RELATIONSHIP BETWEEN CRISIS MANAGEMENT PRACTICES AND PERFOMANCE OF PHARMACEUTICAL MANUFACTURING COMPANIES IN KENYA; A SURVEY OF SELECTED COMPANIES IN NAIROBI

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ABSTRACT

The purpose of this study was to evaluate the relationship between Crisis-Management (CM) and the pharmaceutical manufacturing firms' performance. The research used descriptive survey design. The target population was 44 respondents. A fact-based conclusion was made using both secondary and primary research. Questionnaires were used to obtain primary data. Data analysis was done through SPSS Version 22.0. 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 was 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 lacked effective monitoring mechanisms. There was regular assessment by pharmaceutical companies to detect 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 could enable them prevent crisis from happening. Pharmaceutical firms had put in place physical system 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 had invested in proper monitoring activities which enabled 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.

Key Words: *Crisis Detection, Crisis Prevention, Crisis Containment, Business Communication*

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INTRODUCTION

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).

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

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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).

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 approximately11.8% 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).

From reports published by COMESA, Kenya supplied 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

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(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)

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. 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. From the outcome, it was clear that large-sized firms addressed crisis by collaborating with consulting firms or establishing CM departments.

From the above studies, pharmaceutical firms experienced crisis in supply chain disruptions, shortage of drugs and quality issues. The study by Constantine's (2018) showed 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 existed 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 could not be relied upon when targeting a large number of respondents. There existed a gap on the statistical extent of crisis experienced by pharmaceutical companies. There existed 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 left a significant gap that informed this study. Resultantly, it was essential to research the link between the management of crisis and the performance of firms in the manufacturing sector of the pharmaceutical industry.

Objectives of the Study

The primary objective of the research was to examine the connection between crisis management and the performance of Kenya's pharmaceutical manufacturing companies. The study was guided by the following specific objectives;

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

LITERATURE REVIEW

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).

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.

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.

Empirical Review

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).

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).

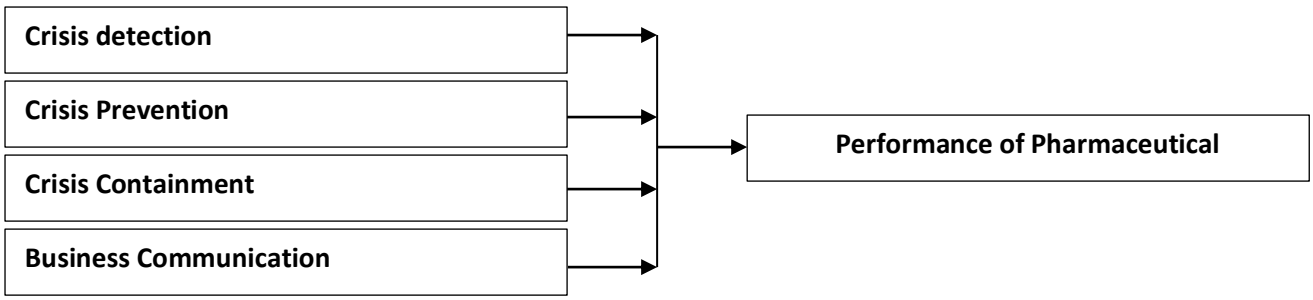
Between September 2008 and April 2009, a number of biotechnology and pharmaceutical corporations announced their plans to restructure while others filed for bankruptcy. Research indicates that within the period of eight months, a total of 120 corporations in both the pharmaceutical and biotechnology 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 ≥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.

The management of crisis is an essential organizational function. Failure can adversely affect stakeholders, lead to organizational loses 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 govern bodies that regulate the industry (Tracy, 2016).



Source: Researcher, (2020)

Figure 1: Conceptual Framework

METHODOLOGY

Descriptive design was adopted by the study since it facilitates collections as well as descriptive data analysis from the study population. The study targeted 1 Managing director and 1 Chief finance officer from the 22 registered pharmaceutical manufacturing companies in Nairobi County. This brought the total to 22 managing directors and 22 chief finance officers. The target population was therefore 44 respondents. Data editing was conducted on the collected information to ensure that it was complete and accurate and thus attain consistency, increase the precision and reduce biases. The information was then analyzed through regression analysis using the SPSS software version (22.0). The association between different variables were analyzed through a multiple regression model. The relationship equation was as shown below-

$Y = \alpha + \beta1X1 + \beta2X2 + \beta3X3 + \beta4X4 + \varepsilon$

Where Y = Performance

α = Constant term

$\beta1$ = 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.

FINDINGS AND DISCUSSIONS

Descriptive Statistics

Table 1: Descriptive Statistics on Detection

	N	Mean	SD
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 was analysis of crisis when they happen in the company, majority of respondents who were (M=2.4250; SD=0.93060) disagreed, this showed that the organization management did not

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take time to analyze the crisis in the organization, the study agreed 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 showed that pharmaceutical companies lacked effective monitoring mechanisms, the findings disagreed 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 was improved assessment on how to handle crisis in the company as shown by (M=3.7000; SD=0. 64847), this showed that there was regular assessment by pharmaceutical companies to detect crisis. The findings disagreed 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 were well defined when they occur as evidenced by (M=4.0500; SD=0. 63851), this showed that there were some measures that enabled definition of crisis by pharmaceutical firms which enabled them detect crisis. The findings agreed 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 was well explained, majority of respondents agreed as evidenced by (M=4.2250; SD=1. 04973), this showed that companies tried to explain the crisis.

Table 2: Descriptive Statistics on Prevention

	N	Mean	SD
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 2 showed summary on crisis prevention. On whether activities were well planned during crisis, majority of respondents disagreed as evidenced by (M=2.0750; SD=0. 47434), this showed that planning is important in crisis management, poor planning on crisis to poor performance, the study findings agreed with 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 were proper policies to deal with crisis as shown by (M=2.3750; SD=0. 70484), this showed that proper policies are important in crisis management, there were no proper policies the study findings agreed 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 showed 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

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employees were 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 showed 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 showed that there was regular audit on crisis management activities.

Table 3: Descriptive Statistics on Crisis Containment

	N	Mean	SD
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 3 showed summary on crisis containment. On whether activities were well coordinated to handle crisis, majority of respondents disagreed as evidenced by (M= 1.9500; SD=0.95943), this showed that crisis containment activities were not well coordinated. On whether there was proper evaluation during crisis, majority of respondents were neutral as shown by (M= 2.5500; SD=0.71432), this showed that there was no proper evaluation during crisis. On whether there was improved capacity to handle crisis, a majority of respondents were neutral as shown by (M= 3.0750; SD=0.85896), this showed that many pharmaceutical firms lacked capacity to handle crisis. On whether there were 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 showed that there were no proper measures to prevent income loss in the company during crisis. On whether there was proper crisis monitoring in the company majority of respondents agreed as shown by (M= 3.9000; SD=0.84124), this showed that pharmaceutical firms had invested in proper monitoring activities which enable them monitor crisis.

Table 4: Descriptive Statistics on Business Communication

	N	**Mean**	**SD**
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 showed 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 showed that proper evaluation is important in crisis management, the findings agrees with Sohn &

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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 as shown by (M= 3.0750; SD=0.85896), 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 as shown by (M= 3.4250; SD=0.67511), 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 as shown by (M= 3.9000; SD=0.84124), this shows there is need to invest in proper crisis monitoring.

Table 5: Descriptive Statistics on Performance

	N	Mean	SD
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 5 showed 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 showed that crisis negatively affected the profitability of pharmaceutical firms. On whether crisis management activities affected company growth, majority of respondents strongly agreed as evidenced by (M= 4.4500; SD=0.59914), this showed that the growth of pharmaceutical firms is negatively affected by crisis. On whether crisis management affected sales of the company, majority of respondents agreed as evidenced by (M= 4.4250; SD=0.63599), this showed 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 showed 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.

Correlation Analysis

This sub-section presented 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.

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Table 6: Correlations

		DETECTION	PREVENTION	CONTAINMENT	COMMUNICATION
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 COMMUNICATION	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

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 showed 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.

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 offered the regression analysis centered around the study objectives.

Table 7: 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

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Table 7 showed 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 and business communication accounted to performance, and this showed the model was good.

Table 8: 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 8 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 implied 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 9: 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. An increase in crisis prevention leads to 0.049 increase in performance. A unit increase in crisis containment leads to 0.059 increases in performance. A unit increase in business communication leads to 0.120 increase in performance.

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CONCLUSION AND RECOMMENDATIONS

On whether there was 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 were 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.

On whether activities were 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.

On whether activities were 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 was 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.

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.

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

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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.

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.

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