanatory cover letter, instructions, and a return deadline. Participants were given the flexibility to complete the questionnaires at their convenience. Subsequently, the researcher collected the completed questionnaires, which may have required scheduling appointments.

3.7 Validity & Reliability

This section presents the validity and reliability of the study instruments. Validity and reliability in research is essential to ensure the accuracy, credibility, and generalizability of the findings (Malhotra et al., 2014). By conducting piloted tests and employing appropriate statistical techniques, the researcher was able to confirm that the research instrument measured what it intended to measure consistently and reliably. This enhances the overall quality and impact of the research study.

3.7.1 Pilot Study

The researcher conducted a pilot study using 10% of the study sample (three managers) at the Telkom K Ltd. This was so as to ensure that participants at the pilot

study do not take part in the main study. The aim of the pilot test was to identify instrument design flaws, gauge how successfully the devices collected data, and serve as a stand-in for the gathering of data from a random sample (Cooper & Schindler, 2013). Before the actual data collection is done, the pilot research revealed flaws in the questionnaires. The data gathered were utilized to raise the standard of the research tools.

3.7.2 Validity

The instrument's validity refers to the degree to which it accurately measures what it claims to measure (Cooper & Schindler, 2013). The researcher conducted the validity assessment of the research instruments to ensure that the data collected accurately measures the intended constructs and effectively addresses the research objectives, enhancing the study's overall quality and reliability. Since this type of validity cannot be measured statistically, the construct and content validity of the questionnaire was decided in consultation with the approved college research supervisors (Kimberlin & Winterstein, 2008). The validity exercise aided in the improvement of the instrument's quality, for example, by guiding in the removal of unclear items from the tools and ensuring that they are appropriate for the study.

3.7.3 Reliability

Using piloted data described in sub-section 3.7.1, the researcher computed instrument reliability. Cooper and Schindler (2013) explain that a research instrument's reliability is a measure of how it consistently produces outcomes across

trials. The researcher conducted the reliability assessment of the research instruments to ensure that the data collected from key decision-makers and influential figures would be consistent and trustworthy, enhancing the overall quality and validity of the research findings. The test-retest method was used to determine the reliability. A correlation coefficient of >0.7 level is regarded as strong enough to determine the reliability of the equipment. Therefore, the questionnaire adopted for data collection upon yielding a correlation coefficient of 0.7 or more.

The reliability findings are shown in Table 3.3.

Table 3. 3

Reliability Statistics for Research Questionnaire

Cronbach's Alpha	N of Items
.837	24

N is the questionnaire's item count, and N is equal to 24. Given that the score of 0.837 was greater than the advised correlation value of 0.7, the instrument for management personnel was selected.

3.8 Methods of Data Analysis

According to Blumberg et al. (2011), data analysis is the process of inspecting, cleansing, converting, and modeling data in order to provide references that helped with sound decision-making. The questionnaire's quantitative data was first updated to remove discrepancies. Editing made sure the replies are correct, comprehensive,

and appropriate for future processing. Then, to code and analyze quantitative data, the Statistical Package for Social Sciences (SPSS) version 25 software was employed. Descriptive and inferential statistics were both applied throughout the data analysis. Included in descriptive statistics were frequencies, percentages, and means. Regression analysis and Pearson correlations were used for inferential statistics.

The influence of independent factors on the dependent variable was investigated using the Multiple Linear Regression. The regression model looked like this:

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

Where: Y = Effective Crisis Management,

X_1 = Top management leadership innovation,

X_2 = Product Innovations,

X_3 = Market Innovations,

X_4 = Process Innovations,

B_0 = Constant Term

$\beta_1, \beta_2, \beta_3$ & β_4 = Beta Coefficients

ϵ = Error Term

Multicollinearity will be measure using the Variance Inflation Factor (VIF) and Tolerance. The VIF measures the degree to which the variance of an estimated regression coefficient is increased due to multicollinearity. High VIF values indicate high multicollinearity. To calculate the VIF for each independent variable, regress each predictor variable against all other predictor variables and calculate the R-squared value for each regression. Then, calculate the VIF using the formula: $VIF = 1 / (1 - R\text{-squared})$. Typically, a VIF value greater than 5 or 10 indicates a presence

of multicollinearity, suggesting that the variance of the coefficient estimates is inflated due to high correlation between the independent variables. Lower VIF values indicate less multicollinearity and more reliable coefficient estimates.

3.9 Ethical Considerations

In conducting the study on the influence of organizational innovations on crisis management at Safaricom Public Limited Company in Kenya, several ethical considerations were carefully addressed. Firstly, informed consent was obtained from all participants involved in the research, ensuring that they were aware of the study's purpose and their voluntary participation. Confidentiality and anonymity of the respondents were strictly maintained to safeguard their privacy, and any sensitive information collected during the study was handled with utmost confidentiality. The research was conducted with integrity, honesty, and transparency, adhering to ethical guidelines and standards. Additionally, the study was approved by the relevant research ethics committee, ensuring that it met ethical requirements and did not cause any harm or discomfort to the participants. Throughout the research process, the well-being and rights of the participants were prioritized, upholding ethical principles of research integrity and respect for human subjects.

CHAPTER FOUR
RESEARCH FINDINGS AND DISCUSSIONS

4.1 Introduction

The presentations and conversations in this section of the research study focus on the findings of the project. It covers response rate, descriptive and inferential statistics, as well as a summary of the respondents' profiles. To draw meaningful conclusions and contribute to the resolution of the study concerns, the results are also contrasted with earlier findings.

4.1.1 Respondents' Response Rate

The researcher distributed a total of 33 questionnaires sent out to the senior personnel of Safaricom Kenya Limited, and the response rate is provided in Table 4.1.

Table 4. 1

Respondents' Response Rate

Division/Revenues Center	Target Sample	Actual	Percentage
Financial services	7	6	86%
Enterprise business unit	7	7	100%
Customer business unit	9	7	78%
Risk management dept	3	3	100%
I&T dept	3	2	67%
Human resources dept	5	4	80%
Total	33	29	85%

Out of the 33 employees who were targeted, 29 correctly completed and submitted the surveys. This demonstrated a 85% response rate. Additionally, responders were told that their information would be kept private. This allowed the researcher to draw reliable results and offer advice. A 75% response rate for surveys completed on paper is advised by (Nulty, 2008). Given this, the research's determined response rate was sufficient. Furthermore, Bell and Costa (2006) found that the non-response error decreased as the response rate increased. Therefore, the response rate in this instance was favorable.

4.2 Respondents' Profile

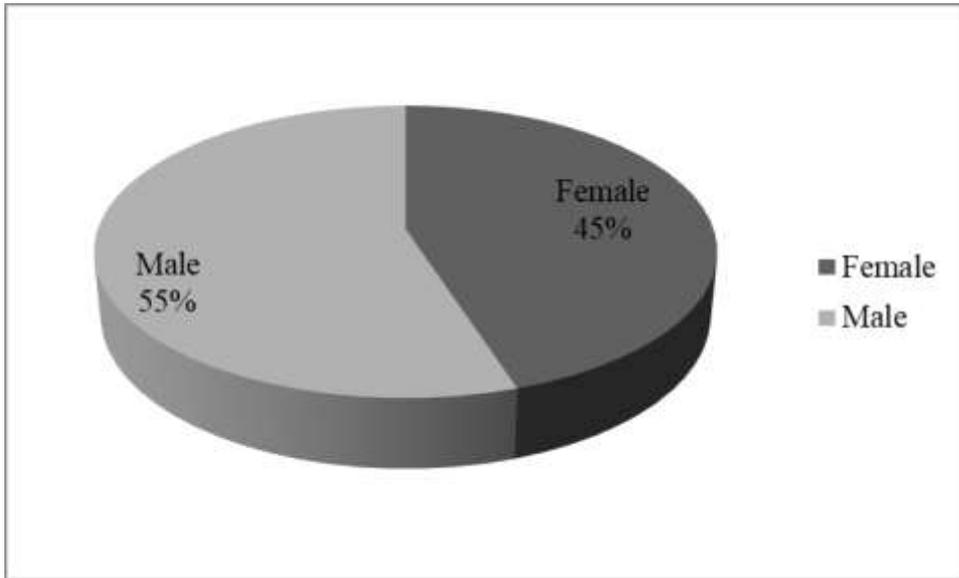
Results pertaining to the research participants' personal backgrounds are covered in this section. Results on respondents' highest academic degrees, length of employment at Safaricom Kenya Limited, and respondents' gender are included in this section.

4.2.1 Respondents' Gender

Figure 4.1 depicts the responses to questions on the respondents, general characteristics.

Figure 4. 1

Respondents' Gender



According to Figure 4.1, male made up 55% of the respondents, while female made up the remaining 45%. This suggested that men made up the majority of the responders, indicating a larger proportion of men than women among managerial employees. Nevertheless, the researcher was successful in gathering the opinions of each respondent. Thus eliminating the possibility of bias based on gender.

4.2.2 Length of Service at Safaricom Kenya Limited

The respondents were questioned on their employment history with Safaricom Kenya Limited and the results were as provided in Table 4.2.

Table 4. 2

Length of Service at Safaricom Kenya Limited

Response	Frequency	Percentage
Below 5 years	3	10.3
6 to10 years	18	62.1
11 to 15 years	8	27.6
Total	29	100.0

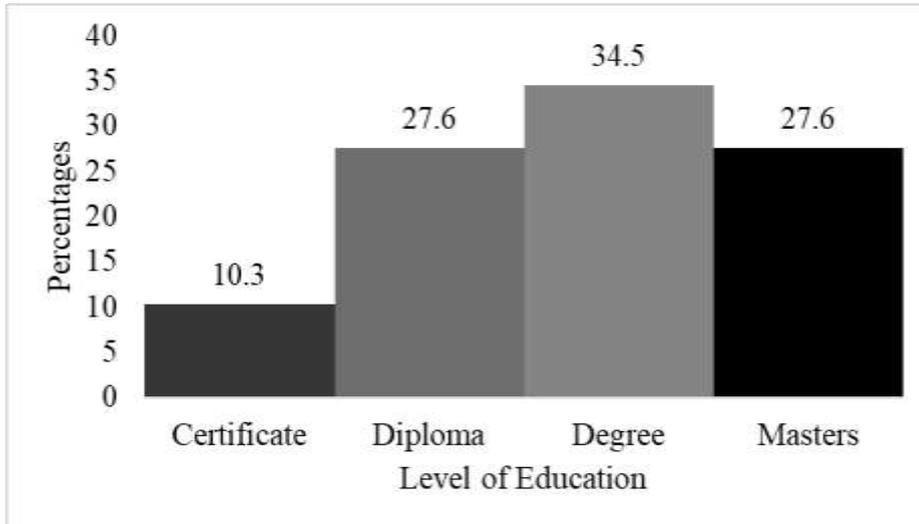
The results presented in Table 4.2 shows that 62.1% of the respondents had been working at Safaricom Kenya Limited for a period of 6 to 10 years, 27.6% had been working there for a period of 11 to 15 years, while 10.3% indicated a period of below 5 years. The outcomes imply that staff had been employed there for a sufficient amount of time to be able to provide the information required by the study. The researcher was able to eliminate any potential bias based on length of service by using responses from staff members with a variety of service tenures.

4.2.3 Respondents' Highest Academic Qualifications

The responses concerning the respondents' highest academic qualifications were as presented in Table 4.3.

Figure 4. 2

Respondents' Highest Academic Qualifications



According to Table 4.3's findings, 34.5% of the respondents had academic backgrounds that included a degree or above. Another 27.6% of participants had a master's degree, and another 27.6%, 27.6%, and 2.60 % of participants had diplomas, certificates, or degrees as their highest level of academic achievement. The findings imply that the researcher was successful in gathering data from participants with various levels of qualification, erasing study bias based on educational background.

4.2.4 Age of the Respondents

The results that reveal the respondents' ages are shown in Table 4.3.

Table 4.3

Age of the Respondents

Response	Frequency	Percentage
18 - 25yrs	4	13.8
26 - 35yrs	17	58.6
36 - 55yrs	8	27.6
Total	29	100

According to Table 4.4's findings, 58.6% of respondents were between the ages of 25 and 35, 27.6% were aged 36 to 45 years, and 13.8% were aged 18 to 25yrs. This suggested that the majority of participants were between the ages of 25 and 35. The scores revealed that the researcher was successful in gathering data from all of the intended age groups, thus, eliminating the possibility of bias based on age.

4.3 Descriptive statistics.

This section covers the descriptive aspects of the data gathered through the study process. The structure of the presentation in this section is organized in line with the research objectives.

4.3.1 The contribution of top management leadership towards crisis management

The findings of the descriptive statistics for the first objective are shown in this section. This objective sought to determine the contribution of top management leadership innovation to innovation towards crisis management at Safaricom PLC Kenya. Several statements were used to describe the contribution of top management leadership towards crisis management at Safaricom Kenya. The researcher used a scale from 1 to 5, with 1 signifying severe disagreement, 2 denoting disapproval, 3 denoting neutrality, 4 denoting agreement, and 5 denoting great agreement.

Table 4. 4

The Contribution of Top Management Leadership towards Crisis Management

	N	Minimum	Maximum	Mean	Std. Dev
The top management ensures that management styles are supportive of innovations in times of crisis	29	1.00	5.00	3.86	1.22
The top management ensures makes sure that administration methods employed are supportive of innovation in times of crisis	29	1.00	5.00	3.79	1.24
The top management has remained committed to innovation support	29	3.00	5.00	4.07	0.84
There is a well-coordinated Innovation management System at Safaricom Kenya	29	3.00	5.00	3.69	0.60
Valid N (listwise)	29				

The statements' mean score was as follows. The assertion that top management supports innovative management practices during times of crisis had a mean score of 3.862. The reported mean score was 3.862, which, when rounded to the nearest whole number, equals 4.0, the intensity of the "agree" answer. This demonstrates that the majority of the workforce at Safaricom Kenya Limited believes that the top management ensures that management styles are supportive of innovations in times of crisis. The findings are in line with those in a study by Dwiedienawati et al. (2021) who found that the top management had the task of ensuring that appropriate leadership styles were in place. The researcher observed that the success of crisis management was favorably affected by a transformational leader. The results demonstrate that the claim that the top management makes sure that administration methods employed are supportive of innovation in times of crisis recorded a mean score of 3.79. The calculated average score was 3.79, which, when rounded to the nearest whole number, equals 4.0, or the strength of the "agree" response. This demonstrates that in the opinion of the majority of the Safaricom Kenya Limited staff, the top management ensures makes sure that the administration methods employed are supportive of innovation in times of crisis. The outcomes concurred with those of a Koch-Bayram and Wernicke (2018) who found that the top management ensures makes sure that administration methods are favorable for innovation in times of crisis.

The results demonstrate that the claim that the top management makes sure has remained committed to innovation support recorded a mean score of 4.07. The calculated average score was 4.07, which, when rounded to the nearest whole number, equals 4.0, representing the intensity of the "agree" response. This result

suggests that most of the staff of Safaricom Kenya Limited felt that the top management leadership has remained committed to innovation support, and thus, contributing to crisis management. The findings are in agreement with those in a study by Lee and Welliver (2018) who found that top managers must address all issues, no matter how little, and must take the initiative to find solutions. They must be committed to effective crisis management. The results demonstrate that the claim that the top management makes sure makes sure that there is a well-coordinated innovation management system at Safaricom Kenya recorded a mean score of 3.69. When rounded off, the reported mean score is 4.0, which is equal to the 'agree' response rating. This shows that according to most of the staff of Safaricom Kenya Limited, the top management makes sure that there is a well-coordinated innovation management system at Safaricom Kenya.

The findings are in agreement with those in a study by Hughes et al. (2018) where it was established that the top management made sure that there exists a functioning innovation management system to steer effective crisis management.

4.3.2 The contribution of Product Innovation towards Crisis Management

Several remarks from Safaricom Kenya discussed the advantages of product innovation for crisis management, to which the respondents were asked to indicate how much they agreed or disagreed. The Likert scale, which runs from 1 to 5, is a rating system where 1 indicates a strong disagreeing, 2 disagreeing, 3 neutral agreeing, 4 agreeing, and 5 strong agreeing, served as the basis for their responses. The results are displayed in Table 4.5.

Table 4.5***Contribution of Product Innovation towards Crisis Management***

	N	Min	Max	Mean	Std. Deviation
Our approach to product innovation focuses on enhancing product functionality throughout the crisis.	29	1.00	5.00	3.4483	.90972
Our product innovation strategy focuses on enhancing product quality	29	1.00	5.00	3.7586	.91242
The organization has been keen on introducing new products during the crisis	29	3.00	5.00	3.9655	.73108
Our product innovation strategy focuses on improving existing products during the crisis	29	2.00	5.00	3.8276	.80485
Valid N (listwise)	29				

The findings of Table 4.5 support the claim that enhancing product performance during times of crisis is a key component of the organization's product innovation strategy received a mean score of 3.44. The stated mean score, which is rounded off, is 3.0, indicating "neutral" response strength. This demonstrates that the company's strategy for product innovation is centered on enhancing product functionality at times of necessity, in the view of the majority of employees. The results support Wenzel et al. (2020) product innovation strategy, which focuses on enhancing product performance and is helpful for crisis management.

The results showed that the claim that the company's product innovation strategy places a strong emphasis on improving product quality had a mean score of 3.759. When rounded off, the reported mean score is 4.0, which is equal to the 'agree' response strength. This demonstrates that the majority of workers believe that improving product quality is the primary goal of Safaricom's product innovation strategy. The findings are consistent with those of an analysis by Ndesaulwa et al. (2017) which determined that a focus on enhancing product quality in product innovation strategies has benefited crisis management.

According to the findings, the claim that the firm has been eager to provide new items throughout crises had a mean score of 3.9655. When rounded off, the reported mean score is 4.0, which is equal to the 'agree' response strength. This demonstrates that, in the opinions of the majority of the workforce, Safaricom has been eager to launch new goods amid a crisis. The findings are in line with a study by Samra et al. (2019) which found that creating new goods or services was a good way to handle crises.

The results showed that the claim that the company's product innovation strategy places a priority on making existing items better in times of crisis had a mean score of 3.966. When rounded off, the reported mean score is 4.0, which is equal to the 'agree' response strength. This demonstrates that, in the opinion of the majority of staff members, Safaricom's product innovation strategy places a priority on enhancing current goods when a crisis arises. The results are in line with those of a research by Wenzel et al. (2020) which found that a crisis-focused product innovation approach that emphasizes enhancing current goods was successful.

4.3.3 Contribution of Process Innovation towards Crisis Management

The participants were asked to rate how much they agreed with certain assertions about how process innovation contributes to crisis management at Safaricom Kenya. A Likert scale with the following values was used to guide their responses: (1) = Absolutely Disagreeing; (2) = Disagreeing; (3) = Neutral; (4) = Agreeing; and (5) = Strongly Agreeing. The results were as provided in Table 4.6.

Table 4. 6

Descriptive Statistics Results for the contribution of Process Innovation towards Crisis Management

	N	Min	Max	Mean	Std. Deviation
To better meet the demands of the clients, the company regularly alters its product offerings (services).	29	1.00	5.00	3.5172	.91107
To improve the quality of outputs that meet the expectations of clients, our firm delivers innovative support services	29	1.00	5.00	3.3448	.97379
Our firm has been offering higher-quality services as automated service delivery solutions ((such as mobile and phones computers) have been used.	29	2.00	4.00	3.3103	.84951
Our company's sales volume is modest when compared to that of rival businesses.	29	2.00	5.00	3.4138	1.01831
Valid N (listwise)	29				

According to Table 4.6's findings, the statement that the company frequently changes its product offerings (services) to better meet customer demands received a mean score of 3.517. When rounded off, the reported mean score is 3.0, which is equal to a "neutral" reaction strength. This demonstrates that, in the opinions of the majority of senior staff, the business regularly changes its product and service offerings to better meet the needs of its clients. The results are in line with those by Akpoviroro et al. (2019) who found that there was a substantial association between service modification and sales volume as well as a significant impact of process innovation on organizational performance.

The conclusions showed that the claim that the company provides creative support services is true. This claim indicates that a mean score of 3.3448 was recorded in order to improve the output quality and meet customer expectations. When rounded off, the reported mean score is 3.0, which is equal to a "neutral" reaction strength. This demonstrates that the majority of employees did not concur that the organization provides creative assistance services to raise the caliber of outputs that satisfy the requirements of clients. The results are in agreement with those in a study by Alshorman et al. (2020) who found that process innovation was started to raise output quality and match client requirements.

The findings demonstrate that the claim that the business has been offering automated service delivery choices that are of greater quality (such as mobile and phones computers) have been employed recorded a mean score of 3.3103. When rounded off, the reported mean score is 3.0, which is equal to a "neutral" reaction strength. This demonstrates that despite the usage of automated service delivery technologies (such computers and cell phones), the majority of the personnel was not

in agreement that the organization was providing higher-quality services. The findings were in agreement with those in a study by Dwivedi (2020) where it was found that automated service delivery solutions cover improvements in software and technological systems that help firms with their supply chain management and delivery processes, even in times of crisis.

According to the results, the assertion that the company's sales volume is small compared to that of competitors received a mean score of 3.4138. When rounded off, the reported mean score is 3.0, which is equal to a "neutral" reaction strength. According to the findings, the majority of employees were not persuaded that Safaricom's sales volume was little in comparison to that of competing companies. The results concur with those of an Akpoviroro et al. (2019) investigation who found that the company's sales volume is modest when compared to that of rival businesses and that this contributed to effective crisis management.

4.3.4 Descriptive Statistics Results for Statements on the contribution of Market Innovations towards Crisis Management

The participants were surveyed to gauge their level of agreement with various claims about how market innovations have aided in crisis management at Safaricom Kenya. The Likert scale, which ranges from 1 to 5, with 1 signifying strongly disagree, 2 denoting disagreement, 3 representing neutral agreement, 4 denoting agreement, and 5 denoting agreement, served as the basis for their responses. The outcomes are shown in Table 4.7.

Table 4. 7***Descriptive Statistics Results for the contribution of Market Innovations towards Crisis Management***

	N	Minimum	Maximum	Mean	Std. Deviation
One of the primary goals of our market innovation strategy is to improve the quality of our products and services.	29	2.00	5.00	3.8621	.83342
Our market innovation approach includes a focus on customer happiness.	29	2.00	5.00	3.6897	.84951
Our market innovation approach includes improving administrative processes.	29	1.00	5.00	3.7241	.88223
Market innovation involves becoming more aggressive with marketing.	29	2.00	5.00	3.6552	1.04457
Valid N (listwise)	29				

The findings in Table 4.7 demonstrate that the claim that improving the quality of the company's services and goods is one of the main objectives of our market innovation strategy received a mean score of 3.8621. When rounded off, the reported mean score is 4.0, which is equal to the 'agree' response strength. This demonstrates that, in the opinion of the majority of senior staff, one of the main objectives of Safaricom's market innovation strategy is to improve the quality of our goods and services.

The findings corroborate those of a study by Mugo and Macharia (2021) which found that one of the main objectives of market innovation strategy is to raise the caliber of our goods and services.

According to the results, the statement that the company's market innovation strategy places a priority on customer satisfaction had a mean score of 3.6897. When rounded off, the reported mean score is 4.0, which is equal to the 'agree' response strength. This demonstrates that the majority of workers believe that a focus on customer satisfaction is part of Safaricom's market innovation approach. The results are in line with those of a study by Kiprotich et al. (2019) which came to the conclusion that since the customer is the key to a product's success, telecommunications companies should concentrate their new products and services on satisfying their needs. These companies should be able to recognize that if the customer isn't "happy" or if the creative.

The findings demonstrate that the assertion that the company's market innovation strategy involves streamlining administrative procedures had a mean score of 3.7241. When rounded off, the reported mean score is 4.0, which is equal to the 'agree' response strength. This demonstrates that the majority of senior staff members believe that streamlining administrative procedures is part of Safaricom's approach to

market innovation. The results are in line with those of a research by Adamu et al. (2020) which found that market innovation strategies that put an emphasis on improving administrative procedures aided in successful crisis management.

The results reveal that the assertion that the company's market innovation include stepping up its marketing efforts had a mean score of 3.6552. When rounded off, the reported mean score is 4.0, which is equal to the 'agree' response strength. This demonstrates that the majority of employees believe that increasing marketing aggression is a necessary component of Safaricom's market innovation. The results concur with those of a study by Osei et al. (2016) which found that aggressive marketing is supported by effective crisis management.

4.3.5 Descriptive Statistics Results for Effective Crisis Management

The assertions concerning crisis management at Safaricom Kenya were marked with a check mark by the participants. A Likert scale with the following values was used to guide their responses: (1) = Strongly Disagreeing, (2) = Disagreeing, (3) = Neutral, (4) = Agreeing, and (5) = Strongly Agreeing. The results were as provided in Table 4.8.

Table 4. 8***Descriptive Statistics Results for Effective Crisis Management***

	N	Minimum	Maximum	Mean	Std. Deviation
During a crisis, our company benefits from expert planning.	29	2.00	5.00	3.7586	.78627
During a crisis, our company may offer a pro-active approach.	29	2.00	5.00	3.5862	.73277
During a crisis, our company can maintain its commitment to putting customers first.	29	1.00	5.00	3.7586	.83045
Our organization provides an established response coordination framework that successfully addresses flaws following a disaster.	29	2.00	5.00	3.8966	.90019
Valid N (listwise)	29				

According to the results, the claim that the company gains from effective preparation during a crisis had a mean score of 3.7586. When rounded off, the reported mean score is 4.0, which is equal to the 'agree' response strength. This demonstrates that, in the opinions of the majority of staff members, the firm Safaricom benefits from careful preparedness before a crisis.

The results support a research by Appel (2020) who found that good crisis management was strongly correlated with smart planning during a crisis. According to Table 4.8's findings, the assertion that the company's organization can respond pro-actively to crises had a mean rating of 3.5862. When rounded off, the reported mean score is 4.0, which is equal to the 'agree' response strength.

According to the findings, the claim that the business can maintain a customer-first mentality in a crisis received a mean score of 3.7586. When rounded off, the reported mean score is 4.0, which is equal to the 'agree' response strength. This demonstrates that, in their opinion, Safaricom Company can maintain a customer-first mentality even in times of crisis.

According to Table 4.8's findings, the organization supports a response coordination structure that efficiently addresses flaws during a crisis, which had a mean score of 3.897. When rounded off, the reported mean score is 4.0, which is equal to the 'agree' response strength. This demonstrates that, in the opinions of the majority of its workers, Safaricom Company supports a response coordination structure that efficiently addresses flaws following a crisis. The findings are consistent with the investigation from Appel (2020) which found that an effective response coordination system for addressing issues after a crisis was a sign of good crisis management.

4.4 Correlations

4.4.1 Correlations between Organizational Innovations and Effective Crisis Management at Safaricom PLC, Kenya

Table 4.9 illustrates the relationship between organizational innovations and effective crisis management at Kenya's Safaricom PLC.

Table 4.9

Correlations between Organizational Innovations and Effective Crisis Management at Safaricom PLC, Kenya

		Effective Crisis Management
Top management leadership innovation	Pearson Correlation	.438
	Sig. (2-tailed)	.017
	N	29
Product Innovation	Pearson Correlation	.563
	Sig. (2-tailed)	.001
	N	29
Process Innovations	Pearson Correlation	.198
	Sig. (2-tailed)	.303
	N	29
Market Innovations	Pearson Correlation	.469
	Sig. (2-tailed)	.010
	N	29
Effective Crisis Management	Pearson Correlation	1
	Sig. (2-tailed)	
	N	29

The assumption that r is typically a score between 0 and 1, with 1 denoting the perfect correlation and 0 denoting no correlation, serves as the basis for the rule guiding interpretation in this section. Top management commitment and leadership were positively correlated with effective crisis management, according to Pearson's correlation analysis in Table 4.9, with $r = 0.438$ and $p = 0.017$, respectively. The p -value of 0.017, which is lower than the test significance threshold of 0.05, demonstrates that the positive relationship was statistically significant. According to the findings, an increase of one unit in top management's dedication and leadership resulted in an increase of 0.438 units in the ability to manage crises effectively. In light of this, senior management's demonstrated leadership and dedication positively impacted the effectiveness of crisis management.

The results in Table 4.9 demonstrate a positive Pearson association between successful crisis management and product innovation, as follows: ($r = 0.563$, $p = 0.001$). This indicates that effective crisis management and product creation were related. The p -value (0.001) is less than the test significance threshold ($p < 0.05$), indicating that this link is statistically significant. According to the findings, each rise in product innovation draws an increase of 0.563 units toward efficient crisis management. Therefore, it indicates that product innovation influenced the success of crisis management.

According to Table 4.9's findings, process innovations and successful crisis management have a positive Pearson correlation as follows: ($r = 0.198$, $p = 0.303$). This demonstrates that successful crisis management and product innovation have a beneficial relationship. Due to the p -value (0.303), which was greater than the test significance threshold ($p > 0.05$), this association is not statistically significant.

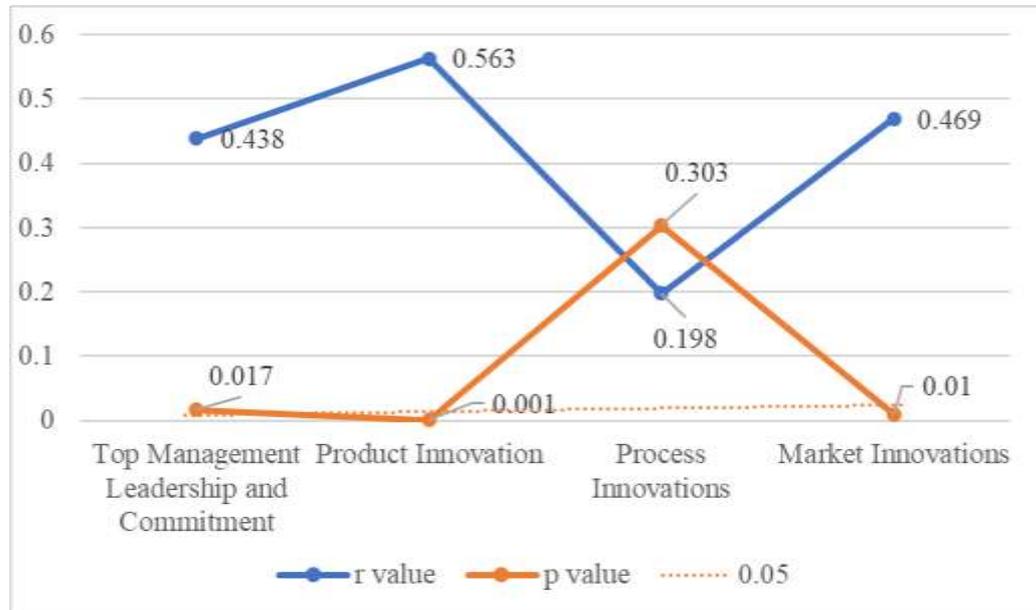
According to the results, a unit increase in product innovation draws a unit rise of 0.198 in favor of efficient crisis management. The higher p-value, however, demonstrates that process innovation did not significantly help to efficient crisis management.

According to the findings, there was a $r = 0.469$, $p = 0.010$ positive Pearson association between market innovations and successful crisis management. This demonstrates that market innovations and successful crisis management have a favorable relationship. The p-value (0.010) was less than the test significance threshold ($p < 0.05$), indicating that this association is statistically significant. The results imply that a unit increase in market innovations draws a unit rise of 0.469 in favor of efficient crisis management. Therefore, it indicates that product innovation influenced the success of crisis management.

Figure 4.3 provides an illustration comparing the associations at Safaricom PLC, Kenya, between organizational innovations and successful crisis management.

Figure 4. 3

Correlations between Organizational Innovations and Effective Crisis Management at Safaricom PLC, Kenya



The results show the highest correlation scores were recorded between product innovation and effective crisis management as follows: ($r = 0.563$, $p = 0.001$). This was followed by that between top management leadership innovation, and effective crisis management at $r = 0.438$; $p = 0.017$. The third in line was the score results for the Pearson correlation between market innovations and effective crisis management at ($r = 0.469$, $p = 0.010$). The weakest correlation was that between process innovations and effective crisis management at ($r = 0.198$, $p = 0.303$), which though positive, had a p-value that was greater than the threshold at the 0.05 test significance level. The interpretation was that among the four factors the greatest contributors were product innovation, top management leadership innovation, and market innovations.

4.5 Regression Analysis

This section displays the results of the multiple regression analysis carried out to ascertain the relationship between the independent and dependent variables. The link between product innovation, top management commitment, and leadership, process innovation, market innovation (independent variables), and efficient crisis management are among the factors that were examined (dependent variable).

4.5.1 Model Summary

The results of multiple regressions are shown in this section to show how the independent and dependent variables are related. The model summary for top management commitment, process innovation, product innovation, and market innovation as indicators of successful crisis management is shown in Table 4.10.

Table 4. 10

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.761 ^a	.579	.509	.35065

How much of the variance in the dependent variable can be explained by the independent variables is shown by the R Square value in the Model Summary table. Table 4.10 below lists the independent factors for Safaricom PLC that, when combined, explained 50.9 percent (R Square) of the variation in the contribution to successful crisis management. This suggests that innovation in products, processes,

and markets, together with senior executive leadership and dedication, work together to support successful crisis management at Safaricom PLC. The multiple correlation coefficient between effective crisis management and each of the independent factors entered is .761 (R-value). The linear relationship between the expected and actual values of the dependent variable is known as the multiple correlation coefficient, or R. The high score of 0.761 indicates a significant relationship. As the number of variables rises, a bias is removed via the Adjusted R Square. The standard error of the estimate serves as a gauge for prediction accuracy. The remaining 49.1% (i.e., 100% - 57.9%) crisis management at Safaricom PLC will need to be determined through future research.

4.5.2 Analysis of Variances (ANOVA)

The results of the study of variances are summarized in Table 4.11.

Table 4. 11

Analysis of Variances (ANOVA)

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	4.062	4	1.015	8.259	.000 ^b
Residual	2.951	24	.123		
Total	7.013	28			

The determinants (the independent variables) in the study are substantial when the Sig. (p-value) is 0.05. The data in Table 4.11 show that the p-value was 0.000. The

independent factors (process innovations, market innovations, product innovations and top management commitment and leadership) and effective crisis management are significantly correlated, as indicated by the p values below 0.05 at Safaricom PLC (test significance level). Because of p 0.05, our predictions are substantially more accurate than would be expected by chance. The regression line that organizational innovations predicted can be summarized as follows: The researcher concluded that the regression is statistically significant because $F(4, 24) = 8.259$; $p = 0.000$. According to these findings, organizational innovations together contribute in a statistically meaningful way to effective crisis management.

4.5.3 Beta Coefficients for Organizational Innovations

Table 4.12 lists the beta coefficients for the outputs of the regression.

Table 4. 12

Beta Coefficients for Organizational Innovations

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Err	Beta		
1	(Constant)	1.796	.504		3.560	.002
	Top management leadership innovation	.038	.104	.069	.367	.717
	Product Innovations	.514	.143	.668	3.590	.001
	Process Innovation	-.515	.167	-.624	-3.090	.005
	Market Innovation	.482	.136	.633	3.555	.002

The estimated equation was as shown below:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$$

Effective Crisis Management = 1.796 Constant + 0.668 Product Innovation + 0.069
Top management leadership innovation + 0.633 Market Innovations - 0.624 Process
Innovations + 0.504 Standard error.

According to the results, all variables had p values less than 0.05 and were thus significant predictors, with the exception of senior management leadership and commitment. The following p values were obtained: Market Innovations (0.005), Product Innovations (0.001), Process Innovations (0.005), and Top management leadership innovation (0.717). Standard coefficients because the constant value in the model is important, beta scores are used instead of unstandardized B-coefficients and all independent variables have identical (Likert) scales.

According to the findings of the multiple regression analysis, senior management commitment and leadership had a beta value of (1 = 0.069; p = 0.717). This implies that an increase of one unit in top management leadership innovation would result in an increase of 0.069 units in successful crisis management. Furthermore, top management commitment and leadership was not a significant predictor of effective crisis management, as indicated by a p-value of greater than 0.05 in the test of significance.

The findings of the multiple regression demonstrate that the beta coefficient for product innovation was (2 = 0.668; p = 0.001). Accordingly, a one-unit decline in product innovation would translate into a 0.668-unit decrease in the efficiency of

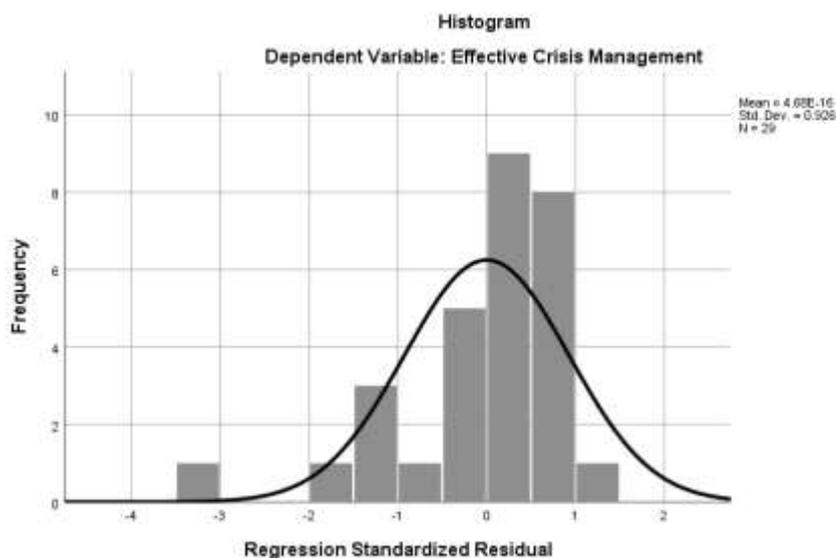
crisis management. This suggests that a key predictor of successful crisis management was product innovation.

Process innovations showed a beta coefficient of (3 = -0.624; $p = 0.005$), according to the findings of the multiple regression analysis. Accordingly, a one-unit rise in market innovations would translate into a 0.624-unit drop in effective crisis management. This suggests that process improvements were not a reliable indicator of successful crisis management.

Market innovations had a beta coefficient of (4 = 0.633; $p = 0.002$), according to the results of the multiple regression analysis. Accordingly, a one-unit decline in product innovation would translate into a 0.633-unit decline in the efficiency of crisis management. Accordingly, market innovations may have been a key indicator of crisis management success.

Figure 4. 4

Histogram showing distribution of Regression Scores



4.5.4 Test of Hypothesis

The study's hypotheses were tested using the coefficient outputs for the independent and dependent variables in Tables 4.12. If the p values calculated from the regression outputs for each variable under measurement were less than the standard value of 0.05, the null hypotheses were to be rejected.

Table 4. 13

Regression between Top management leadership innovation and Effective Crisis Management

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	3.031	.340		8.904	.000
Top management leadership innovation	.192	.085	.400	2.268	.032

The first hypothesis stated that “Ho₁: Top management leadership innovation does not have a statistically significant contribution toward effective crisis management at Safaricom Public Limited Company.” Since the p-value associated with Top management leadership innovation was 0.032 and "β" = 0.192 (see Table 4.12), the null hypothesis is rejected and thus, it is concluded that top management leadership innovation have a significant relationship with effective crisis management.

Rejecting the null hypothesis means that top management leadership was positively contributing to effective crisis management. The findings are in agreement with those in a study Hasan and Rjoub (2017) who established a positive significant relationship between top management innovation and effective crisis management.

Table 4. 14

Regression between Product Innovation and Effective Crisis Management

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	1.984	.417		4.762	.000
Product Innovation	.480	.110	.644	4.369	.000

The second hypothesis stated that “Ho₂: Product innovations do not have a statistically significant contribution toward effective crisis management at Safaricom Public Limited Company. Since the p-value associated with product innovations was 0.000, $p < 0.05$ and " β " = 0.480 (see Table 4.14), the null hypothesis is rejected and thus, it is concluded that Product innovations have a statistically significant contribution toward effective crisis management at Safaricom Public Limited Company. Rejecting the null hypothesis means that this factor is a strong contributor toward effective crisis management at Safaricom Public Limited Company.

The results are similar to those in a study by Wenzel et al. (2020) where it was found that Product innovations have a statistically significant contribution toward effective crisis management.

Table 4. 15

Regression between Process Innovation and Effective Crisis Management

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	2.045	.439		4.661	.000
Process Innovations	.461	.115	.611	4.009	.000

The third hypothesis stated that “H₀₃: Process innovations do not have a statistically significant relationship on effective crisis management at Safaricom Public Limited Company. Since the p-value associated with market innovations was 0.000, $p < 0.05$ and “ β ” = 0.461 (see Table 4.15), the null hypothesis is rejected and thus, it is concluded that process innovations have a statistically significant contribution toward effective crisis management at Safaricom Public Limited Company. Rejecting the null hypothesis means that process innovations is a strong contributor toward effective crisis management at Safaricom Public Limited Company. The results resonate with those in a study by Alshorman et al. (2020) who established a substantial connection between process innovation, design management, and crisis management effectiveness.

Table 4. 16***Regression between Market Innovations and Effective Crisis Management***

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	1.543	.246		6.261	.000
Market Innovations	.587	.064	.871	9.223	.000

The fourth hypothesis stated that “Ho₃: Market innovations do not have a statistically significant relationship on effective crisis management at Safaricom Public Limited Company. Since the p-value associated with market innovations was 0.000, $p < 0.05$ and " β " = 0.587 (see Table 4.16), the null hypothesis is rejected and thus, it is concluded that market innovations have a statistically significant contribution toward effective crisis management at Safaricom Public Limited Company. Rejecting the null hypothesis means that market innovations were a significant contributor toward effective crisis management at Safaricom Public Limited Company. The results are in agreement to those in a study by Soi (2016) who established a significant positive relationship between market innovations and effective crisis management.

4.5.5 Findings Support to Existing the Theories

The Dynamic Capability Theory suggests that organizations need to continuously adapt and renew their capabilities to respond effectively to dynamic and uncertain environments. The study's findings support this theory as it demonstrates a positive

and statistically significant relationship between top management leadership innovation, product innovation, process innovation, and market innovations, and effective crisis management at Safaricom Public Limited Company. This indicates that the company's ability to innovate and adapt its strategies and processes in response to crises contributes to its effectiveness in crisis management, aligning with the principles of the Dynamic Capability Theory.

The Resource-Based View (RBV) Theory posits that a firm's competitive advantage and performance are influenced by its unique and valuable resources. The study's results align with the RBV theory, as it shows that product innovation, process innovation, and market innovations are statistically significant contributors to effective crisis management. These innovations can be considered valuable resources for the company, enhancing its crisis management capabilities and overall performance. The RBV theory emphasizes the importance of leveraging valuable resources to gain a competitive advantage, and in this case, Safaricom's ability to innovate contributes to its crisis management effectiveness.

The Innovation Diffusion Theory (IDT) explains how new ideas or innovations spread and are adopted by individuals or organizations. In this study, the results are consistent with IDT, as the findings demonstrate that the adoption of top management leadership innovation, product innovation, process innovation, and market innovations have a significant positive relationship with effective crisis management at Safaricom. This indicates that the innovations introduced by the company's leadership and adopted throughout the organization contribute to its crisis management practices.

The IDT emphasizes the importance of effective communication and the benefits of innovations, both of which seem to be at play in this study, where the adoption of innovative practices positively impacts crisis management at Safaricom.

4.5.6 Multicollinearity Statistics all the Independent Variables

This indicates normality, which is confirmed by the test of normality. To examine the efficiency of the specified model, tests on OLS assumptions of normality, multicollinearity, and heteroskedasticity were done. Multicollinearity is a regression analysis problem that occurs when at least one independent variable has a strong correlation with a mixture of the other independent variables.

Table 4. 17

Multicollinearity Statistics

Model	Collinearity Statistics	
	Tolerance	VIF
1 (Constant)		
Top management leadership innovation	.493	2.030
Product Innovations	.507	1.974
Process Innovation	.430	2.326
Market Innovation	.553	1.807

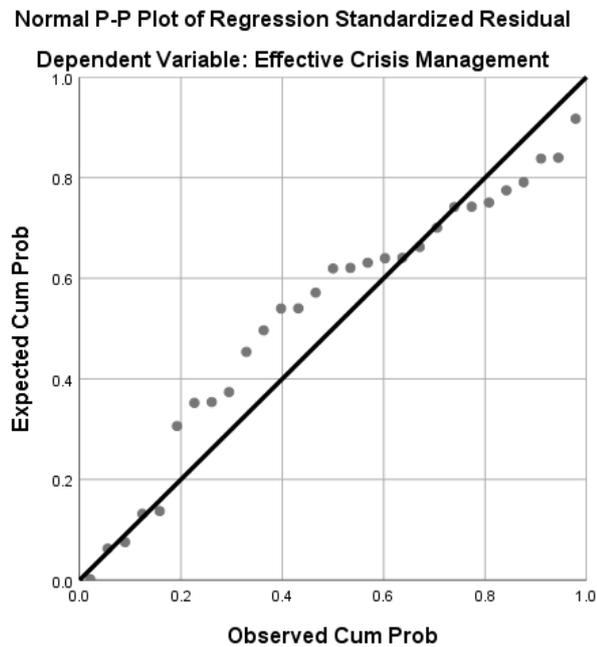
In our multiple linear regression model, Table 4.13 checks for multicollinearity. For all variables, tolerance should be more than 0.1 (or VIF less than 10). The results reveal that all of the variables had tolerance values ranging from 0.430 to 0.553, with VIF statistics ranging from 1.803 to 2.030. The Variance Inflation Factor (VIF) is just the inverse of the tolerance statistics. Multicollinearity is commonly defined as a VIF of larger than ten (ten). As a result, given the VIF values obtained were between 1 and 10, it can be stated that there is no multicollinearity in the data (See Table 4.13). The PP plot of regression normalized residuals suggested that the data were normal (See Figure 4.5). According to the normality assumption, if the plotted points are substantially close to the straight line drawn from the lower left to the upper right of the graph, the distribution is judged to be normal.

The findings provide mixed support for the Dynamic Capability Theory, Resource-Based View Theory, and Innovation Diffusion Theory (IDT). Firstly, the positive beta coefficients for Product Innovations and Market Innovations (0.668 and 0.633, respectively) suggest that these innovations have a significant positive impact on effective crisis management, aligning with the Resource-Based View Theory, which emphasizes the role of unique resources and capabilities in achieving competitive advantage. However, the negative beta coefficient for Process Innovations (-0.624) indicates that an increase in process innovations is associated with a decrease in effective crisis management, which challenges the Resource-Based View Theory's assumption that more resources are always beneficial. Additionally, the non-significant result for Top Management Leadership Innovation (0.069) contradicts the Dynamic Capability Theory's emphasis on leadership's role in organizational adaptability and crisis management. Therefore, while some findings align with these

theories, others present discrepancies, suggesting that multiple factors influence effective crisis management, and a nuanced understanding is required.

Figure 4. 5

P-P plot of Regression Standardized Residual



The points on this plot, which are between 0.0 and 1.0 in this example, create a roughly linear pattern, indicating that the normal distribution is an excellent fit for this data set. The greater the deviation from normalcy, the more the points deviates from this line. This was confirmed by a normality test.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The study's summary, findings, and recommendations are presented in this chapter. The purpose of the study was to examine the contribution of organizational innovations toward effective crisis management at Safaricom PLC, Kenya, the chapter concludes with recommendations and ideas for more research after providing a summary of the study's findings.

5.2 Summary of Findings

This section summarizes the study's findings for each variable and discusses how each independent variable, organizational innovations, affects the dependent variable, effective crisis management.

5.2.1 The contribution of top management leadership toward crisis management

The study findings revealed that according to most of the staff in Safaricom Kenya Limited, the top management ensures that management styles are supportive of innovations in times of crisis. Most of the respondents indicated that the top management ensures makes sure that the administration methods employed are supportive of innovation in times of crisis. It was established that the top management leadership has remained committed to innovation support, and thus, contributing to crisis management. The study established that the top management

ensures makes sure that there is a well-coordinated Innovation management system at Safaricom Kenya. Effective crisis management was correlated positively with top management commitment and leadership. According to the findings of the multiple regression analysis, senior management innovation is a strong predictor to effective crisis management.

5.2.2 The contribution of Product Innovation toward Crisis Management

The survey's findings show that the majority of respondents believe that firms should prioritize improving product performance in times of crisis when developing new products. The majority of the employees claimed that Safaricom's approach for product innovation is centered on improving product quality. The results also demonstrate that Safaricom's product innovation strategy is centered on enhancing current goods in times of crisis for the majority of the workforce. There was a positive Pearson correlation between product innovation and effective crisis management. The findings of the multiple regression demonstrate that product innovation was a strong predictor to effective crisis management.

5.2.3 The contribution of Process Innovation toward Crisis Management

The findings agreed that according to most of the senior personnel, the company continuously modifies its service and product offerings to better satisfy its clients. The study revealed that most of the employees did not agree that to improve the quality of outputs that meet the expectations of clients; the company delivers innovative support services. Most of the staff did not agree that the company has

been providing automated service delivery solutions that are of higher quality (such as computer and cell phones) have been used. Most of the employees were not convinced that Safaricom Company's sales volume is modest when compared to that of rival businesses. There was a positive Pearson correlation between market innovations and effective crisis management. Process innovations was a strong predictor to effective crisis management, according to the findings of the multiple regression analysis.

5.2.4 The contribution of Market Innovations toward Crisis Management

The results revealed that according to most of the employees, improving the quality of our products and services is one of the primary goals of Safaricom's market innovation strategy. Most of the employees indicated that Safaricom's market innovation approach includes a focus on customer happiness. The study found that most of the senior personnel indicated that Safaricom's market innovation approach includes improving administrative processes. Most of the employees indicated that Safaricom's market innovation involves becoming more aggressive with marketing. There was a positive Pearson correlation between market innovations and effective crisis management. The findings of the multiple regression demonstrate that market innovations were a strong predictor to effective crisis management.

5.3 Conclusions

According to the results, senior management commitment and leadership was not a reliable indicator of crisis management. This is evidenced by the fact some staff felt

that the top management did not ensure that management styles are supportive of innovations in times of crisis. There were concerns that the administration methods employed are supportive of innovation in times of crisis. There appeared to be an issued with the Innovation management System at Safaricom PLC, according to a section of the employees. Top management leadership innovation if enhanced can contribute favourably towards effective crisis management.

A significant predictor of crisis management was product innovation, according to the study's findings. This is corroborated by the organization's strategy for product innovation, which places a strong emphasis on enhancing product performance in times of crisis. Safaricom's product innovation strategy seeks to raise product standards. The study came to the conclusion that, although being well-focused, product innovation strategy was insufficient during a crisis.

The study comes to the conclusion that process innovations were major crisis management predictors. The business continually modifies its product (service) offerings to better satisfy the needs of its clients. However, there were concerns that affected this contribution. There are concerns about the ability of the company's innovative support services to provide the quality of outputs that meet the expectations of clients, the company delivers during the crisis. The business's procedures were occasionally unable to provide higher-quality services, such automated service delivery options (such as mobile and phones computers).

The results support the notion that market innovations were major crisis management predictors. One of the main objectives of Safaricom's market innovation strategy is to improve the quality of our goods and services. The company is keen on ensuring customer happiness even during times of crisis. The market innovation approach

adopted by Safaricom includes improving administrative processes, and this is supportive of effective crisis management, and it involves becoming more aggressive with marketing. The market innovations employed contributed significantly toward effective crisis management.

5.4 Recommendations

Following the findings, the study recommends as follows.

The top management team should consider putting plans in place to ensure that management styles that are supportive of innovations in times of crisis are promoted and utilized for crisis management. They should consider ensuring that administration methods employed that are supportive of innovation in times of crisis are promoted and utilized.

Research and development (R & D) should be taken into consideration by the senior management team at Safaricom PLC in order to create appropriate product innovation strategies that concentrate on enhancing product performance and product quality during a crisis.

In order to improve effective crisis management, the management of Safaricom PLC should take into account holding update training for its personnel involved in process innovations. A strict policy needs to be implemented by the management. The business should look into hiring professionals who can direct changes to product offerings (services) to better satisfy client requests. The business must enhance its procedures in order to provide higher-quality services given the newest automated service delivery technologies (such as computers and mobile phones).

The management of Safaricom PLC should consider strengthening the market innovation strategy. Market innovators need to be empowered to be able to critically analyze the causes of the existing equilibrium during a crisis and carefully deconstruct it. The management should consider embracing technology that makes consumers excited and can become repeat customers.

5.5 Suggestions for Further Research

The study recommends that a future study should be conducted to identify other organizational innovations that will account for the remaining 49.1% at Safaricom PLC, Kenya as shown in the regression analysis. This is informed by the fact that all four independent variables jointly explain 50.9% (Adjusted $R^2 = 0.509$) of the total variations in employee performance. This means the remaining 49.1% contribution to effective crisis management is elsewhere other than the selected organizational innovations. Therefore, future research should be undertaken to establish the effect of other organizational innovations on effective crisis management at Safaricom PLC, Kenya.

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APPENDICES

Appendix I: Research Questionnaire

I appreciate you taking the time to respond to this questionnaire. The purpose of this study is to investigate how organizational innovations contribute to efficient crisis management at Kenya's Safaricom PLC. Any data gathered will be kept strictly private and used solely for academic reasons. On request, the study findings will be made available. Simply TICK or Fill up the gaps with your responses.

Indicate your gender

Male []

Female []

What is your age bracket?

18 - 25yrs [] 36 - 55yrs []

26 - 35yrs [] Over 55yrs []

Please indicate your highest attained academic qualification

Certificate []

Diploma []

Degree []

Masters []

Doctorate []

Any other (s), (please specify) _____

How long have you been an employee of Safaricom Kenya? ?

Below 5 years []

6 to10 years []

11 to 15 years []

16 to 20 years []

Over 20 years []

Part B: TOP MANAGEMENT LEADERSHIP INNOVATION

1. Please indicate your level of agreement with each of the following claims relating to the contribution of top management leadership towards crisis management at Safaricom Kenya. Use the following scale: (5) = Strongly Agree; (4) = Agree; (3) = Neutral; (2) = Disagree; and (1) = Strongly Disagree.

	5	4	3	2	1
The top management ensures that management styles are supportive to innovations in times of crisis					
The top management ensures makes sure that administration methods employed are supportive to innovation in times of crisis					
The top management has remained committed to innovation support					
There is a well-coordinated Innovation management System at Safaricom Kenya					

Part C: PRODUCT INNOVATION

2. Please indicate your level of agreement with each of the following claims relating to the contribution of product innovation towards crisis management at Safaricom Kenya. Use the following scale: (5) = Strongly Agree; (4) = Agree; (3) = Neutral; (2) = Disagree; and (1) = Strongly Disagree.

	5	4	3	2	1
Our product innovation approach is centered on enhancing product functionality during times of crisis.					
Improving product quality is the main goal of our product innovation approach					
During times of crisis, the company has been eager to introduce new items.					
In times of crisis, our product innovation approach focuses on enhancing current items.					

Part D: PROCESS INNOVATIONS

3. Please indicate your level of agreement or disagreement with each of the following assertions regarding the use of process innovation at Safaricom Kenya during times of crisis. . Use the following scale: (5) = Strongly Agree; (4) = Agree; (3) = Neutral; (2) = Disagree; and (1) = Strongly Disagree.

	5	4	3	2	1
The business often modifies its product offerings (services) to better fulfill the needs of the customers. .					
Our firm delivers innovative support services so as to deliver product quality that exceeds customers' expectations					
Since automated service delivery technologies (such as computer and cell phones) have been deployed, our company has been providing higher-quality services.					
Our company's sales volume is modest when compared to that of rival businesses.					

Part D: MARKET INNOVATIONS

4. Indicate your level of agreement with each of the following statements relating to the contribution of market innovation towards crisis management at Safaricom

Kenya. Use the following scale: (5) = Strongly Agree; (4) = Agree; (3) = Neutral; (2) = Disagree; and (1) = Strongly Disagree.

	5	4	3	2	1
One of the primary goals of our market innovation strategy is to raise the standards of our services and goods.					
Our market innovation approach includes a focus on customer happiness.					
Our market innovation approach includes improving administrative processes.					
Market innovation involves becoming more aggressive with marketing.					

EFFECTIVE CRISIS MANAGEMENT

5. Which of the following assertions are you most in agreement with?? Define the guidelines for good crisis management at Safaricom Kenya. Use the scale below: (2) = Disagree; (1) = Disagree Strongly; (3) = Neutral; (4) = Agreed; (5) = Agree Strongly.

	5	4	3	2	1
When a crisis occurs, our company benefits from careful preparedness.					
In times of crisis, our organization can offer a pro-active reaction.					
In times of crisis, our company can maintain a customer-first attitude					
Our organization provides an established response coordination framework that successfully addresses flaws following a disaster					

Appendix II: List of Safaricom Centers visited

1. Sarit Center - Sarit Center Mall, Karuna Rd Westlands, Nairobi
2. Village Market - Village Market Mall, Limuru Road, Nairobi
3. Kimathi Street – Balfour Building, Ground Floor, Kimathi Street, Nairobi
4. I & M Building – I & M Towers, Ground Floor, Kenyatta Avenue, Nairobi
5. Moi Avenue – CBD Shankardass House, Ground Floor, Moi Avenue, Nairobi
6. Eastleigh - Nomad Palace Hotel, Ground Floor, General Waruinge Street
Opposite Eastleigh High School, Eastleigh
7. Nakumatt Mega (CBD) - Nakumatt Mega, Uhuru Highway, Nairobi
8. Buruburu - Kenya National Library Services Building, Mumias Road next to
St. James ACK Church
9. Aga Khan Walk (CBD) - Tricom Technologies Limited. Aga Khan Walk
Opp. Co-operative Bank, NHC Buiding, Opp Coop Bank
10. Kangemi - Master Piece LTD. KREP Bank Building, Next to KREP Bank
Branch Kangemi, Near Coop Bank
11. Doonholm - Work & Talk Communications. Kisumu Dogo, Doonholm
Savannah Road
12. Kahawa Wendani - Latest Communications. Magunas Supermarket Building,
Kahawa Wendani
13. Nairobi CBD – Mobile World. The transnational building, Mama Ngina St.
14. Githurai - Physical Location – Embcomm Network. Next to Equity Bank
Githurai
15. Embakasi - Mobile World. Embakasi North Airport Road near Kobil petrol
station

Appendix II: Kenya Methodist Authorization Letter



KENYA METHODIST UNIVERSITY

Tel: 254-064-30301/31229/30367/31171

Email: info@kemu.ac.ke

Our ref: NAC/ MBA/1/2022/12

7TH SEPTEMBER 2022

6th SEPTEMBER

National Commission for Science, Technology and Innovations,
P.O Box 30623-001000,
NAIROBI.

Dear Sir/ Madam,

JOSEPH WACHIRA MUIRU BUS-3-1793-1/2021

This is to confirm that the above named is a bona fide student of Kenya Methodist University undertaking Masters in BUSINESS ADMINISTRATION. He is conducting a research titled: **CONTRIBUTION OF ORGANISATIONAL INNOVATIONS TOWARDS EFFECTIVE CRISIS MANAGEMENT AT SAFARICOM KENYA LIMITED,NAIROBI COUNTY.**

In this regard, we are requesting your office to issue a permit to enable him collect data for his master's dissertation.

Any assistance accorded to him will be appreciated.

Yours faithfully,

PROF. Evangeline Gichunge, PhD.
ASS DIRECTOR POSTGRADUATE STUDIES



End.

Appendix IV: NACOSTI Letter

 REPUBLIC OF KENYA	 NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION
Ref No: 489965	Date of Issue: 20/September/2022
RESEARCH LICENSE	
	
<p>This is to Certify that Mr. JOSEPH WACHIRA MUIRU of Kenya Methodist University, has been licensed to conduct research in Nairobi on the topic: CONTRIBUTION OF ORGANISATIONAL INNOVATIONS TOWARDS EFFECTIVE CRISIS MANAGEMENT AT SAFARICOM KENYA LIMITED, NAIROBI COUNTY for the period ending : 20/September/2023.</p>	
License No: NACOSTIP/22/28389	
489965 Applicant Identification Number	 Director General NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION
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