

**RELATIONSHIP BETWEEN CRISIS MANAGEMENT PRACTICES AND
PERFORMANCE OF PHARMACEUTICAL MANUFACTURING COMPANIES IN
KENYA; A SURVEY OF PHARMACEUTICAL MANUFACTURING COMPANIES IN
NAIROBI.**

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**A RESEARCH PROJECT SUBMITTED TO THE SCHOOL OF MANAGEMENT AND
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AWARD OF THE DEGREE OF MASTER OF MANAGEMENT AND LEADERSHIP
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DECLARATION

The research project is my original work and has not been presented for the award of a degree in any other University or Institution.

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This research project is submitted for examination with my approval as the appointed University Supervisor.

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DEDICATION

My dedication goes to my family and friends for continuous encouragement during my studies and completion of this research project.

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I am thankful to God because of the knowledge and ability to conduct this study. I am also grateful to my supervisor Mr. Samuel Thiong'o for all the guidance provided throughout the study. I equally thank the Management University of Africa (MUA) management as well as fellow students for providing me with the right skills and the knowledge required to undertake this research. Finally, I thank the pharmaceutical manufacturing company's administration for permitting me to conduct this research.

ABSTRACT

The purpose of this study was to evaluate the relationship between Crisis-Management (CM) and the pharmaceutical manufacturing firms' performance. As such, the research examines the connection between CM and the performance of firms in Kenya's pharmaceutical manufacturing companies. The study seeks to identify prevention of crisis influences pharmaceutical manufacturing companies performance; to explore the influence of crisis containment on pharmaceutical manufacturing company's performance; to evaluate business communication affect pharmaceutical manufacturing company's performance. The research relies on the descriptive survey design, where the study's target population included 1 Managing director and 1 Chief finance officer from the 22 registered pharmaceutical manufacturing companies in Nairobi County since they will provide response on different aspects of performance. This brought the total to 22 Managing directors and 22 chief finance officers. The total population was 44 respondents. Census was used for the study where 44 respondents. Firms were unit of analysis while the population was the unit of observation. A fact-based conclusion was made using primary research. Questionnaires were used to obtain primary data. Data analysis was done through SPSS Version 22.0 and the descriptive statistical methods which included the averages, mean and percentages. The data was presented through tables, bar graphs and pie charts. On whether activities are well planned during crisis, majority of respondents disagreed as evidenced by ($M=2.0750$; $SD=0.47434$). On whether activities are well coordinated to handle crisis, majority of respondents disagreed as evidenced by ($M= 1.9500$; $SD=0.95943$). On whether activities are well coordinated to handle crisis, majority of respondents disagreed as evidenced by ($M= 1.9500$; $SD=0.95943$). The study recommended that to effectively detect crisis, pharmaceutical firms should have in place a team to analyse crisis before they happen. To effectively prevent crisis from happening, they should have clear plans on how to come out of crisis. The companies should have improved capacity and well-coordinated crisis management activities by regularly training and equipping staff with necessary equipment's required to respond to crisis on time. The firms should ensure that the communication channels used to communicate crisis reaches many people. Suggestion for further study is recommended to identify other crisis management practices which can improve performance of pharmaceutical manufacturing companies. The study concluded that pharmaceutical company's management did not take time to analyze the crisis in the organization. Pharmaceutical companies lack effective monitoring mechanisms. There was regular assessment by pharmaceutical companies to detect crisis. On whether crisis is well explained, companies tried to explain the crisis. There was no proper planning to prevent crisis from happening. There were no proper policies in place to enable pharmaceutical firms deal with crisis. There were no effective quality control measures in place to prevent crisis from occurring. Employees of pharmaceutical firms were not well equipped with skills that can enable them prevent crisis from happening. Pharmaceutical firms had put in place physical system has been put in place to handle crisis. There was regular audit on crisis management activities. Crisis containment activities were not well coordinated. There was no proper evaluation during crisis. Many pharmaceutical firms lacked capacity to handle crisis. There were no proper measures to prevent income loss in the company during crisis. Pharmaceutical firms have invested in proper monitoring activities which enable them monitor crisis. The communication channels used by pharmaceutical firms were not effective in communicating crisis. There was no effective communication between customers and pharmaceutical firms; this affected the ability to handle crisis on time. Further study was necessary to identify more crisis management practices.

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OPERATIONAL DEFINITION OF TERMS

Crisis containment set of administrative strategies aimed at preventing crisis from occurring in Future in pharmaceutical firms (Alcantara, 2015).

Crisis detection practices to detect early warning signals of any potential crisis in Pharmaceutical firms (Coombs, 2015).

Crisis management a series of steps performed by pharmaceutical firms to deal with crisis (Bryson, 2018)

Communication is the act of conveying crisis information among pharmaceutical firms Constantinos, 2018).

Crisis prevention prevention of crisis includes the approaches that pharmaceutical firms use so as to ensure that people do not experience crisis in the future (Raupp, 2019).

ABBREVIATIONS AND ACRONYMS

CAGR	Compound Annual Growth Rate
CEO	Chief Executive Officer
CM	Crisis Management
COMESA	Common Market for Eastern and Southern Africa
EU	European Union
GDP	Gross Domestic Product
GMP	Good Manufacturing Practices
KEMSA	The Kenya Medical Suppliers Agency
MNC'S	Multinational Corporations
OECD	Organization for Economic Co-operation and Development
OTC	Over the Counter
QRM	Quality Risk Management
ROA	Return on Assets
ROE	Return On equity
SMEs	Small and Medium-Sized Enterprises
SWOT	Strengths, weaknesses, Opportunities, Threats
TAM	Technology Acceptance Model
TQM	Total Quality Management
UHC	Unequal Human Capital
UNIDO	United Nations Industrial Development Organization

CHAPTER ONE

INTRODUCTION

1.0 Introduction

The section focuses on the research background on practices for managing crisis management in the Pharmaceutical sector in Nairobi County. The problem statement shows the gaps to be filled by the current study, while research objectives show the study focus. It also shows the questions used in the research, the questions the study sought to answer, the significance of the study shows that will benefit from the current research, the scope of the research shows the areas covered in the survey, the section concludes by providing the chapter's summary.

1.1 Background of the Study

The drug shortage crisis that was witnessed in the last decade increased healthcare cost and simultaneously jeopardized the health of patients across the US (Alcantara, 2015). According to Inderfurth and Clemen, (2014), one of the main challenges that health care administrators and other players along the health care supply chain continue to encounter is facilitating the availability of drugs in health care centers. Moreover, pharmaceutical supply chains are characterized by numerous exogenous disruptions, that are followed by the decisions that are made by members after such interferences (internal factors), thus making the chains highly complex. Some of the factors that cause disruptions include product recall, a manufacture disruption and upsurge in demand (Constantinos, 2018).

Drug organizations are profoundly mind boggling inferable from their regularly worldwide presence, and various items, interfaces, and hierarchical segments. This intricacy improves the probability that a drug related emergency will grow, consequently underscoring the requirement for drug organizations to have rules for successful emergency the executives set up. Inderfurth and Clemens (2014) in their report proposed a lot of rules to viably deal with an emergency related explicitly with a drug item or movement (Inderfurth & Clemens, 2014).The advances are unmistakably depicted and include: Recognizing the emergency, Building up goals, Leading a standard evaluation, Formulating correspondence activity plans, Making an interchanges

foundation, and Consenting to and speeding up the activity plans. The possible advantages of dealing with an emergency viably just as the negative ramifications of misusing an emergency on different partners, for example, patients, prescribers, controllers, investors, the legitimate and venture networks, representatives, and other inner and outer clients are likewise tended to (Brandenburg and Rebs, 2015).

Crisis detection involves the use of the current vantage position to anticipate future events. Crisis detection is applied and inspired by various disciplines, including scenario planning, strategic management, information science, semiotics and futurology. Detection methods for specific targeted events are useful in the identification of particular circumstances that have pre-defined and pre-envisioned characteristics. Nonetheless, Arya, Mittendorf and Dae-Hee (2014) because of the variation of urban disasters, it is necessary to have a wide array of keywords that describe different events, including the unexpected ones. Resultantly, it is unreasonable to use a supervised technique to identify any general as well as unknown disaster without pre-defining its specific characteristics. The accurate and automatic use of social media texts to detect a crisis creates a profound effect.

On the other hand, identifying the general state of crisis without describing how it has been formed has limited application. Here, an explanation is coherent and a concise subset of the text that justifies the detection of a crisis (Alcantara, 2015). A classic example is 2007 Heparin contamination in United States where the US Pharmacopeial Convention (USP), FDA (Food-and-Drug-Administration), and global stakeholders worked together to redefine quality expectations.

Crisis prevention is an important aspect of crisis management. Crisis management organization's efforts to prevent and respond to the crisis are included. Crisis management involves strategies that organizations implement in response to unforeseen adverse events. Crisis management primarily seeks to reduce the effect and recovery time of undesired events. Large pharmaceutical companies are very complex due to the large number of organizational components, often their global presence, interface and numerous products. Because of this complexity, such companies are extremely vulnerable to pharmaceutical crises. Therefore, such companies need guidelines to deal with the crisis. An excellent example of this is when an American pharmaceutical company adopts research and development from 1995 to 2002 to prevent a crisis and improve the quality of medicines (Amal & Magli, 2018).

In crisis prevention, speed and efficiency are paramount, but must not come at the expense of these standards (Aigbogun, Ghazali & Razali, 2014). To ensure that these objectives are met, pharmaceutical companies should have their emergency preparedness protocols. They should be alert to a crisis where their products may be needed and have a systematic and proactive approach in engaging with organizations that are coordinating (Agrawal, De Meyer & Van Wassenhove, 2014).

Crisis containment aims to put minimize the effect of an undesired event to an organization. It is necessary to have decisive action, and the efforts of an organization must focus on crisis containment and reducing damage by ensuring that the situation is under control as soon as possible. The organization navigates the observation, interpretation, choice, and dissemination path, with process recurring numerous times. Obtaining as much information as possible in the quickest time is the first step in containing a crisis. Since multinationals corporations (MNCs) encounter an international crisis, which needs transnational cooperation, it is necessary to determine the scope in a crisis and establish whether it is global, regional, or local. It is also essential to determine the organizational areas and stakeholders that are involved, noting the affected sectors. This realization will facilitate crisis management at all levels and enable various players to determine the different capacities that are supposed to be mobilized (Amal & Majli, 2018).

Business communication is essential in crisis management among pharmaceutical firms. As such, firms in the industry ought to have backup rooms and pre-arranged conferences that should be used to provide relevant information and constant updates to the media. To reach internal and external players more appropriately, organizations in the sector must have clear communication channels and plans as well as appoint a spokesperson. Crisis management teams must also have public relations practitioners. Therefore, a set of lessons and best practices obtained from existing knowledge on CM is an essential resource for the public relation team. Researchers and practitioners have compiled numerous literatures from various disciplines; thus, it is necessary to synthesize the information focusing on the management of crisis and public relations in that context. As such, it is necessary to begin by describing the crucial concepts (Constantinos, 2018). Training a spokesperson is a critical element of the crisis team because it prepares an organization to communicate to the press during a crisis. How pharmaceutical firms handle crisis detection on

performance, crisis prevention, crisis containment, and business communication determine the performance of pharmaceutical manufacturing companies. It was necessary to conduct this research and thus determine the association between crisis management and performance of pharmaceutical manufacturing companies (Brandenburg & Rebs, 2015).

In response to increased spending, policymakers across Europe have applied cost-containment processes and strategies to improve resource allocation efficiency, with a particular focus on the pharmaceutical sector. The efficiency problems of the Spanish pharmaceutical district are exacerbated by global developments in the pharmaceutical markets. Over the past twenty years, health and pharmaceutical spending in OECD countries has risen dramatically because of several factors like the rise in the number of modern and expensive drugs, the rise in diseases and the aging of the population. In response, some of the common guidelines on fee containment have been applied across Europe (Constantinos, 2018).

Although pharmaceutical products are currently manufactured in countries such as South Africa, Kenya, Morocco and Egypt, as a whole Africa currently imports more than 80 per cent of its pharmaceutical and medical consumables. Procurement and supply chain systems in Africa are weak. There is a problem of accessibility, in adequate human resource capacity, quality, availability and affordability of pharmaceutical products in East African countries like Tanzania, Uganda and Rwanda, this affects the ability of African countries to detect, prevent, contain and communicate crisis.

Kenya's pharmaceutical sector is witnessing rapid growth; hence, it is providing numerous opportunities for manufacturers, exporters and importers to establish their services and products in East Africa's lucrative pharmaceutical industry. Currently, Kenya is the leading producer of pharmaceutical products in the COMESA region; with the country dominating almost half of the market in the area. The prescription pharmaceuticals market in Kenya is worth around \$500 million and is projected to grow at a CAGR of approximately 11.8% until the year 2020. Prescription drugs dominate 78% of the pharmaceutical market. Nonetheless, in the next decade or so, the sale of OTC products will grow exponentially. Kenya's pharmaceutical sector has three segments: retailers, distributors and manufacturers. The three components play a critical role in supporting

the country's health sector, which has around 5,000 health facilities nationwide ([www. news.africa-business.com](http://www.news.africa-business.com)).

From reports published by COMESA, Kenya supplies the COMESA market with 50% of its pharmaceutical products. COMESA has a total of fifty pharmaceutical manufacturers. 30 of these entities are fully operated and based in Kenya. Kenya has registered more than 9,000 pharmaceutical products. These products include prescription-only medications, medications for pharmacists, and medications for pharmacy technologists (www.tuko.co.ke). The number of companies involved in the production and distribution of pharmaceuticals in the country is increasing. In particular, the Kenyan government is taking various initiatives to encourage foreign and domestic investment in the region. The country has about 700 certified wholesalers and 1,300 pharmaceutical retailers operated by registered pharmaceutical technologists and pharmacists. These retailer chemists and pharmacies add about 25% markup on retail medicine on top of the trade price (wholesale price). Kenya's pharmaceutical manufacturing industry is also involved in the production and packaging of tablets, capsules, syrups, surgical, surgical disposable products and non-pharmaceutical products. In Kenya, the health sector accounts for about 8% of the country's GDP. Kenya Health is a division of the Ministry of Health, the leading distributor of pharmaceutical products in the country. Nairobi alone has 22 registered pharmaceutical manufacturing companies, most of which are foreign owned (www.news.africa-business.com)

Kenya's pharmaceutical manufacturing sector has around 30 licensed companies consisting of large multinational corporations, local manufacturing companies, joint ventures and subsidiaries. Many of them are in the capital Nairobi, Kenya. Others are evenly distributed in major Kenyan cities and towns such as Nakuru, Kisumu, Mombasa, Kakamega, Thika and Kisii, among others. The pharmaceutical industry has attracted a large work base of around two thousand people. 65% of these employees work in the productive sector. The formulated drugs are repackaged and dosed using excipients and active ingredients. Most local pharmaceuticals are over-the-counter drugs (www.tuko.co.ke). Kenya's pharmaceutical sector is highly vulnerable to the crisis due to the critical role that industry companies play in the country's health sector, including improving the lives of citizens, treating patients and identifying new drugs. As a result, a crisis in the industry has a significant socioeconomic impact. As such, establishing the crisis management and the

performance of the Kenyan pharmaceutical industry link is essential (www.News.africa-business.com).

In Kenya today, the large four agenda may benefit from this Asian model of development by using, for instance, the pharmaceutical industry as a steppingstone to reinforce affordable healthcare and manufacturing. Consistent with the United Nations Industrial Development Organization (UNIDO), Kenya may be a regional hub for pharmaceutical products but its capacity to take advantage of pharmaceutical opportunities within the market is little. The industry needs a big injection of capital to achieve Good Manufacturing Practices (GMP). During a joint report by the govt of Kenya, UNIDO noted that the majority of pharmaceutical companies are small, family-owned, or closely-held businesses with a couple of, often related shareholders, and that they fall within the definition of SMEs. The SMEs' capacity to boost significant capital is restricted (www.news.africa-business.com)

1.2 Statement of the Problem

A crisis is an inevitable occurrence that cannot be easily avoided or predicted. In the contemporary business environment, the crisis management issue is continuously becoming an integral part of leadership and business life. Some sectors are more prone to crisis than others because of the complexity of regulations in their areas of operations, their nature as well as internal procedures. Therefore, as mentioned above, the pharmaceutical sector is certainly more susceptible to crisis because of the role that firms in the industry play in treating patients, enhancing the lives of the populace and developing new drugs (Inderfurth & Clemens, 2014). Furthermore, crisis is not confined by geographical boundaries; hence, their effects can spread across the globe based on an industry's operational model as well as the type of organization involved. Irrespective of the unpredictability of crisis, firms are aware that crisis are bound to happen, thus they must take proactive measures and thus get out of the undesirable events once they occur (Jian, Yangyang & Gengui, 2015).

Amal Yassin and Majli (2018) studied the strategy on management of crisis and its effect on employee performance at the Arab Potash Company. During the research, data was obtained through self-administrated questionnaire which were distributed to 248 persons. Nonetheless, 8

questionnaires were unsuitable for statistical analysis; hence, 240 questionnaires were deemed appropriate for statistical analysis. The data was analyzed through the SPSS software. The research had numerous conclusions including management teams in the potash firm solving their problems through management methods. The company's management was convinced that the best way to respond to a crisis was through the tactical reserve strategy.

Pauwels, Simoens, Casteels and Huys (2015) examined the medicine supply chain challenges and how to manage the impacts of disruptions along such supply chains. This study generated new information on the effect of disruptions in the supply chain and the performance of supply chain in shortage management. Constantinos (2018) evaluated the practice, prevention as well as the challenges that pharmaceutical firms encounter with respect management of crisis. The research relied on the exploratory research design, with data being collected through the semi-structured in-depth interviews. The researcher administered interviews to sixteen pharmaceutical firms. The content analysis method was used to analyze the open-ended questions. Product recall was identified as the main cause of crisis among companies in the pharmaceutical sector. From the outcome, it is clear that large-sized firms addressed crisis by collaborating with consulting firms or establishing CM departments.

From the above studies, pharmaceutical firms experience crisis in supply chain disruptions, shortage of drugs and quality issues. The study by Constantine's (2018) shows that product recall is a major problem affecting performance of pharmaceutical companies in Greece. Other studies on crisis management have been conducted in other sectors. There exists a methodological gap in the study by Amal Yassin and Majli (2018) as it did not specify the number of companies targeted. The survey by Constantinos (2018) had a methodological gap since it used semi-structured interviews which cannot be relied upon when targeting a large number of respondents. There exists a gap on the statistical extent of crisis experienced by pharmaceutical companies. There exists a gap on if pharmaceutical firms can detect, prevent, contain and communicate crisis. The studies mentioned above were conducted in foreign countries; hence few types of research have focused on crisis management in Kenya's Pharmaceutical industry, which leaves a significant gap that informs the current study. Resultantly, it is essential to research the link between the management of crisis and the performance of firms in the manufacturing sector of the pharmaceutical industry.

1.3 The Study's General Objectives.

The primary objective of the research is to examine the influence of CM on the performance of Kenya's PMS's companies.

1.3.1 The Study's Specific Objectives

- i. To establish the impact of crisis detection on performance of pharmaceutical manufacturing firms
- ii. To identify the influence of crisis prevention on PMS's firm's performance
- iii. To establish the performance of firms in the manufacturing sector of the pharmaceutical industry are influenced by crisis containment
- iv. To determine the business communication affect performance of companies in the pharmaceutical manufacturing segment

1.4 Research Questions

The study was directed by these questions: -

- i. To what level does crisis detection affect performance of pharmaceutical manufacturing companies?
- ii. To what extent is the pharmaceutical manufacturing firm's performance affected by crisis prevention?
- iii. To what degree does crisis containment affect performance of pharmaceutical manufacturing companies?
- iv. To what level does business communication affect performance of pharmaceutical manufacturing companies?

1.5 Significance of the Study

The research will be of high value to policy makers because it will offer the necessary information on managing crisis in the pharmaceutical industry. Notably, policy makers in the sector will develop policies that seek to come up with strategies aimed at crisis management in pharmaceutical industry. The study will enlighten the government to support pharmaceutical companies on the detection as well as prevention of crisis. Pharmaceutical companies will collaborate with the government and thus develop measures that enable firms manage crisis.

Moreover, the outcomes of the research will be essential in managerial practices for pharmaceutical companies where the recommendations will be used by departmental heads to manage crisis in pharmaceutical industry and prevent losses from occurring. For students and researchers, this research will build on the prevailing academic theories. The research could be used by students as a case study for topics covering strategies for sustainable performance. The literature gathered during the research will also benefit researchers by guiding their studies or even suggest new enquiries.

1.6 Scope of the study

The focus of the study was on the influence of crisis management practices on Kenya's pharmaceutical firm's performance, a survey of selected companies in Nairobi County. Four variables formed the study which include crisis detection, crisis prevention, crisis containment and business communication. The three theories that shaped the study are Structural-Functional systems approach, Diffusion of innovation model and Unequal Human Capital framework. The study targeted 1 Managing director and 1 Chief finance officer from the 22 registered pharmaceutical manufacturing firms in the County of Nairobi. This brought the total to 22 Managing directors and 22 chief finance officers. The research was undertaken within six months starting from April 2020 to October 2020

1.7 Chapter Summary

The research background focuses on crisis management and performance of pharmaceutical firms globally and narrows down to local perspective. The problem statement was identified, objectives and research questions were equally examined in the section.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This section conducted a literature review based on studies conducted by other researchers who have done studies in the same area in their pursuit to seek knowledge on the association between practices for managing crisis and pharmaceutical manufacturing firms' performance. This chapter, therefore, summarized various theories linked to the research, where knowledge gaps and empirical literature was presented to facilitate a conceptual framework as well as the study's summary.

2.1 Theoretical Literature Review

The research is guided by Structural-functional system, Diffusion of innovation and Unequal human capital theory. Unequal Human Capital Theory is the anchor theory for the study.

2.1.1 Structural-Functional systems theory

Based on functionalism or structural functionalism, a society is a complex system that consists of elements that function and operates as a unit to sell balance and cohesion. The model changed into in particular advanced scholars: Robert (1968) and Spencer (1901). The most important concepts of the idea encompass social features, shape, latent and show up functions. This framework perspectives society using a macro-level attitude that is a comprehensive emphasis at the social systems that shape the complete society and assumes that society has accompanied an evolution system similar to that of organisms. The version examines each the social structure and functions of society (Routroy & Shankar, 2014).

One of the effective crisis management measures is to provide firms with information during an undesired event. As such, functionalism deals with information networks intricacies and command levels that constitute organizational communication. Notably, the model identifies the flow of information in firms as networks that consists of members. As such, the information in firms flows in systems, which entails each member of the hierarchy of management keeping communication lines transparent and open as well as addressing the ensuing crisis (Amal & Majli, 2018).

The structural-purposeful technique is associate angle in social science that views the society as a fancy system, the weather of that area unit drawn along to sell unity and stability. it's claimed that

our lives are unit formed by social structures that are unit fantastically sturdy mechanisms of social behavior. Social formations form our lives - for instance in homes, in communities and through non-sectarian organizations. And safe rituals, together with handshakes or advanced non secular rituals, form our daily lives. Each social formation has consequences for social skills or the functioning of society as a whole. For instance, society has several crucial functions of education, together with socialization, data acquisition, and social mediation (Urbayak, 2015).

One criticism of the structural-functional theory is that it can't effectively provide an explanation for social behavior. Also intricate is the fairly round nature of this principle; repetitive conduct styles are assumed to have a function, yet we profess to understand that they have a characteristic only due to the fact they're repeated. Furthermore, dysfunctions may also keep, despite the fact that they do not serve a characteristic, which apparently contradicts the basic premise of the principle. Many sociologists now consider that functionalism is no longer beneficial as a macro-level concept, but that it does serve a useful cause in a few mid-degrees analyzes (Routroy & Shankar, 2014). The theory relates to Business communication variable and shows how pharmaceutical companies should communicate crisis to the community. The theory also relates to crisis prevention variable where pharmaceutical firms can use Structural-functional systems to prevent crisis. The theory can be used by pharmaceutical firms to come up with a structured way to prevent crisis from happening through communication which should help improve performance (Sekip & Van, 2014).

2.1.2 Diffusion of innovation theory

The diffusion of innovation model is another theory that focuses on information sharing. The model was developed by various scholars including Gabriel (1904), Leo (1938) and Friedrich (1961). The model elucidates the dissemination and communication of knowledge through various ways over a specified time. In communication, innovation diffusion happens when a new idea is communicated from one individual to others. Basically, diffusion process entails: an innovation or individual that knows a way to use the innovation and a channel of communication linking two units. A channel of communication refers to how the tactic will be used to convey information from one person to a different person.

Potential adopters of innovations scrutinize them in relation to the perceived gains, the system's compatibility with existing systems; the innovation's complexity; or its stability or trial-ability; its capacity to be reinvented; and also, the determined effects. These features are determined as a whole (Alcantara, 2015). Innovators always adopt the innovation even with little or more knowledge on the innovations. Other studies have come up with additional traits of innovation improvements however, they just fit into the ones listed by Alcantara (2015).

Firms encounter more complex acceptance possibilities since most companies are an aggregate of their units and their system with several norms and processes. Three firm's characteristics are the same with the individual characteristics above: ability and motivate (urge to change), compatibility and the evaluation of the implications. According to Alcantara (2015), companies are under pressure to change. In case a firm's case is unsustainable, then such a firm is likely to alter its fortunes by embracing an innovation. The tension frequently arises among individual members. Innovations matching the pre-existing firm's system call for fewer spontaneous changes which in most cases are easier to evaluate and more easily to be employed.

The firm's broader environment, either in the sector it belongs, the community around, or the entire economy, equally puts pressures on the firm. The firm will more likely accept an innovation where it's diffusing through the firm's environment for reasons such as political mandate. According Alcantara (2015), the innovations that spread quickly are those that spread through political directives or mandate.

Models of innovation are not openly relevant to the decisions of a firm, unlike individual decisions where models of behavior such as TAM match the diffusion framework and disclose more details. However, based on research, simple behavioral frameworks still act as appropriate indicators of adoption of technology in situations where organizations introduce appropriate initial screening procedures. Ensuring that all stakeholders including employees are involved provides more transparency and acknowledges that the firm values their support and concern. It converts crisis burden into a team effort to address the challenge and re-invigorate the firm during undesirable circumstances. Even when a firm is experiencing the best times, confidence can break or make the firm. Therefore, it is essential to ensure that morale remains high during bad times by ensuring that each person's input is highly valued (Silbermayr & Minner, 2014). The theory also relates to

business communication theory where pharmaceutical firms can come up with innovative ways of information sharing during crisis, when information is shared on timely manner, it helps improve performance.

2.1.3 Unequal Human Capital Theory

Unequal Human capital theory originated in the mid-20th century work of Mincer (1958), Schultz (1961), and Becker (1962). These authors proposed a remarkably simple explanation of personal income. The idea is that individuals can gain skills (human capital) that will make them more productive. The theory of unequal human capital proposes that most work crisis result from inequality among employees. Discrimination based on caste, job description, and salary will ultimately frustrate employees with a brand, spread unfounded rumors, and make the organization have a bad name. The theory of unequal human capital (UHC) is based on the concepts developed by Adam Smith in the 18th century. According to Urbayak (2015) the UHC and social position is based on economic models of social capital and human concluding that marginal workers obtain fewer compensations from the organizations in comparison to those employees that can access the executive management. Based on the theory, a crisis in an organization can be caused by inequality among workers. Discrimination based on salary, job profile and caste can create frustration among workers who will ultimately tarnish the brand name and spread false information based on job profile, caste as well as salary results in a frustrated workforce.

The first three views are the same although there are small differences. The similarity is in the fact that "human capital" will be of great value in the market since it will enhance the profitability of the company. This is similar in Gardener's view on the same. Bryson (2018) proposed that in various applications, the assessment of labor economists on human capital entails combining the three approaches.

The human capital model is the main approach used to determine the distribution of personal income. Based on this model, the income of individuals is an outcome of 'human capita'. Notably, human capital ensures increased productivity of individuals, thus resulting in higher income. Human capital is both unique and distinct from all other types of capital. Through human capital, organizations can develop, attain goals and remain innovative. Firms can use various measures to

invest in human resource including, through training and education; and thus, facilitate more production and higher quality (Hajdul & Mindur, 2015).

Based on the human capital model, crisis occurs when some persons in an organization experience preferential treatment. During a crisis, a caste or stakeholder group that is overlooked within the firm is likely to capitalize on the opportunity to express their dissatisfaction. They may also act in a manner that is likely to have adverse effects on the positive image of the desired efforts towards a good dispute resolution method. Human capital is vital in human communication; pharmaceutical firms need skilled employees to ensure crisis detection, crisis prevention, crisis containment and business communication. Pharmaceutical firms can use unequal human capital (UHC) theory to prepare staff to handle crisis effectively, when staff are handled well, it helps improve performance of pharmaceutical firms (Bryson, 2018).

2.2 Empirical Review

The review of empirical literature focuses on various studies that have been conducted and that are relevant to the objectives of the current research.

2.2.1 Crisis detection and Performance

Poor – quality drugs is a main issue in most emerging economies, especially in public health care system. The issue results in a significant effect of the economic and national clinical burden. Besides the proliferation of counterfeit medicine, customers are also facing the threat of substandard drugs because of poor quality controls and production practices during the manufacture of genuine drugs (Anal & Majli, 2018). Substandard drugs are prevalent and are a major health threat because they unintentionally lead to failures in healthcare including the spread of disease, antibiotic resistance, additional illness or even death.

Pharmaceutical companies are managing commercial pipelines that are years in the making, and they face steep patent cliffs for drugs that do succeed. It is therefore critical for them to continually monitor and refine their product portfolios. To fill gaps in cash flows, for instance, they may decide to divest noncore assets and enter new or adjacent therapeutic areas. Because their strategies will inevitably change, perhaps even more so now, in this highly uncertain pandemic period, portfolio

realignment remains an ongoing task for executives in pharmaceutical companies (Alcantara, 2015).

As mentioned above, large pharmaceutical firms are highly complex because of their multiple products, global presence, organizational components and interfaces. Because of this complexity, such firms are highly vulnerable to pharmaceutical-linked crisis; hence, the companies must have effective crisis management guidelines. The research proposes various guidelines that can effectively facilitate the management of a crisis linked specifically to pharmaceutical activities or products (Aigbogun, Ghazali & Razali, 2014). The steps include crisis identification, undertaking a baseline assessment, establishing objectives, creating a communications infrastructure, developing communication action plans, and approving as well as implementing the action plans, (Agrawal, Meyer & Wassenhove, 2014).

An outline of the pharmaceutical industry across the globe, with an emphasis on the pharmaceutical market in the EU, including the pharmaceutical market in Romania is examined through a SWOT examination. This study primarily seeks to examine various factors that influence financial performance at various levels of firms in the pharma industry and thus generate a specific econometric model. The study findings focus on the ROE as the primary performance indicator, which is significant in the pharma sector. The article evaluates the link between different influence factors or indicators from a firm's financial situation, its performance as well as general conclusion for the firm's decision makers (Alcantara, 2015).

Diana (2015) carried a study to establish the crisis management strategies adopted by SMEs in Garissa town, Kenya. The number of Small and Medium Enterprises that were directly targeted in the study were 194. Primary data was collected using a structured questionnaire. The researcher then analyzed the data using SPSS. Frequency tables and means were used to present the findings. Descriptive analysis was conducted on primary data whereby mean and standard deviation were used as measures of central tendencies and dispersion respectively. The study also adopted one sample t-test. Out of 194 targeted respondents, 178 respondents filled-in and returned the questionnaires which made a response rate of 91.75%. The study revealed that the following crisis situations were very common: terror attacks, harsh weather conditions, financial crisis, competitor factor, inter-clan rivalry, robbery incidents, political instability, technological development, fire outbreaks and employee theft. The study further revealed that the most adopted crisis management

strategies by the Small and medium enterprises in Garissa town were: one-off basis crisis management, proactive approach, re-active approach and adaptive decision making. The study recommends that SMEs should put in place crisis management strategic responses team or committee to help them gain detect, plan and manage any crisis.

Boin, Hart & Stern (2015) evaluated crisis management strategy and the impact it has on the Arab Potash Company employee performance. The study used 240 self-administrated questionnaires for data collection. The study found that the management of Potash Company purposed to solve their challenges and crisis. The researchers recommended that there is a need for the government and private entities that they must condense their efforts to help mitigate the crises that the Jordanian corporations faced. The government should also provide a manager and leaders training center and thus enable corporations to deal with crisis.

The pharma sector in Kenya is characterized by stiff competition as well increased awareness among customers on their healthcare needs. A research was conducted by Hajdul & Mindur (2015) to identify the critical factors facilitating success in the multinational corporations (MNCs) in Kenya's pharma industry. The study design used was a cross-sectional study design of multinational pharmaceutical firms in Kenya. The population of this study consisted of the 28 Kenyan based Multi-National Pharmaceutical firms from the Pharmaceutical industry. The findings show that the MNCs in the sector use strategic management practices and marketing strategies that are pertinent to the sector. The study confirmed that employee performance, morale and financial strategy are the critical factors of success for MNCs in Kenya's pharmaceutical sector. Other success factors include a robust development and research capability, significant development of opinion leader, highly effective and well-trained sales force, good employee retention and attraction strategies, product efficacy and quality, proper segmentation of the market and developing sustainable relationships with clients. The researcher recommends that Multinational pharmaceutical companies in Kenya should focus more on improving and acquiring competencies on the identified critical success factors as this will enable them to improve on their competitive position.

Inderfurth & Clemens (2014) conducted a research to survey the link between the total quality management (TQM) during crisis and performance of manufacturers and distributors in

pharmaceutical corporations in Kenya. Based on the research the TQM principles affected the performance of drug manufacturers and distributors in the country. The study adopted a cross sectional survey. The target population comprised of 60 pharmaceutical manufacturing and distribution firms in Kenya. The results analyzed through SPSS support the premises on the existence of a positive correlation between TQM principals and the performance of medicine manufacturers and distributors in the country. The research also acknowledged customer focus as a dominant TQM practice that advances performance. Equally, the study offers valuable information to executive managers. The study recommends that since the study confirmed that there was significant relationship between TQM Practices and performance, Pharmaceutical manufacturing and distribution firms in Kenya should be encouraged to embrace TQM Practices more in order to benefit from the concept.

In another study, Bundy et al., (2017) examines the critical crisis management mechanisms as well as empirical analysis of preparation of managing crisis in the Greece pharmaceutical region. The study correspondingly delivers the best practice model that can be used by corporate leaders in the pharmaceutical market in Greece to enable them to examine their awareness level and develop their plans for managing crisis by adapting the study findings. The study is exploratory in nature and data were collected by carrying out semi - structured in - depth interviews with key managers in 16 pharmaceutical companies. The open - ended questions were content analyzed. From the questionnaires outcomes, the study the pharma sector is highly vulnerable to crisis situations with the monetary crisis in Greece worsening the vulnerability. However, the survey findings indicate companies in the Greece pharmaceutical industry have a respectable crisis management adoption level, even if room for improvement to deal with credible market risks in the future exists. This study seeks to develop a scale that can be used to examine the negative and positive effects of distinguishing crisis on the performance of organizations, to determine the association between subscales of the developed scale and determine the differences according to demographical qualifications. Today's business environment requires a robust, enterprise-wide plan to deal with crises, especially in pharmaceutical companies where a “mistake” can lead to civilian casualties.

Bryson (2018) studied the influence of crisis management practices on business enterprise sustainability. It designed to examine the influence of leadership patterns in terms of

transformational leadership as a moderating variable among the connection of organizational overall performance and organizational sustainability inside the context of public listed groups in Palestine. The study allowed the researcher to achieve this goal by use of quantitative approach. Data collection occurred through semi structured face-to-face interviews with small business owners; observations; and a review of company documents comprised of business plans, insurance policies, floor plans, and emergency exit routes. Data were thematically analyzed and then triangulated to ensure trustworthiness of interpretations. A survey was conducted in a try, understanding the relationship between (the disaster management strategies, crisis management crew, decision making, conversation competency) organizational sustainability and the organizational overall performance. Also surveyed was the impact of transformational management on the relationship between organizational overall performance and organizational sustainability. Recommendations for action include securing adequate insurance coverage, investing in a worker's compensation policy, and maintaining transparent and fluent communications with vendors and consumers.

2.2.2 Crisis prevention and Performance

Despite the existence of a crisis administration plan to deal with manufacturing, media, manufacturing and financial crisis, the pharmaceutical world lacks an extensive safety crisis or protection issues that can develop into a complete crisis mode. Nonetheless, it is clear that it begins with concerns that represent risks that are recognized and unrecognized, which in turn expand into actual risks, which ultimately become full crises once the positive prerequisites are triggered (Urbaniak, 2015).

Most crises result from adherence to strict rules or non-compliance with established standards and basic moral principles. When such a situation occurs, it leads to increased communication and loss of control (by the media, regulators, or stakeholders of all kinds), each of which provokes extra emotions and reactions. This growth swiftly becomes uncontrollable, thus making it problematic to maintain the narrative and facilitate a fair and open discussion concerning the facts and actual risks. The activities, reputation, assets and activities of a firm are negatively affected by any type of crisis. The crisis affects all parties known to be jointly responsible for the outbreak, including regulators and the scientific community. Crisis often reveals unacceptable behavior daily, leading to better practices and standards. At times, the crisis can look like an exaggerated response by the

media. Due to the difference in de facto risks and interpretations, people often concentrate on the latter and the measures that should be taken the accepted and recognized security risks from developing into uncontrollable crises (Nelly, 2017).

In the recent past, the pharmaceutical industry has undergone a really profound change. Notably, the sector's geographical concentration has increased, regulatory controls and technical complexity of commercial activities as well as R&D have intensified while policies on cost and disease control have expanded. Biotechnology and life sciences have changed drug discovery as well as development processes and attitudes, while increasing spending on health and prescription drugs has fueled policies. A combination of these factors mentioned above has influenced demand in the main national markets. Stricter regulations for endorsing of new medicine, as well as research targets towards increasingly complex pathology, include other, larger, more expensive, and international R&D activities (Rutro & Shankar, 2014).

While sustaining the integrity of manufacturing and research activities, the increase in development costs prompts the search for more efficient and effective ways to manage processes. Companies in the new value chain of the pharma sector have responded by adjusting their business models. The two-business approach "describes the logic of how an organization creates, delivers and captures value" or, in other words, "the story of how industries work". Despite the structure's significance to the business model, minimal attention has been directed on the role of crises in determining its configuration. Moreover, minimal studies have focused on how firms can avoid crises by supplanting each other's systems through their models: notably, once they get there, companies will finally compete successfully in a new business ecosystem (Sekip & Wayne, 2014).

An economic crisis is a situation where the scale of nation's economy shrinks over time. Factors such as economic sanctions are the cause of economic crisis. In a country, economic crisis can affect national priorities on expenditure and investment and reduce the resources that are available, thus affecting the health care sector including accessibility of drugs. Jian, Yangyang & Gengui (2015) also conducted a research on application of Quality Risk Management (QRM) in the biopharmaceutical and pharmaceutical firms and its efficacy at patient risk management. The research employed a mixed methods approach, including the research methods of literature review, philosophical dialogues, benchmarking survey, semi-structured interview, and pilot case studies. The study concluded that since the inception of QRM patients have not received better protection.

Moreover, the maturity level of QRM throughout the biopharmaceutical and pharmaceutical sector is relatively low. However, the adoption of a more mature QRM model as suggested in the study is likely to enable companies perform QRM more effectively, thus improvement of patient risk management. The research also indicated that progression towards the more mature QRM model proposed in thesis may help firms perform QRM in a more effective manner, resulting in improved management of risk to the patient.

Randiek (2019) studied the role of crisis response strategies on crisis responsibility and their subsequent contribution to organizational reputation at Kenya Power and Lighting Company (KPLC). The study obtained secondary data from the customers' posts on the Facebook platform. The data was collected from the Facebook account of KPLC where the text data was then coded based on the study objectives. The researcher used qualitative method as the main research approach for the study with the descriptive method as the research design KPLC used denial strategy by denying through their Facebook post that there was no crisis as the situation was under control. KPLC also used an excuse strategy by denying the intention to cause a crisis where it explained the cause of the crisis to the stakeholders and assured them that the situation would soon be under control as the engineers were already working to bring it back to normalcy. The study therefore recommends for a continued use of the rebuild strategy in any crisis event and a further study on the use of other mass media such as print media and radio transmissions on crisis management by any organization with a national outlook.

Routroy & Shankar (2014) conducted a research on how economic recession affects policies in the pharma industry as well as drug sales in eight countries from Europe. Based on the research, countries that are economically stable had fewer policy measures from 2008 to 2011 in comparison to countries that were less stable economically. Most of the policies that were often implemented focused on out-of-pocket payments for patients. Conversely, the growth rate in the value of sales in the pharma sector declined significantly, especially in countries whose economies were less stable. Data on the volume and value of the quarterly sales of products between 2006 and 2011 in the 10 highest-selling therapeutic classes in each country were obtained from a pharmaceutical market research database. One of the factors that caused this decline was inflation, with the rate of inflation between 2010 and 2011 ranging between 2.0% and 3.4%. However, in 2010 Greece witnessed an inflation rate of -1.6% while Estonia experienced a 5.1% inflation rate in 2011.

Conclusion Less economically stable countries implemented more pharmaceutical policy changes during the recession than economically stable countries. Unexpectedly, pharmaceutical sales volumes increased in almost all countries, whereas sales values declined, especially in less stable countries.

A study was conducted by Sekip & Van (2014) to explore the association between leadership, corporate culture and management of crisis through exploration of these three constructs in the pharmaceutical crisis management context. Based on the conceptual framework developed in the study, two cultural components were identified: external versus internal focus and high versus low flexibility. The process of managing crisis in an organization is described through the five-stage life cycle, which involves detection of signals, damage, containment, recovery as well as learning. Four leadership styles, which include transactional, directive, transformational and cognitive were also identified. It is necessary for firms to develop crisis-prone culture and leadership competencies.

Lando & Agnes (2014) examined how strategic planning affects prevention of crisis in different business environments in Jordan as well as the role of strategic planning during crisis. The survey implemented a literature on strategic planning and management of crisis in emerging economies. A survey of the literature of crisis management and strategic planning as practiced in developing countries was implemented in this research. The qualitative approach was employed in this report, as it allows the researcher to obtain more data and deeper recognition of developments in the field. First of all, the management of businesses will be thusly enabled to evolve their own practical methods for ending crises or minimize their influences. The report relied on the qualitative approach because it enabled the researcher to obtain more information and identify deeper developments in the field. First, business managers will be allowed to develop their practical approaches to minimize their influence or end crisis. Moreover, during a crisis, the management will be allowed to strategically manage and operate more effectively. Finally, companies will develop more capable managers and employees who can inspire others with further hopes and overall progress. Management ought to follow and evolve the best contemporary practices for use by organizations in preventing crisis and lessening their influence.

Raupp (2019) examined the consequence of crisis control strategy on the overall organizational performance of established firms in Nigeria, empirical perception from Promassidor ltd. Disaster

control paperwork, the bedrock for peaceful co-life among employers and personnel, and the society at large. Disaster is inevitable in any agency because it is available in varied paperwork and degrees. In carrying out this study a total of 321 staffs were randomly selected from a staff population of 700. The results show that management challenges to crisis management method is attributed to terrible organizational performance and that crisis control approach no longer have impact on organizational performance. Based totally at the findings, tips had been made that multinational companies in Nigeria should make price range as a useful resource development on a continuous basis, and that management of agencies need to be pro-active when it comes to problems of human useful resource management. Based on the findings of the study, recommendations were made that multinational corporations in Nigeria should make funds available for human resource development on a continuous basis, and that management of organizations should be pro-active when it comes to issues of human resource management.

2.2.3 Crisis containment and Performance

Between September 2008 and April 2009, a number of biotechnology and pharmaceutical corporations announced their plans to restructure while others filed for bankruptcy. Research indicates that within the period of eight months, a total of 120 corporations in both the pharmaceutical and biotechnology industries were badly affected. In January, more than 30 companies announced their plans. That very serious panic the industry had shown about the effects of the crisis seems to be over now. Crisis Management Strategy refers to an improvement strategy for firms that are designed mainly to avert a crisis for subsequent business growth. Therefore, CMS is an integration of strategic management. This includes monitoring the internal and external environment of your business, and forecasting the future based on crisis prevention strategies and operational management choices and implementations. This includes continuously monitoring of the external and internal environments, as well as current status management based on the selection and implementation of crisis response strategies (Sohan & Larisi, 2014).

Healthcare provision is often affected by disruptions in the medical supply chain as well as shortage of drug. Silbermayr & Minner (2014) conducted a research to examine the response actions after disruptions of a supply chain, which had been ignored by researchers in the past. In aggregate, 55.2% of UK based acute hospitals that participated in the research did not have $\geq 76\%$ of medicine lines within two months of disruption in a supply chain. The strategic response to the

patterns of disruptions in the supply chain is determined by the disruption's duration which in turn affects performance.

A research was conducted by Urbaniak (2015) to examine the supply chain strategies used by managers to mitigate supply chain disruptions and their impact on the performance of pharmaceutical firms in the Maryland. The perception of participants was prompted in interviews involving 11 managers in the supply chain regarding mitigation strategies used to address supply chain disruption risks. Data from existing literature and interviews were processed as well as analyzed through data source triangulation to identify emergent themes. Participant perceptions were elicited in interviews with 11 supply chain managers regarding strategies to mitigate risks associated with supply chain disruptions. Data from interviews and supporting documents were processed and analyzed using data source triangulation to discern emergent themes. Supply chain planning, forecasting and design; multiple and flexible supplier base; and allocation of resource and management of demand were the main themes that emerged. The positive social change implications include the possibility of minimizing risks along the supply chain, which could reduce product prices for customers, more satisfaction for stakeholders and a general improvement in the standard of living.

Another study was conducted by Agrawal et al., (2014) to examine prevention of crisis in lean product development in firms in the pharma sector, focusing on methods of managing risks and high-performance teams. Here, risk and risk management are described based on the lean product development context. Basic notions are presented to define the axiomatic attributes of risk (failure modes, causal structure, and cause-and-effect networks), emanating from the definition of risk. From a review of literature, a generic framework for managing risks is defined and an array of risk management methods in the development of products is presented. The association between risk management and high-performance team is described and it is shown that both are mutually beneficial. The study was initiated with the selection of a product family, construction of the current state map, identification of various wastes and the development of future state map. The study was carried out in a single pharmaceutical company. The results of the study are deployable and can be functional in similar production organizations.

An investigation on styles for containing crisis is also conducted by Aigbogun et al., (2014). The study focuses on styles of containing crisis (confrontation, escaping, containment and cooperation) and their association with the process of strategic planning in pharmaceutical sector. The descriptive analytical approach was used in the research with quantitative and qualitative methods. 190 self-administered questionnaires were sent via e-mail to all the general managers in the pharmaceutical firms in Egypt. The outcomes show the existence of a statistically significant correlation between the process of strategic planning and styles of managing a crisis. The relationship was negative between escape and strategic planning and positive between containment, cooperation and confrontation and strategic planning. Based on the findings of the research, strategic planning plays an important role in enabling firms in the pharma sector to thrive and survive during a crisis. Managers that embrace strategic planning manage crisis through confrontation, containment and cooperation rather than escaping. Therefore, the pharma sector ought to manage crisis through strategic approach by integrating the strategy process with crisis management planning. As such, they ought to focus on making the management of crisis an integral as well as an integrated part of strategic planning.

Sohn & Lariscy (2014) investigated how organizational effectiveness affects the containment of crisis from the supervisory leadership perspective in Jordan Industrial firms. The study data has been collected through a questionnaire consisting of (42) paragraphs in order to collect the basic data from the study sample that consists of 133 individuals who occupy positions at Jordanian government industrial institutions amounting to (6) institutions. The research recommends the development of indicator systems to measure the effectiveness of organizations that is appropriate for the job or work the employee is undertaking as well as a result-based management to evaluate performance. Firms should also provide trained and qualified staff to attain the necessary effectiveness of an organization, confronting crisis and dealing with them through a special crisis data base, developing proposals and solution to address the crisis. Companies should also establish a crisis management that is specialized in developing proper strategies for crisis management by taking advantage of other organizations experiences, drawing lessons as well as learning from past crisis. Firms should finally assess and conduct periodic review of plans for managing crisis and test them by formulating scenarios which stimulate conditions that resemble crisis situations.

2.2.4 Business communication and Performance

The management of crisis is an essential organizational function. Failure can adversely affect stakeholders, lead to organizational losses or even obliterate an organization. Practitioners of public relations are an important part of teams managing a crisis. Therefore, a set of lessons and best practices collected on management of crisis is an essential resource for persons in public relations. Scholars and practitioners from different fields and disciplines have compiled and published volumes of literature making it essential to synthesize the available information on public relations and management of crisis. As such, it is important to begin this initiative by defining key concepts (Sohn & Lariscy, 2014).

Within the biopharmaceutical industry a crisis can come in many forms; all of which can impact an organization negatively. These unforeseen events can impact the entire fabric of the organization; with reverberations felt from field sales teams to the executive suite; to doctors' offices and ultimately to their patients. While a crisis can occur at any time within any particular company, the effect it may have on a pharmaceutical company - given the medical products it develops and for whom those medicines are intended - can be particularly acute as it can be felt not only in its financial standing, but, and perhaps even more importantly, impact how the company is viewed by key audiences and stakeholders and shake the confidence in its science that undergirds product development. It can also cause legal and regulatory issues with those government bodies that regulate the industry (Tracy, 2016).

During a crisis, a great responsibility lies with the public relation especially in creating communication plans, preventing negative publicity and opinions on an organization and in availing information about the institution. Programs of public relations before, after and during crisis can be evaluated in two phases. The first phase is acknowledging the existence of a crisis, acquiring information on the crisis and mobilizing the crisis management team that had been prepared before the crisis. Second phase is notifying company environment on the crisis, notifying the target audience, employees and the media (Tracy, 2016).

During the crisis, an institution's behaviors are evaluated along with the messages that are sent. This is the reason the management of the messages are crucial since managing the messages entails that the execution of communication along with behaviors. Employees that focus on public relations provide sufficient information to all relevant parties as they seek to generate consistency

between organization goals and the social expectations (Edworthy, Hellier, Newbold, & Titchener, 2015).

Communicating crisis entails maintaining communication with the internal and external environment that is recognized at all stages of the crisis. The means of communication that is most appropriate must be selected to carry the messages required for the corporation. This is not enough to communicate with effective media, media. At the same time, it is also necessary to liaise with government officials, employees, and in some cases employees' parents, financial groups and customers. Although the type of communication for each group is different, the most important part is matching and matching messages that the referenced groups receive. Instead of focusing on the cause of a crisis, most people judge organization based on their behavior and attitude during a crisis. When an organization prepares and contemplates a potential crisis, it demonstrates that its attitude is consistent, moderate and influential (Coombs, 2015).

During a time of crisis, there is no more important business function than communication (written with the humility that only a PR professional can bring) and it is the company's Corporate Communications / Public Relations team that should drive the advanced planning as well as the implementation of that plan. Communications should have its hand on the pulse of all key audiences and no one department is in a better position to run this program and making sure that there is a consistency of message and continuity in the delivering of those messages by company spokespeople and executives. All stakeholders, both external and internal, must be aware of possible crises the organization may face and the potential impact on the company. It is common business knowledge - and should come as no surprise - that companies who proactively communicate to employees, investors, media, and other key audiences during the onset and tenure of a crisis are successful in averting any long-term negative impact, while those that do not may incur short- and long-term business challenges in an attempt to rebound from an adverse event (Mbui, 2016).

It's also clear that the pace at which bad news historically traveled is nothing compared to the warp-speed that it circumnavigates a company's corporate universe through today's social media engine. An isolated occurrence in a clinical trial in Boston can achieve viral status in a matter of moments through the Twittersphere, Facebook and industry bloggers who may "shoot first and ask questions later." No need to prepare for the 6:00 evening news, a company can have a crisis

brewing outside its doors at any minute or hour of the day, and the nature of the current news environment ensures that it is slow in becoming yesterday's news. Discussions and reporting of these activities may go well beyond the traditional news cycle and may linger within the social channels with the potential to cast a pharmaceutical company in a negative light (Brandenburg & Rebs, 2015).

Social media play a much larger role in crisis. This role is more difficult than just checking the crisis response tool on Facebook's. More than 55% of Americans get news from social media. In the meantime, the first person's opinion from regular people that breaks the break news shape the narrative which influences opinion. For the teams such as the government, media or health care professionals at the center of the crisis use social media platforms as a way to get information that is authoritative to the population, fast. Social media acts as a mean of connecting and making sense of tragedy for people that operate farther from the crisis. The contexts shift rapidly in a crisis. The role of social media in influencing society has improved significantly in recent years. This drastic improvement has revolutionized the communication between enterprises and the external environment. Abuse of communication especially during a crisis, with is quite critical especially in the external environment. As such, managing the communication of crisis through social media is essential for organizations (Brandenburg & Rebs, 2015).

Tracy (2016) evaluated the role that public relations play in planning and managing crisis communication. The researcher conducted 19 in-depth e-interviews with public relations managers in public relations consultancies, governmental and private sectors in Bahrain. The study focused on pharmaceutical industry. The findings of the study availed information that substantiated the view that profession of public relations consider that pharmaceutical crisis management is ineffective. Image issues also affect the industry. The current crisis the pharmaceutical industry over the popular medicines safety has further shown exuberated the greed and profit maximization intentions in the sector. The profession of public relations may agree on the value of PR in solving these crises but fail to agree on the approaches used by big drug corporations. In conclusion, the article offers an in-depth theoretical discussion and practical implications for the improvement of the role of public relations in strategic crisis communication planning in Bahrain.

In another survey, Mbui (2016) examines how effective crisis management is influenced by communication in higher learning institutions. The study population was 150 people, drawn from

Central Administration, and the Colleges of Humanities and Social Sciences as well as, that of Architecture and Engineering thus comprising 110 members of staff and 40 students. The study demonstrates the existence of several challenges that both external and internal stakeholders face, with most of them being linked, communication of crisis to the target audience and the handling of communication during the planning, execution as well as the post crisis period. From the research, organizations must expect crisis and identify measures that can be used to avert a crisis promptly. Firms must have an established plan and team for managing crisis in place. As such, institutions must develop guidelines that aid in the mitigation of a crisis and establish a proper working relationship by collaborating with members of the press to avoid speculation and proliferation of unfounded information by the media. . The study thus recommends that the institution needs to formulate guidelines that can be used to assist in crisis mitigation as well establish a good working relationship by working closely with the media in order to avoid media speculation and untruths.

Brandenburg and Rebs (2015) conducted a research on crisis communication strategies in private and public firms in Sweden. In order to conduct this study a qualitative research approach is used. The term quantitative within the qualitative research approach may be somewhat confusing but just like in this study it is used by researcher to code the collected data in order to analyze it and draw conclusions from it. "Qualitative evaluation inquiry draws both on critical and creative thinking - both the science and the art of analysis. Relying on the results of the survey firms center on conventional understanding of crisis instead of alternative practical methods for managing a crisis internally. The findings equally show almost unified crisis communication character with internal communication tendency resembling the external one. Additionally, the effect of corporate culture on communication of internal crisis should not be ignored because it is included in the findings.

Frandsen (2017) studied the role that public relations play in planning crisis communication in Bahraini Organizations. The studies highlight the opportunities and challenges of the exercise of strategic disaster conversation planning in public family member's departments. The study finds that the usage of crisis communication planning ought to be progressed and linked to public members of the family proactive communication strategies rather than reactive techniques in Bahraini businesses. In conclusion, the study gives an in-intensity theoretical dialogue and sensible

implications for the development of the role of public family members in strategic crisis communication planning in Bahrain. The initial approach of this study is a managerial approach to internal crisis communication. An approach for future studies could instead be to take the employee approach, examining which internal crisis communication strategies different organizations implement and how employees perceive existing strategies and how they want to be communicated to in crises situations

Shonubi and Akintaro (2016) examined how organizational performance is influenced by effective communication. The discussion in the study relies on various empirical studies on organizational performance and communication. The research design used was descriptive survey. The target population was managers and other workers (subordinate staff) of NHIF headquarters, Nairobi. The sample size consisted of 8 managers and 32 other employees (subordinate staff). The findings of the research have authenticated the synerginous association between efficient performance in organizations and communication approach. The study argues that organizations can still improve and thus attain between a better performance in case the following recommendations are embraced in management: ensuring that the ideas being communicated are clear and obtaining a better understanding of the human; physical environment while communicating and an in-depth analysis of the objective of communication. Moreover, while planning communication, consultation is supposed to be both bottom-up and top down, while all facts are rendered explicit and implicit. Consolidation ought to be given the tone and the content of the messages; equally, whenever possible the tone and language of the message should be both elegant and edifying and the receiver must find it valuable. The message of communication is supposed to be precise and that those of the short run often carry a long-term significance. Moreover, annex stakeholders ought to be advised to become good listeners and immediate actions should both be accomplished with and accompanied by communication. Finally, to attain effective communication it is necessary to have an effective feedback and follow up mechanism process.

Another research conducted by Semrem (2017) seeks to explore the significance of communication in the context of work in firms and the corporate work. The study targeted 300 respondents. A sample of 120 respondent's was obtained. Having an effective and healthy communication is essential to all individuals in general ad to workers in particular. Good communication system facilitates an improvement on the work efficiency of employees and also

increases their level of performance level, which is important in any kind of organization. This research describes the significance of communication in firms. In particular, it examines the role of both formal and informal, and how communication in organizations affects the motivation of employees in the workplace as well as extrinsic and intrinsic one. In theory, models of work performance improve communication between workers and managers. The aim is to examine whether the models are practical. This study focuses on research concentrating on workers in the financial sector. Responses facilitates an understanding of the significance of two-way communication within organizations and shows how communication facilitates better motivation of workers and simultaneously improves work efficiency.

The research analysis on the association between communication in organizations and employee motivation was based on 111 questionnaires that were completed. The findings of the research confirmed that informal communication is positively related to worker motivation and is statistically significant. Other hypotheses that are connected to formal communication and extrinsic and intrinsic individuals, were not being confirmed statistically in this research, and were neither rejected statistically confirmed in this study, because they are supported by several studies (Semrem, 2017).

2.3 Summary of Research Gaps

Table 2.1: Research Gaps

Author	Topic	Knowledge gap	Focus of Current study
Hajdul & Mindur, 2015	To identify the critical factors facilitating success in the multinational corporations (MNCs) in the pharma industry in Kenya	The study did not detect crisis and how they were handled	The current study pointed on how pharmaceutical firms in Kenya can handle crisis. To effectively detect crisis, pharmaceutical firms should have in place a team to analyze crisis before they happen.
Inderfurth & Clemens, 2014	To determine the link between the total quality management (TQM) during crisis and performance of manufacturers in pharmaceutical companies in Kenya	The study didn't show how pharmaceutical firms can use TQM to prevent crisis from happening.	The study demonstrated how pharmaceutical firms can prevent crisis from happening. The staff should be well trained and provided with resources to be able to conduct crisis analysis.
Sekip & Van, 2014	To explore the association between leadership, corporate culture and management of crisis through exploration of these three constructs in the pharmaceutical crisis management context	The study failed to show how leadership and corporate culture can be used to prevent crisis from happening.	The study sought to know how pharmaceutical firms can use leadership and corporate culture to prevent crisis from happening. Pharmaceutical companies should have improved capacity and well-coordinated crisis management activities by regularly training and equipping staff with necessary equipment's required to respond to crisis on time.
Agrawal et al., 2014	To examine prevention of crisis in lean product development in firms in the	The study didn't conclusively provide the lean	The study investigated how pharmaceutical firms can use lean products methods to prevent risk

	pharma sector, focusing on products	
	methods of managing risks	methods that
	and high-performance teams	will be used to
		prevent risk.
Sohn & Lariscy, 2014	How organizational effectiveness affects the containment of crisis from the supervisory leadership perspective in Jordan	The study failed to give clear strategies on crisis containment
	Industrial firms	On how pharmaceutical firms can contain crisis, this study outlined the strategies
Brandenburg & Rebs, 2015	The role of communication in effective management of crisis in institutions of higher learning	The study didn't show the communication plan the firms can use when crisis occurs.
		The study denotes how firms can communicate during crisis. Pharmaceutical firms should ensure that the communication channels used to communicate crisis reaches to a large number of people.
Frandsen, 2017	Role of public relations in crisis communication planning in Bahraini Organizations	The study didn't show relationship between public communication and crisis prevention.
		The study showed how firms can communicate to the public and reduce the effect of crisis. The firms should embrace the use of social media to reach out to the customers and stakeholders.

2.4 Conceptual Framework

Conceptual framework outlines variables that are used by researchers to attain the set objectives. It refers to a measure characteristic with various values among subject. The dependent variable indicates the total influence that emanates from the independent variable's influence (Mugenda & Mugenda, 2003). The research's independent variables are crisis detection, crisis prevention, crisis containment and business communication while performance of pharmaceutical manufacturing companies is the dependent variable. The following framework is developed based issues

identified in the academic literature presentation as well as in the research background and problem statement.

Independent Variable

Dependent Variable

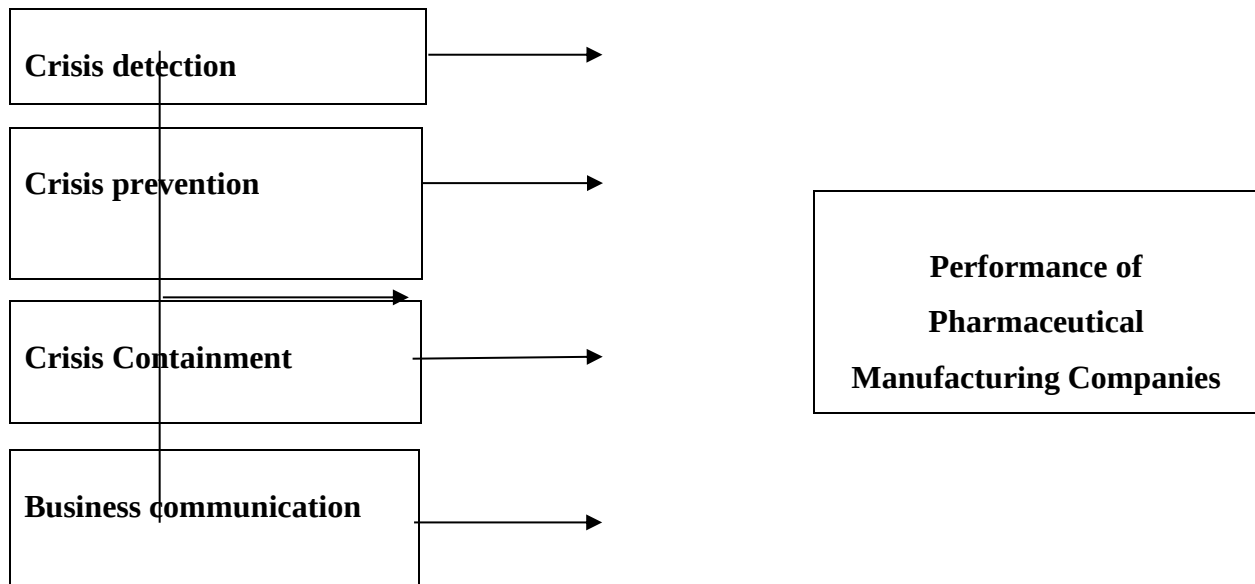


Figure 2.1 Conceptual Framework

2.5 Operationalization of variables

Table 2.2 Operationalization of variables

Operationalization of variables

Variable	Indicators	Measurement Scale
Independent Crisis detection	▪ Improved analysis ▪ Effective Monitoring ▪ Improved assesment	Likert scale
Independent Crisis prevention	▪ Improved quality controls ▪ Proper policies	Likert scale
Independent Crisis containment	▪ Improved coordination ▪ Improved capacity ▪ Improved evaluation	Likert scale
Independent Business communication	▪ Better informed employees ▪ Better informed stakeholders ▪ Better informed customers	Likert scale
Dependent Performance	• Profitability • Increased sales • Return on investment	Likert scale

Source: Researcher, (2020)

2.6 Chapter Summary

This section reviewed literature on this area of knowledge. The section is based on theoretical and empirical literature on the association between crisis management and performance of pharmaceutical manufacturing companies. The theoretical review describes the major activities that have been conducted in the past and that address the specified variable as well as the research objectives. Resultantly, the research makes a wide exploration on the previous efforts conducted on the connection between performance and crisis management of pharmaceutical manufacturing companies. Critical analysis was made, and gaps discussed.

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction.

This chapter articulates on the research design, sampling technique, target population, data collection tools, data collection procedures, data types and analysis, presentation, and ethical consideration in the survey.

3.1 Research Design

Research design is the framework of research methods and techniques chosen by a researcher (Diabat & Richard, 2015). Descriptive design was adopted by the study since it facilitates collections as well as descriptive data analysis from the study population. Descriptive design reports and determines the way things are and seeks to pronounce various things like possible attitude, behavior, characteristics and values (Peil, 2005). Descriptive design is an intensive research of a single unit with the objective of generalizing the findings across broad sets of units (Emmel, 2013). Therefore, the researcher considers the descriptive design as appropriate for the study because data was obtained from firms in the pharma sector in Nairobi County. Through the research design, the researcher was able to bring out the relationship between crisis management practices and performance of pharmaceutical manufacturing companies.

3.2 Target Population

The study targeted 1 Managing director and 1 Chief finance officer from the 22 registered pharmaceutical manufacturing companies in Nairobi County. Which brought the total to 22 Managing directors and 22 chief finance officers. The target population was as shown in the Table 3.1 below.

Table 3. 1 Target Population

Category	Population	Percent (%)
Managing Director	22	50
Chief finance officer	22	50
Total	44	100

3.3 Sample size and Sampling Technique

According to Emmel (2013), sampling is the component of a research plan that shows how cases were identified for observation. Population is small, a census was adopted by the research, the sample size constituted of the entire sample because the target is too small. Emmel (2013) argues that when the study population involves respondents that are less than 84, then it is advisable to use a census.

3.4 Data Collection Methods and Instruments

3.4.1 Questionnaire

The researcher used questionnaires used to collect information from the managing director and chief finance officer from of 22 registered pharmaceutical manufacturing companies in Nairobi, Kenya. The researcher used a five scale Likert questioner. The questionnaires were appropriate since they are not expensive to develop and they are very practical methods of collecting data.

3.5 Pilot Test

To determine the validity and reliability of the data tools, a pilot study was conducted before collecting the actual data. As such, 10 questionnaires were issued to non-manufacturing pharmaceutical firms based in Nairobi County, 10 questionnaires represented over 25% of the sample size. However, the respondents in the pilot study was not incorporated in the final research. The mistakes in the questionnaires that were identified during the pilot study were rectified before undertaking the final distribution (Peil, 2005).

3.5.1 Validity

Validity is described as a precision and meaning of interpretation that is considered as the base on results of the studies (Peil, 2005). It involves the accuracy of an examination whether the research tools measure what they were intended to measure. To ensure validity of the instruments, the researcher counter checked the details with the research supervisor to determine the applicability of the questionnaires. The vague questions were removed and synchronized to ensure the questionnaires are valid.

3.5.2 Reliability

Reliability is the consistency demonstrated on a concept's measure. An instrument of research is reliable when the outcomes of a study are reproduced by different researchers using the same methodology. As such, the measuring tools ought to be free from error and the results or observations must be repeatable or replicable. The reliability or consistency of the research instruments shows the level to which the survey instrument produces consistent and stable outcomes and produces similar scores. The degree to which a size repeatedly stays the same, the steadiness of a dimension through the years and the measurement of similarity within certain period (Diabat & Richard, 2015).

The measuring instrument's reliability is established when determining the association between the scores obtained through unique administrations of the tool. The Cronbach's Alpha is one the most reliable information that is currently available. The study relied on the Cronbach's Alpha to measure internal consistency where the reliability cycle was determined through the use of more than one question in the questionnaire. The Cronbach's coefficient reliability ranges from 0 to 1. Therefore, high level of internal consistency is determined by the proximity of the alpha coefficient to 1. Conversely, the level that is not acceptable is above 0.7 (Cronbach & Shavelson, 2004).

3.6 Data Processing and Analysis

Data editing was conducted on the collected information to ensure that it is complete and accurate, attain consistency and reduce biases. The information was then be analyzed through regression analysis using the SPSS software version (22.0). Descriptive statistics was presented through mean, percentages and standard deviation. The analyzed data was ultimately displayed using charts

and frequency tables and graphs. The association between different variables were analyzed through a multiple regression model.

The relationship equation is as shown below-

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

Where Y = Performance

α = Constant term

β_1 = Beta co-efficient

X1 = Crisis detection

X2 = Crisis prevention

X3 = Crisis containment

X4 = Business Communication

ε = Error term- in a regression equation the error term refers to the effect of the omitted variables from an equation. Through the model it was easy to determine the independent variables that are linked to the dependent variable and to examine the type of their association.

3.7 Ethical Considerations

To maintain ethical standards during the research, the researcher obtained an authorization letter from the collage that provided permission on data collection from companies in the pharmaceutical manufacturing segment. Another letter was obtained from NACOSTI. An introduction letter was also obtained by the researcher from the university, which was given to pharmaceutical manufacturers to aid in the distribution of questionnaires. To maintain anonymity, a personal detail of the respondents including names wasn't disclosed to other parties.

The researcher maintained integrity and professionalism when engaging in the studies and offering of the data. The interpretations and findings of the research were executed objectively and truthfully. As such, the outcomes were not doctored and the respondents' confidentiality was

maintained. The researcher obtained informed consent from any topics expected for use inside the study and made certain that each one the subjects participate voluntarily.

3.8 Chapter Summary

The chapter concentrated on methodology of the research, study design, the population, methods and instruments of data collection, sample size and technique of sampling and instruments, Data Processing and Analysis, ethical considerations as well as the chapter's summary.

CHAPTER FOUR

RESEARCH FINDINGS AND DISCUSSIONS

4.0 Introduction

This chapter covers data analysis, results and discussion of the study results. The study sought to assess the relationship between crisis management practices and performance of pharmaceutical manufacturing companies.

4.2.1 Response Rate

The researcher sought to determine the number of the respondents who participated in the study the results were as shown in the table 4.1. The table shows that from 44 respondents, 40 completed and returned which was 90% of the total response rate; this indicates that there was good response.

Table 4. 1 Response Rate of Respondents

Response rate	Frequency	Percentage
Response	40	90
No response	4	10
Total	44	100

4.2 Demographic Data

The section provides information on demographic of the data on the respondents in the research and it was important to determine whether the people in a specific study target population representative sample of the target population as well as assessing the respondent's suitability to answering the questions for the general reasons. Demographic information included age, education levels and years of experience.

4.2.1 Age Category of Respondents

The respondents were requested to name their age category. The findings are reported in Table 4.2, which shows the age of the respondents.

Table 4. 2 Age of the Respondents

Category	Frequency	Percentage
20-30 years	5	13
31-40 years	20	50
41-50 years	12	30
Above 51 years	3	7
Total	40	100

The respondents aged between 20-30 years were 13%, between 31-40 years were the majority recording 50%, between 41-50 years were 30%, above 51 years were 7%. This shows that a big number of the participating respondents were experienced hence they provided reliable information about the relationship between crisis management practices and performance of pharmaceutical manufacturing.

4.2.2 Highest Level of Education

The study aimed at establishing the respondent's educational level.

Table 4. 3 Education Level of Respondents

Category	Frequency	Percentage
Secondary Level	0	0
College Level	3	7
University Level	37	93
Total	40	100

Among the respondents, (93%) university level education (7%) had college level education and 0% secondary level education which shows that respondents were well educated and provided reliable information on the relationship between crisis management practices and performance of pharmaceutical manufacturing firms. The level of education determines the quality of response provided.

4.2.3 Working Experience

The study aimed at establishing the respondent's working experience.

Table 4.4 Working Experience of Respondents

Category	Frequency	Percentage
Below 1 year	2	5
1-6years	10	25
6-11 years	19	46
11-21 years	7	19
21 years and above	2	5
Total	40	100

Among the respondents, (5%) 21 years and above, (19%) 11-21 years, (46%) 6-11 years, (25%) 1-6 years and 5% below 1 year which shows most respondents have good knowledge of the organization since they have been there for long and provided more information on the relationship between crisis management practices and performance of Pharmaceutical manufacturing companies. Experienced staff in the pharmaceutical industry understands crisis management better.

4.3 Reliability

4.3.1 Reliability Test

Reliability was tested using Cronbach's alpha. Reliability is the extent to which over a time, the results were consistent and were presented which accurately shows the characteristics of entire population under the study. A study is reliable if the results of a study can be reproduced with a similar methodology (Zikmund, 2010).

Table 4.5 illustrates the findings of the study concerning the reliability of the analysis in this study.

Table 4. 5 Reliability Tests

Category	Cronbach Alpha	No. of Items	Remarks
Crisis detection	0.859	5	Accepted
Crisis prevention	0.754	6	Accepted
Crisis Containment	0.884	5	Accepted
Business communication	0.799	5	Accepted

The reliability of the research tools was measured through pilot questionnaires. Cronbach's Alpha, measures internal coherence, was calculated by use of the SPSS software program version 21. The coefficients for crisis detection, crisis prevention, crisis containment and business communication had a coefficient of 0.7 and above which is closer to 1 signifying that the instruments were reliable.

4.4 Descriptive Statistics

This section shows the impact of crisis detection on performance of pharmaceutical manufacturing firms and the response was as follows;

Table 4. 6 Descriptive Statistics on Detection

	N	Mean	Std Deviation
There is analysis of crisis when they happen in the company	40	2.4250	.93060
There are effective monitoring mechanisms for crisis	40	3.0500	.74936
There is improved assessment on how to handle crisis in the company	40	3.7000	.64847
Crisis are well defined when they occur	40	4.0500	.63851
Crisis are well explained when they occur	40	4.2250	1.04973

On whether there is analysis of crisis when they happen in the company, majority of respondents who were (M=2.4250; SD=0.93060) disagreed, this shows the organization management did not take time to analyze the crisis in the organization, the study agrees with Aigbogun, Ghazali & Razali, (2014) who argued that various guidelines that can effectively facilitate the management of a crisis linked specifically to pharmaceutical activities or products. On whether there is there are effective monitoring mechanisms for crisis, majority of respondents were neutral as indicated by (M=3.0500; SD=0.74936), this shows that pharmaceutical companies lack effective monitoring mechanisms, the findings disagree with Agrawal, A De Meyer & Van Wassenhove, (2014) who argued that baseline assessment, establishing objectives, creating a communications infrastructure, developing communication action plans, and approving as well as implementing the action plans. Majority of respondents agreed that there is improved assessment on how to handle crisis in the company as shown by (M=3.7000; SD=0.64847), this shows that there was regular assessment by pharmaceutical companies to detect crisis. the findings disagree with Agrawal et al. (2014) who argued that baseline assessment, establishing objectives, creating a communications infrastructure, developing communication action plans, and approving as well as implementing the action plans.

Respondents agreed that crisis are well defined when they occur as evidenced by ($M=4.0500$; $SD=0.63851$), this shows that there were some measures that enabled definition of crisis by pharmaceutical firms which enabled them detect crisis. the findings agree with Agrawalet et al., (2014) who argued that baseline assessment, establishing objectives, creating a communications infrastructure, developing communication action plans, and approving as well as implementing the action plans. On whether crisis is well explained, majority of respondents agreed as evidenced by ($M=4.2250$; $SD=1.04973$), this shows that companies tried to explain the crisis.

Table 4. 7 Descriptive Statistics on Prevention

To establish the influence of crisis prevention on performance of pharmaceutical manufacturing firms and the response was as follows;

	N	Mean	Std Deviation
Activities are well planned during crisis	40	2.0750	.47434
There are proper policies to deal with crisis	40	2.3750	.70484
There is effective quality control during crisis	40	2.9500	.71432
Employees are trained on crisis prevention	40	3.4500	.67748
Physical system has been put in place to handle crisis	40	4.0250	.61966
There is regular audit on crisis management activities	40	4.6750	.52563

Table 4.7 shows summary on crisis prevention. On whether activities are well planned during crisis, majority of respondents disagreed as evidenced by ($M=2.0750$; $SD=0.47434$), this shows that planning is important in crisis management, poor planning on crisis to poor performance, the study findings agrees Lando & Agnes (2014) who argued that management challenges to crisis management method is attributed to terrible organizational performance and that crisis control approach no longer have impact on organizational performance. Respondents disagreed that there are proper policies to deal with crisis as shown by ($M=2.3750$; $SD=0.70484$), this shows that proper policies are important in crisis management, there were no proper policies the study findings agree with Routroy & Shankar (2014) who argued that most of the policies that were often implemented focused on out-of-pocket payments for patients. On whether there is effective quality control during crisis, majority of respondents were neutral as evidenced by ($M=2.9500$; $SD=0.71432$), this shows that effective quality control measures were important prevent crisis from occurring and they affect organization performance, the study findings agree with Raupp (2019) who argued that challenges to crisis management method is attributed to terrible organizational

performance and that crisis control approach no longer have impact on organizational performance. On whether employees are trained on crisis prevention, majority of respondents were neutral as evidenced by ($M=3.4500$; $SD=0.67748$), this shows that employees of pharmaceutical firms were not well equipped with skills that can enable them prevent crisis from happening. On whether there was physical system put in place to handle crisis, majority of respondents agreed as evidenced by ($M=4.0250$; $SD=0.61966$), this shows that pharmaceutical firms had put in place physical systems to handle crisis. On whether there was regular audit on crisis management activities, majority of respondents strongly agreed, as evidenced by ($M=4.6750$; $SD=0.52563$), this shows that there was regular audit on crisis management activities.

Table 4. 8 Descriptive Statistics on Crisis Containment

This section shows the performance of firms in the manufacturing sector of the pharmaceutical industry are influenced by crisis containment and the response was as follows;

	N	Mean	Std Deviation
Activities are well coordinated to handle crisis	40	1.9500	.95943
There is proper evaluation during crisis	40	2.5500	.71432
There is improved capacity to handle crisis	40	3.0750	.85896
There are measures to prevent income loss in the company during crisis	40	3.4250	.67511
There is proper crisis monitoring in the company	40	3.9000	.84124

Table 4.8 shows summary on crisis containment. On whether activities are well coordinated to handle crisis, majority of respondents disagreed as evidenced by ($M= 1.9500$; $SD=0.95943$), this shows that crisis containment activities were not well coordinated. On whether there is proper evaluation during crisis, majority of respondents were neutral as shown by ($M= 2.5500$; $SD=0.71432$), this shows that there was no proper evaluation during crisis. On whether there is improved capacity to handle crisis, a majority of respondents were neutral as shown by ($M= 3.0750$; $SD=0.85896$), this shows that many pharmaceutical firms lacked capacity to handle crisis. On whether there are measures to prevent income loss in the company during crisis, majority of respondents were neutral as shown by ($M= 3.4250$; $SD=0.67511$), this shows that there were no proper measures to prevent income loss in the company during crisis. On whether there is proper crisis monitoring in the company majority of respondents agreed as shown by ($M= 3.9000$;

SD=0.84124), this shows that pharmaceutical firms have invested in proper monitoring activities which enable them monitor crisis.

Table 4. 9 : Descriptive Statistics on Business Communication

This section shows business communication and effect on performance of companies in the pharmaceutical manufacturing segment

	N	Mean	Std Deviation
There are proper communication channels during crisis	40	3.0250	1.45862
Crisis is communicated to customers on time	40	2.9250	1.49164
Crisis is communicated to stakeholders on time	40	3.8500	.86380
Crisis are communicated to suppliers on time	40	2.5250	1.63280
Employees are skilled on crisis communication	40	2.8500	1.40603

Table 4.9 shows summary on business communication. On whether there are proper communication channels during crisis, majority of respondents were neutral as shown by (M= 3.0250; SD=1.45862), this shows that the communication channels used by pharmaceutical firms were not effective in communicating crisis. Majority of the respondents were neutral that the communication to customers was done on time, this was evidenced by (M= 2.9250; SD=1.49164), this shows that there was no effective communication between customers and pharmaceutical firms; this affected the ability to handle crisis on time. Respondents agreed that crisis is communicated to stakeholders on time this was indicated by (M= 3.8500; SD=0.86380), this shows that there was good communication between pharmaceutical firms and stakeholders. Respondents were neutral that crisis are communicated to suppliers on time as shown by (M= 2.5250; SD=1.63280), this shows that suppliers were not well informed by pharmaceutical firms on crisis situations which affected the ability to dealing with crisis. On whether employees are skilled on crisis communication, majority of employees were neutral as indicated by (M= 2.8500; SD=1.40603), this shows that employees in pharmaceutical firms lacked proper skills to handle crisis situations.

Table 4.10 Descriptive Statistics on Performance

This section shows responses on performance and is as follows;

	N	Mean	Std Deviation
Crisis management affect profitability of the company	40	4.1750	.59431
Crisis management activities affect company growth	40	4.5000	.59914
Crisis management has affected sales of the company	40	4.4250	.63599
Crisis management activities has affected return on investment	40	4.4750	.59861
Crisis management activities affect market share	40	4.5250	.50574

Table 4.10 shows the summary on performance. Respondents were in agreement that crisis management affect profitability of the company as shown by (M= 4.1750; SD=0.59431), this shows that crisis negatively affected the profitability of pharmaceutical firms. On whether crisis management activities affect company growth, majority of respondents strongly agreed as evidenced by (M= 4.4500; SD=0.59914), this shows that the growth of pharmaceutical firms is negatively affected by crisis. On whether crisis management has affected sales of the company, majority of respondents agreed as evidenced by (M= 4.4250; SD=0.63599), this shows that how the company handled crisis greatly affected the sales volumes. Respondents were in agreement that crisis management activities have affected return on investment as shown by (M= 4.4750; SD=0.59861), this shows that the crisis management activities greatly affected pharmaceutical firms return on investment. On whether crisis management activities affect market share, majority of respondents strongly agreed as evidenced by (M= 4.5250; SD=0.50574), this is a clear indication that if crisis is not well handled; it can negatively affect the market share of pharmaceutical firms.

4.5 Correlation Analysis

This sub-section presents the correlation examination amongst all the study independent variables and the relationship between crisis management practices and performance of pharmaceutical manufacturing companies a survey of selected companies in Nairobi County and following study objective arrangement.

Table 4.11: Correlations

		DETEC TION	PREVENT ION	CONTAI NMENT	COMMUN ICATION
CRISIS DETECTION	Pearson Correlation	1	-.116	.323*	-.279
	Sig. (2-tailed)		.474	.042	.081
	N	40	40	40	40
CRISIS PREVENTION	Pearson Correlation	-.116	1	.058	.082
	Sig. (2-tailed)	.474		.724	.613
	N	40	40	40	40
CRISIS CONTAINMENT	Pearson Correlation	.323*	.058	1	-.380*
	Sig. (2-tailed)	.042	.724		.016
	N	40	40	40	40
BUSINESS COMMUNICATI ON	Pearson Correlation	-.279	.082	-.380*	1
	Sig. (2-tailed)	.081	.613	.016	
	N	40	40	40	40
PERFOMANCE	Pearson Correlation	.303	.060	.146	.081
	Sig. (2-tailed)	.058	.712	.369	.620
	N	40	40	40	40

Table 4.11 shows summary on correlation. Correlation analysis on crisis detection and performance results showed a strong and positive relationship. The relationship was significant at ($r = 0.303$, $p > 0.05$) hence crisis detection had a major effect on performance of pharmaceutical manufacturing firms. The table shows a strong and positive correlation between crisis prevention and performance of pharmaceutical firms, the relationship was significant at ($r = 0.060$, $p > 0.05$), this shows that crisis prevention greatly affected the performance of pharmaceutical firms. There was a positive correlation between crisis containment and performance of pharmaceutical firms, the relationship was significant at ($r = 0.146$, $p > 0.05$), this shows that crisis containment greatly affected the performance of pharmaceutical firms. There was a positive correlation between business communication and performance of pharmaceutical firms, the relationship was significant at ($r = 0.081$, $p > 0.05$), thus business communication greatly affected the performance of pharmaceutical firms.

4.6 Regression Analysis

To determine influence of independent variables of the study on the dependent variable, the researcher had to carry out a regression examination on the data. The following section offers the regression analysis centered around the study objectives.

Table 4.12: Model Summary

Model	R	R Squared	Adjusted R Square	Std. Error of the Estimate
1	.373 ^a	.139	.041	.27983
a. Predictors: (Constant), BUSINESS COMMUNICATION, CRISIS PREVENTION, CRISIS DETECTION, CRISIS CONTAINMENT				

Table 4.12 shows the results of multiple regressions. The value of R^2 is 0.139, revealing 13.9% variability in factors relating to crisis detection, crisis prevention, crisis prevention and business communication accounted to business performance in the model developed. The adjusted R^2 is an improved estimation of R^2 in the population. The value of adjusted R^2 is 0.041. This adjusted measure provides a revised estimate, revealing 4.1% variability in factors relating to crisis detection, crisis prevention, crisis prevention and business communication accounted to performance, and this shows the model is good.

Table 4.13: ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.443	4	.111	1.416	.249 ^b
	Residual	2.741	35	.078		
	Total	3.184	39			
a. Dependent Variable: PERFOMANCE						
b. Predictors: (Constant), BUSINESS COMMUNICATION, CRISIS PREVENTION, CRISIS DETECTION, CRISIS CONTAINMENT						

ANOVA for crisis detection, crisis prevention, crisis prevention and business communication and performance were done, and the results presented in Table 4.13 above. A p-value of 0.249 which is more than 5% level of significance implies that crisis detection, crisis prevention, crisis prevention and business communication and performance have statistical significance on performance. This implies

goodness of fit of the model; thus, the variables can be carried on for further analysis to determine with significance the level of its influence.

Table 4.14: Coefficients

Model		Standardized Coefficients		Unstandardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	3.098	.638		4.859	.000
	CRISIS DETECTION	.178	.091	.334	1.965	.057
	CRISIS PREVENTION	.049	.104	.075	.472	.640
	CRISIS CONTAINMENT	.059	.091	.114	.648	.521
	BUSINESS COMMUNICATION	.120	.098	.211	1.220	.231

a. Dependent Variable: PERFOMANCE

The study further determined the beta coefficients of crisis detection, crisis prevention, crisis prevention and business communication. The results showed that the beta coefficient of crisis detection, crisis prevention, crisis prevention and business communication was 0.178, 0.049, 0.059 and 0.120 which helps to generate the model $Y = 3.098 + 0.178X_1 + 0.049X_2 + 0.059X_3 + 0.120X_4$ for crisis detection, crisis prevention, crisis prevention and business communication versus performance. This model implies that every per unit increase in crisis detection leads to 0.178 increase in performance, the study findings agrees with Hajdul & Mindur (2015) who argued that crisis detection influences performance. An increase in crisis prevention leads to 0.049 increases in performance, the study findings agrees with Boin, Hart & Stern (2015) who argues that crisis prevention affects performance. A unit increase in crisis containment leads to 0.059 increases in performance, the study findings agrees with Sohn & Lariscy (2014) who argued that crisis containment measures determined how pharmaceutical firms handled crisis. A unit increase in business communication leads to 0.120 increases in performance, the study findings agrees with Sohn & Lariscy (2014) who argued that communication influenced how pharmaceutical firms handled crisis.

4.7 Chapter Summary

This chapter comprises of response rate on the number of questionnaires issued and the one returned back. Demographic data consist of age, education levels and years of experience. The summary of descriptive statistics consist of crisis detection, crisis prevent, crisis containment and business communication. Inferential statistics consisted of correlation analysis, model summary, anova and coefficients.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.0 Overview

This section discusses the research findings, conclusion and recommendations. The chapter explains the relationship between crisis management practices and performance of pharmaceutical manufacturing companies. Research questionnaires were answered from the study findings, conclusions of the study were drawn, recommended and suggested for further studies.

5.1 Summary of Findings

5.1.1 To establish the impact of crisis detection on performance of pharmaceutical manufacturing firms

On whether there is analysis of crisis when they happen in the company, majority of respondents disagreed, this shows the organization management did not take time to analyze the crisis in the organization, the study agrees with Aigbogun, Ghazali & Razali, 2014) who argued that various guidelines that can effectively facilitate the management of a crisis linked specifically to pharmaceutical activities or products. On whether there is there are effective monitoring mechanisms for crisis, majority of respondents were neutral, this shows that pharmaceutical companies lack effective monitoring mechanisms, the findings disagree with Agrawal, A De Meyer & Van Wassenhove, 2014) who argued that baseline assessment, establishing objectives, creating a communications infrastructure, developing communication action plans, and approving as well as implementing the action plans. Majority of respondents agreed that there is improved assessment on how to handle crisis in the company as, this shows that there was regular assessment by pharmaceutical companies to detect crisis. The findings disagree with Agrawal et al. (2014) who argued that baseline assessment, establishing objectives, creating a communications infrastructure, developing communication action plans, and approving as well as implementing the action plans. Respondents agreed that crisis are well defined when they occur, this shows that there were some measures that enabled definition of crisis by pharmaceutical firms which enabled them detect crisis. The findings agree with Agrawalet et al., (2014) who argued that baseline assessment, establishing objectives, creating a communications infrastructure, developing communication action plans, and approving as well as implementing the action plans. On whether

crisis is well explained, majority of respondents agreed, this shows that companies tried to explain the crisis. Correlation analysis on crisis detection and performance results showed a strong and positive relationship. The relationship was significant at ($r = 0.303$, $p > 0.05$) hence crisis detection had a major effect on performance of pharmaceutical manufacturing firms. The model implies that every per unit increase in crisis detection leads to 0.178 increase in performance.

5.1.2 To identify the influence of crisis prevention on PMS's firm's performance

On whether activities are well planned during crisis, majority of respondents disagreed, this shows that planning is important in crisis management, poor planning on crisis to poor performance, the study findings agrees Lando & Agnes (2014) who argued that management challenges to crisis management method is attributed to terrible organizational performance and that crisis control approach no longer have impact on organizational performance. Respondents disagreed that there are proper policies to deal with crisis, this shows that proper policies are important in crisis management, there were no proper policies the study findings agree with Routroy & Shankar (2014) who argued that most of the policies that were often implemented focused on out-of-pocket payments for patients. On whether there is effective quality control during crisis, majority of respondents were neutral, this shows that effective quality control measures were important prevent crisis from occurring and they affect organization performance, the study findings agree with Raupp (2019) who argued that challenges to crisis management method is attributed to terrible organizational performance and that crisis control approach no longer have impact on organizational performance. On whether employees are trained on crisis prevention, majority of respondents were neutral, this shows that employees of pharmaceutical firms were not well equipped with skills that can enable them prevent crisis from happening. On whether there was physical system put in place to handle crisis, majority of respondents agreed, this shows that pharmaceutical firms had put in place physical systems to handle crisis. On whether there was regular audit on crisis management activities, majority of respondents strongly agreed, this shows that there was regular audit on crisis management activities. There was a strong and positive correlation between crisis prevention and performance of pharmaceutical firms, the relationship was significant at ($r = 0.060$, $p > 0.05$), this shows that crisis prevention greatly affected the performance of pharmaceutical firms. An increase in crisis prevention leads to 0.049 increase in performance.

5.1.3 To establish the performance of firms in the manufacturing sector of the pharmaceutical industry are influenced by crisis containment

Respondents were in agreement that crisis management affect profitability of the company; this shows that crisis negatively affected the profitability of pharmaceutical firms. On whether crisis Management activities affect company growth, majority of respondents strongly; this shows that the growth of pharmaceutical firms is negatively affected by crisis. On whether crisis management has affected sales of the company, majority of respondents agreed, this shows that how the company handled crisis greatly affected the sales volumes. Respondents were in agreement that crisis management activities have affected return on investment; this shows that the crisis management activities greatly affected pharmaceutical firms return on investment. On whether crisis management activities affect market share, majority of respondents strongly agreed, this is a clear indication that if crisis is not well handled; it can negatively affect the market share of pharmaceutical firms. There was a positive correlation between crisis containment and performance of pharmaceutical firms, the relationship was significant at ($r = 0.146$, $p > 0.05$), this shows that crisis containment greatly affected the performance of pharmaceutical firms. A unit increase in crisis containment leads to 0.059 increases in performance.

5.1.4 To determine the business communication affect performance of companies in the pharmaceutical manufacturing segment

On whether activities are well coordinated to handle crisis, majority of respondents disagreed, this shows that crisis containment activities were not well coordinated. On whether there is proper evaluation during crisis, majority of respondents were neutral, this shows that proper evaluation is important in crisis management, the findings agrees with Sohn & Lariscy (2014) who argued that firms should finally assess and conduct periodic review of plans for managing crisis and test them by formulating scenarios which stimulate conditions that resemble crisis situations. On whether there is improved capacity to handle crisis, a majority of respondents were neutral, this shows that capacity is important in crisis management, the findings agrees with Sohn & Lariscy (2014) who argued that firms should also provide trained and qualified staff to attain the necessary effectiveness of an organization, confronting crisis and dealing with them through a special crisis data base, developing proposals and solution to address the crisis. On whether there are measures to prevent income loss in the company during crisis, majority of respondents were neutral, this

shows that proper measures were important in crisis prevention, the findings agree with Mazzei & Ravazzani (2014) who argued that organizations' management should employ proactive measures when managing human resource. Consequently, the level that a company is able to move ahead in spite of the inevitable constraint depends on the proactive measures taken by human resource managers. On whether there is proper crisis monitoring in the company majority of respondents agreed, this shows there is need to invest in proper crisis monitoring. There was a positive correlation between business communication and performance of pharmaceutical firms, the relationship was significant at ($r = 0.081$, $p > 0.05$), thus business communication greatly affected the performance of pharmaceutical firms. A unit increase in business communication leads to 0.120 increase in performance.

Respondents were in agreement that crisis management affect profitability of the company; this shows that crisis negatively affected the profitability of pharmaceutical firms. On whether crisis management activities affect company growth, majority of respondents strongly agreed, this shows that the growth of pharmaceutical firms is negatively affected by crisis. On whether crisis management has affected sales of the company, majority of respondents agreed, this shows that how the company handled crisis greatly affected the sales volumes. Respondents were in agreement that crisis management activities have affected return on investment; this shows that the crisis management activities greatly affected pharmaceutical firms return on investment. On whether crisis management activities affect market share, majority of respondents strongly agreed, this is a clear indication that if crisis is not well handled; it can negatively affect the market share of pharmaceutical firms.

The value of R^2 is 0.139, revealing 13.9% variability in factors relating to crisis detection, crisis prevention, crisis prevention and business communication accounted to business performance in the model developed. The adjusted R^2 is an improved estimation of R^2 in the population. The value of adjusted R^2 is 0.041. This adjusted measure provides a revised estimate, revealing 4.1% variability in factors relating to crisis detection, crisis prevention, crisis prevention and business communication accounted to performance, and this shows the model is good. ANOVA for crisis detection, crisis prevention, crisis prevention and business communication and performance were done. The p-value of 0.249 which is more than 5% level of significance implies that crisis detection, crisis prevention, crisis prevention and business communication and performance have statistical significance on performance.

This implies goodness of fit of the model; thus, the variables can be carried on for further analysis to determine with significance the level of its influence.

5.2 Conclusion

5.2.1 Crisis Detection

On whether there is analysis of crisis when they happen in the company, pharmaceutical company's management did not take time to analyze the crisis in the organization. On whether there are effective monitoring mechanisms for crisis, pharmaceutical companies lack effective monitoring mechanisms. There was regular assessment by pharmaceutical companies to detect crisis. There were some measures that enabled definition of crisis by pharmaceutical firms which enabled them detect crisis. On whether crisis is well explained, companies tried to explain the crisis.

5.2.2 Crisis Prevention

On whether activities are well planned during crisis, there was no proper planning to prevent crisis from happening. There were no proper policies in place to enable pharmaceutical firms deal with crisis. On whether there is effective quality control during crisis, there were no effective quality control measures in place to prevent crisis from occurring. On whether employees are trained on crisis prevention, employees of pharmaceutical firms were not well equipped with skills that can enable them prevent crisis from happening. On whether there was physical system have been put in place to handle crisis, pharmaceutical firms had put in place physical system have been put in place to handle crisis. On whether there were there is regular audit on crisis management activities, there was regular audit on crisis management activities.

5.2.3 Crisis Containment

On whether activities are well coordinated to handle crisis, crisis containment activities were not well coordinated due to in effective communication in the organization. On whether there is proper evaluation during crisis, there was no proper evaluation during crisis. On whether there is improved capacity to handle crisis, many pharmaceutical firms lacked capacity to handle crisis. On whether there are measures to prevent income loss in the company during crisis, there were no proper measures to prevent income loss in the company during crisis. On whether there is proper crisis monitoring in the company, pharmaceutical firms have invested in proper monitoring activities which enable them monitor crisis.

5.2.4 Business Communication

On whether there are proper communication channels during crisis, the communication channels used by pharmaceutical firms were not effective in communicating crisis which delayed the efficiency at which the organization handled crisis. There was no effective communication between customers and pharmaceutical firms; this affected the ability to handle crisis on time. There was good communication between pharmaceutical firms and stakeholders. Suppliers were not well informed by pharmaceutical firms on crisis situations which affected the ability to dealing with crisis. On whether employees are skilled on crisis communication, employees in pharmaceutical firms lacked proper skills to handle crisis situations; this affected how employees communicated with various stakeholders when crisis occurred. Skilled staff being an important part of crisis management affects how the organization responds to various crisis situations.

5.3 Recommendations

So as to effectively detect crisis, pharmaceutical firms should have in place a team to analyse crisis before they happen. The staff should be well trained and provided with resources to be able to conduct crisis analysis. Pharmaceutical firms should put in place an effective monitoring system on crisis. The monitoring system should prevent huge losses from occurring when companies suffer crisis.

To effectively prevent crisis from happening, pharmaceutical firms should have a clear plan on how to come out of crisis. The firms should have clear policies in place on how to manage crisis when they happen. There is need to hugely invest on staff training and provision of equipment to enable the companies effectively deal with crisis when they occur. The firms should regularly review the crisis prevention plans to ensure that they cater for changing crisis trends.

Pharmaceutical companies should have improved capacity and well-coordinated crisis management activities by regularly training and equipping staff with necessary equipment's required to respond to crisis on time. Crisis evaluation should be done on regular basis. The firms should have measures in place to cushion the firms from major losses occasioned by crisis; the measures may include having various products in the market and having many channels through which their products can be distributed.

Pharmaceutical firms should ensure that the communication channels used to communicate crisis reaches to a large number of people. The firms should embrace the use of social media to reach out to

the customers and stakeholders. Suppliers should be well informed on how to handle crisis through and effective communication channels. Employees should be well trained on public relations during crisis situations.

5.4 Recommendations for Further Research

The study was to identify the relationship between crisis management practices and performance of pharmaceutical manufacturing. The study findings narrowed into four crisis management practices. Suggestion for further study is recommended to identify other crisis management practices which can improve performance of pharmaceutical manufacturing companies. Further study is necessary to identify more crisis management practices.

5.5 Chapter Summary

The chapter consists of summary of research findings according to the objectives, conclusion, recommendations and suggestion for further research which suggested further study be conducted to identify other crisis management practices which can improve performance of pharmaceutical manufacturing companies.

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APPENDICES

APPENDIX I: Letter of Introduction

Management University of Africa

P.O Box 29677-0100

Nairobi

M/S.....

Dear Sir/ Madam,

REQUEST FOR DATA COLLECTION

I am a student at MUA, and I am doing a research titled "The relationship between crisis management and performance of pharmaceutical manufacturing companies in Nairobi County, Kenya." I request to involve you as a participant in my study. I guarantee you that all information given by you will be used for academic work only and given highest level of confidentiality. I request you to freely take part in the study and feel free to withdraw participation at any time you feel like.

Yours faithfully

Moses Mukuria.

APPENDIX II: LETTER FROM MUA

The
Management
University
of Africa



Sponsored by the Kenya Institute of Management

Date: 6th SEPTEMBER 2020

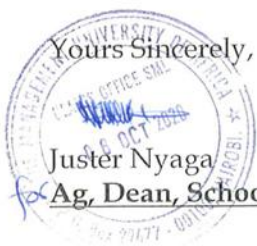
TO WHOM IT MAY CONCERN

MOSES GAITHO MUKURIA- MML/15/00173/1/19

This letter serves to introduce the above named who is a (Master of Management and Leadership) student and is interested in carrying out research on the **Relationship Between Crisis Management Practices and Performance of Pharmaceutical Manufacturing Companies; A Survey of Selected Companies in Nairobi).**

Any assistance accorded to him in pursuit of this study will be greatly appreciated.

Yours Sincerely,



Juster Nyaga

Ag, Dean, School of Management and Leadership

APPENDIX III: NACOSTI LETTER

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This is to Certify that Mr., Moses Gaitho Mukuria of The Management University of Africa, has been licensed to conduct research in Nairobi on the topic: RELATIONSHIP BETWEEN CRISIS MANAGEMENT PRACTICES AND PERFORMANCE OF PHARMACEUTICAL MANUFACTURING COMPANIES. A SURVEY OF SELECTED COMPANIES IN NAIROBI COUNTY. for the period ending : 12/October/2021.	
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APPENDIX IV: QUESTIONNAIRE FOR STAFF

SECTION A: DEMOGRAPHIC INFORMATION

Please tick appropriately

1. What is your age bracket?

- ☐ 20 years to 30 years
- ☐ 31years to 40 years
- ☐ 41 years 50 years
- ☐ Above 51 years

2. What is your highest education level?

- ☐ Secondary level
- ☐ College level
- ☐ University level

Any other please specify.....

3. What is your working experience?

- ☐ Below 1 year
- ☐ 1-6years
- ☐ 6-11 years
- ☐ 11-21 years
- ☐ 21 and above

SECTION B: CRISIS DETECTION

State extent your agreement or disagreement with the statements below concerning crisis detection

(5 strongly agree, 4 agree, 3 Neutral, 2 disagree and 1 strongly disagree)

	5	4	3	2	1
1. There is analysis of crisis when they happen in the company					
2. There are effective monitoring mechanisms for crisis					
3. There is improved assessment on how to handle crisis in the company					
4. Crisis are well defined when they occur					
5. Crisis are well explained when they occur					

SECTION C: CRISIS PREVENTION

State extent your agreement or disagreement with the statements below concerning crisis prevention (5 strongly agree, 4 agree, 3 Neutral, 2 disagree and 1 strongly disagree)

	5	4	3	2	1
6.Activities are well planned during crisis					
7.There are proper policies to deal with crisis					
8.There is effective quality control during crisis					
9.Employees are trained on crisis prevention					
10. Physical system have been put in place to handle crisis					
11.There is regular audit on crisis management activities					

SECTION D: CRISIS CONTAINMENT

State extent your agreement or disagreement with the statements below concerning crisis containment (5 strongly agree, 4 agree, 3 Neutral, 2 disagree and 1 strongly disagree)

	5	4	3	2	1
12.Ativities are well coordinated to handle crisis					
13. There is proper evaluation during crisis					
14.There is improved capacity to handle crisis					
15 There are measures to prevent income loss in the company during crisis					
16. There is proper crisis monitoring in the company					

SECTION E: BUSINESS COMMUNICATION

State extent your agreement or disagreement with the statements below concerning business communication (5 strongly agree, 4 agree, 3 Neutral, 2 disagree and 1 strongly disagree)

	5	4	3	2	1
17.There is proper communication channels during crisis					
18.Crisis is communicated to customers on time					
19. Crisis is communicated to stakeholders on time					
20. Crisis are communicated to suppliers on time					
21.Employess are skilled on crisis communication					

SECTION E: PERFORMANCE

State extent your agreement or disagreement with the statements below concerning performance.

(5 strongly agree, 4 agree, 3 Neutral, 2 disagree and 1 strongly disagree)

	5	4	3	2	1
22.Crisis management affect profitability of the company					
23.Crisis management activities affect company growth					
24.Crisis management has affected sales of the company					
25.Crisis management activities has affected return on investment					
26.Crisis management activities affect market share					

APPEDIX V: PHARMACEUTICAL COMPANIES IN NAIROBI COUNTY

1. Alpha Medical Manufacturers - Nairobi
2. Aventis Pasteur SA East Africa - Nairobi
3. Bayer East Africa Limited - Nairobi
4. Beta Healthcare (Shelys Pharmaceuticals) - Nairobi
5. Cosmos Limited - Nairobi
6. Dawa Pharmaceuticals Limited - Nairobi
7. Didy Pharmaceutical - Nairobi
8. Diversey Lever - Nairobi
9. Eli-Lilly (Suisse) SA - Nairobi
10. Elys Chemical Industries Ltd - Nairobi
11. Glaxo SmithKline - Nairobi
12. High Chem East Africa Ltd - Nairobi
13. Mac's Pharmaceutical Ltd - Nairobi
14. Manhar Brothers (Kenya) Ltd - Nairobi
15. Novartis Rhone Poulenc Ltd - Nairobi
16. Novelty Manufacturers Ltd - Nairobi
17. Pfizer Corp (Agency) - Nairobi
18. Pharmaceutical Manufacturing Co (K) Ltd - Nairobi
19. Pharmaceutical Products Limited - Nairobi
20. Phillips Pharmaceuticals Limited - Nairobi
21. Regal Pharmaceutical Ltd - Nairobi
22. Universal Pharmaceutical Limited - Nairobi

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4	ir-library.ku.ac.ke https://ir-library.ku.ac.ke/bitstream/handle/123456789/18740/Environmental%20management%20system%20and%20perf...	0.58%
5	cons.ac.uk https://cons.ac.uk/download/pdf/157488045.pdf	0.58%
6	cons.ac.uk https://cons.ac.uk/download/pdf/157488072.pdf	0.54%
7	erepository.uonbi.ac.ke http://erepository.uonbi.ac.ke/bitstream/handle/11285/58801/Mangi_Operations%20Competitiveness%20Priorities%20and%20P...	0.51%
8	erepository.uonbi.ac.ke http://erepository.uonbi.ac.ke/bitstream/handle/11285/58756/Wanjiku_Influence%20of%20Stakeholders%20Engagement%20...	0.5%
9	ir-library.ku.ac.ke https://ir-library.ku.ac.ke/bitstream/handle/123456789/18713/Corporate%20governance%20and%20profitability%20of%20g...	0.49%
10	ijecom.co.uk https://ijecom.co.uk/wp-content/uploads/2018/03/6217.pdf	0.48%