KNOWLEDGE MANAGEMENT, OPERATING ENVIRONMENT, COMPETITIVE STRATEGIES AND PERFORMANCE OF RETAIL PHARMACEUTICAL FIRMS IN NAIROBI COUNTY, KENYA

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DECLARATION

I, the under signed, declare that this thesis is my original work and has not been submitted to any other college, institution or university other than the University of Nairobi.

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SUPERVISORS APPROVAL

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To my beloved family and the friends, thank you so much for your continuous support and encouragement during the entire doctoral studies.

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ABBREVIATIONS AND ACRONYMS

BSC	**:**	Balanced Score card
DV	:	Dependent Variable
GDP	:	Gross Domestic Product
IV_1	:	Independent Variable
IV_2	:	Intervening Variable
KBV	:	Knowledge-Based View
KM	:	Knowledge Management
MNCs	**:**	Multinational Corporations
MSEA	:	Micro and Small Enterprises Authority
MV	:	Moderating Variable
NGOs	**:**	Non-Governmental Organizations
PESTEL	:	Political, Economic, Social-Cultural, Technological, Ecological, Legal
POP	**:**	Pharmacies Observation Post
PPB	**:**	Pharmacy and poisons board
Q-Q	**:**	Quantile Quantile Plot
SME	:	Small and Medium Enterprises
VIF	**:**	Variance Inflation Factor

ABSTRACT

Researchers and practitioners in strategic management are increasingly trying to figure out why some businesses perform better than others even when they are in the same or similar business conditions. With the rise of the information-based economy, knowledge is now seen as the crucial means of generating wealth and prosperity as well as the key factor in determining whether a corporation will succeed or fail. Establishing the impact of the operational environment and competitive tactics on the relationship between knowledge management and performance of retail pharmaceutical companies in Nairobi County, Kenya, was the study's main goal. Based on the goals of the study, the hypotheses were created and evaluated. The Dynamic Capabilities Theory (DCT), Knowledge-Based View (KBV) theory, Environmental Dependence Theory (EDT), and Resource-Based View (RBV) served as the foundation for the study. The theories were developed after an assessment of the body of existing literature. The study used a descriptive research design and positivist mindset. A method of systematic sampling was used. The 720 retail pharmaceutical companies that are registered in Nairobi City County made up the study's population. The owner/manager or an equivalent was the primary responder in 116 retail pharmaceutical businesses in Nairobi County, Kenya that were included in the study sample. With the aid of semi-structured questionnaires, primary data was gathered. Both descriptive and inferential statistics were used to analyze the data. Based on the goals of the study, the hypotheses were created and evaluated. The study's conclusions demonstrated how knowledge management has a big impact on how well businesses function. The findings further supported the idea that the operational environment has a moderating effect on the link between knowledge management and company performance. The study also discovered that the relationship between knowledge management and company performance is significantly influenced by competitive strategies. Last but not least, it was discovered that the combined impact of knowledge management, operating environment, and competitive tactics on performance was stronger than their individual influences. The study's findings support the theoretical claim made by the dynamic capabilities theory, which positioned knowledge management as a key strategic endeavor that ensures a firm's performance and competitive advantage. The study strengthens managerial, theoretical, and policy implications. The operating environment in which a firm runs defines the strategy to be taken by a firm, influencing performance, according to a theoretical argument that was applied to this study. The study helps owners and stakeholders of retail pharmaceutical companies to create policies that support knowledge management in their businesses and have procedures for putting experience-based knowledge to use. The study suggests that, in order to achieve the desired performance for retail pharmaceutical firms, owners and managers must comprehend the environment in which their businesses operate. This will help them build knowledge management capabilities and come up with the best possible combination of strategies that are competitive in the market by identifying the knowledge they have and comparing it with that of its competitors in the given industry to close any gaps that may exist.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Researchers and practitioners of strategic management generally aim to understand why some businesses perform better and expand at a faster rate than others, although operating in a similar business environment (Hahn, Howard, Lyon, Russo & Walls, 2021). Companies functioning in a setting with rapid technological change, increasing rivalry, globalization, high complexity, and a rise in time-based competition must reassess how to outsmart their opponents and produce superior results (Hayfa, Abraddous, Abdullah, Sokkar, Blaqees, 2018). This is reinforced by Sunarno, Susita, and Wolor's (2022) argument that organizations can implement effective knowledge management practices and models of competitive strategies by using accurate information from the operating environment.

Knowledge Management is an excellent way for a firm to obtain a competitive edge (KM). However, experience demonstrates that KM implementation is challenging for small enterprises in developing countries with few favorable business management factors (Kmieciak & Michna, 2018). In order to perform better, businesses should adopt an effective knowledge management strategy that supports the right balance of competitive strategies and fits the company's needs with the operational environment (Adetola, Aghazadeh & Abdullahi, 2021).

Therefore, in order to reach higher performance, effective organizations must have the ability to collect, store, and share information. According to academic archives, knowledge strategy and management must be driven by a company's competitive strategy in order for businesses to agree to meet those strategies' needs (Mardani, Nikoosokhan, Moradi & Doustar, 2018; Salunke, Weerawardena & McColl-Kennedy, 2019; Atiku, 2020). This is intended to support knowledge capabilities in products, services, scanning of the environment, processes, and structures, to further identify new customer groups, more needs, greater technological materials, and for creating informed market knowledge and strategies that are current while not excluding changes in processes (Bagnoli & Giachetti, 2015; Mardani, et al., 2018).

This study was founded on the Dynamic Capabilities Theory (DCT) (Teece, Pisano & Shuen, 1997), which makes the case that organizational management of discontinuous and dynamic environments influences activities like strategy development and knowledge management. It is backed by the Knowledge-Based View hypothesis (Wright & McMahan, 1992), which contends that the diversity of knowledge inside an organization and the manner in which it is developed and applied affect significantly how performance varies amongst firms. The industrial organization economics theory (Bain, 1951), which states that a company's operating environment will influence the strategy to be chosen and that this will have an impact on performance and further, provides additional support. According to the Resource Based View (Barney, 1991), businesses are administrative entities made up of a variety of material and human resources.

The health business is characterized by massive investments, global diversification, and substantial advantages for both public health and economic productivity on a global scale (Restrepo, 2021). Health industry globally is characterized by huge investments with benefits that are tremendous for both public health and economic productivity (Restrepo, 2021). Part of this is the pharmaceutical industry comprising of manufacturers, distributers and retailers. In Kenya the pharmaceutical industry specifically the retail sector plays an important role in health care provision through supply of medicines and medical equipment to majority of Kenyans (PPB, 2019). The majority of retail pharmaceutical firms fall under small and medium enterprises, a sector that is key for economic development of Kenya providing about 70% of total employment and contributing about 45% to the Kenyan gross domestic product (GDP) (MSEA, 2017). Furthermore vast majority of Kenyans cater for their own health needs and these retail pharmaceutical firms are sources of prescribed medicines and in many instances are regarded as a first option healthcare provider. In spite of the important and visible role this industry plays, it has not attracted much research attention thus prompting the current study on how knowledge management influence performance of retail pharmaceutical firms and the role played by competitive strategies and the operating environment.

1.1.1 Knowledge Management

Knowledge management has been described in a variety of ways by different scholars, who claim that it is dependent on the context and purpose of the business. Aslam, Saleem, Khan and Kim (2021) defined KM as combined unending exploitation and understanding of knowledge of individuals, organizations and groups and changing this goldmine into assets that benefits the organization and used by managers into making viable organization decisions. Babaee, Moradi and Fathollahi (2022) referred to KM as that needed and necessary knowledge that is paramount in achieveing firm's objectives which involves deep and critical analysis.

KM has also been defined as the process of acquiring, retaining, comprehending, disseminating (dividing), and implementing information, as well as any actions made during the learning process in accordance with the strategies of the businesses involved (Hazeri, Makkizadeh, Soheili & Zare, 2022). Knowledge management (KM) as a notion is paramount due to growth of realization of the need of knowledge for the firm to prosper continually and beating the odds of economy (Survival). As a result, two major features of knowledge have been identified: implicit (tacit) knowledge and explicit knowledge (Chib & Sehgal, 2019). Ndwiga, Gichohi and Nkaabu (2019) further explained, implicit knowledge is the kind of knowledge that is complex and difficult to transfer to another person since it is complex in comprehension. It's comprehended in the form of capabilities and skills, and ideas which individuals may possess mentally.

Explicit knowledge, on the other hand, is defined by Kurniawati, Wiratmadja, Sunaryo, and Samadhi (2019) as knowledge that can be expressed in words (easily articulated), numbers, and symbols and communicated to others in the form of pictorial messages, graphs and fact sheets, diagrams, charts, and manuals. Turner, Zimmerman, and Allen (2012) and Xue (2017) conceptualize knowledge management (KM) in four ways: knowledge generation, storage, dissemination, and application.

According to Knowledge Based Theory, KM processes like as knowledge acquisition, information development, knowledge sharing, knowledge storage, and knowledge implementation are crucial to obtaining exceptional results (Uddin, Fan & Das, 2016). Managing knowledge resources is the key to remaining competitive thus businesses that aim to maintain this have no choice than to put more effort into this so as the increase more revenue, increased sales and market share. Scholars, like Moreno, Becerril and Alcalde (2018) reported that Companies that use appropriate KM practices has a higher trend in their capabilities, generating more improved business performance.

1.1.2 Competitive Strategies

Managers use strategy to achieve superior firm performance relative to competitors, and it is critical in explaining short and long term variations in company performance (Malekakhlagh & Ghaderi, 2022). Competitive strategies define a company's business plan in relation to its operating environment, which includes competitors and customers. According to Porter (1980), firms gains a competitive strategy that is sustainable over other firms in the industry through the low cost strategy which emphasize on the need of being the low cost producer in the industry, strategy differentiation which aims on offering products that are widely spread but inquely placed and focus strategy which is based on a firm seeking a narrow competitive scale and selecting a part of section in the industry and tailoring its strategy to serve them leaving out others.

Firm performance is realized when a right competitive scope and the associated activities are taken in to account (Golmohammadi, Mohammadi, Tolabi & Khalil, 2022). This will further enhance how a firm can get profits and be viable in a given industry competition. Firms therefore are able to scan a particular environment to enable them come up with those strategies deemed best for competitive advantage (Karim, Azam & Tham, 2022).

In order to enhance performance, scholars have laid out reasons why companies should create a need to choosing an effective competitive strategy. Porter (1985) summarizes that firms that settle for collective strategies achieve sustainability in their competitive edge. Further, for a firm to reach its long-term goal and objective, it formulates a strategy using a control system that measures progress leading to goal achievement as well as making progressive adjustments. Generic strategies, according to Yazdani, Sadeghzarei and Hoseini (2021), should allow businesses to compete in any industry. A company must select how to position itself in a competitive market in order to be successful.

This study adopted Porter (1980) conceptualization of competitive strategies which has been academically well accepted and internally consistent. The generic frameworks as developed by Porter underpins theoretical arguments and provide a business strategy that is modest to integrate dimensions such as scale/scope (focus), differentiation and efficiency/cost leadership. The particular developments in question go in hand to inform different and emerging thinking line in establishing how competitive strategy may play a role on the knowledge management and firm performance relationship.

Stern, Unsworth, Valero, Zenghelis, Rydge and Robins (2020) argue that through low cost strategy which emphasizes on an industry need to be low-cost producer ,firms are able to sustain competitive advantage over other firms in the industry, differentiation strategy which is solely on offering differentiated and creating products and services that are unique widely in an industry and focus strategy which is based on a firm seeking a narrow competitive scale and selecting a part of section in the industry and tailoring its strategy to serve them leaving out others. A consolidated set of actions which is put forth in producing goods or services that serve unique features and sold to customers at the lowest cost possible as compared to the competitors to achieving immense revenue is termed as Cost Leadership Strategy. Ali, Hussin, Abed, Nikkeh and Mohammed (2020) says that for a company to have an immense performance advantage, cost leadership strategy has to be put in practice.

Chen (2020) findings depict that through cost leadership strategy, organizational performance is able to be well presented. A differentiation strategy is an approach with a set of actions taken to develop and produce goods that are different and distinct from items competitors offer in market place that are at acceptable and friendly cost. Galbreath, Lucianetti, Thomas and Tisch (2020) finds that there's an immense positive correlation between differentiation and market share. Companies should be able to establish and defend their strategic positioning against rivals by choosing from among two business level. Due to uniqueness of each strategy different type of performance measures will result.

1.1.3 Operating Environment

Omar (2022) defines environment as a set of conditions determined by the surroundings that determine how a company adjusts to survive in respect to its competitors. Onwe, Ogbo and Ameh (2020) defines operating environment as the factors that a firm interacts with when conducting their day to day operations and which can be the source of constraints, contingencies, complications and opportunities affecting the terms on which firms transact business.

Firm performance is associated with existing operating environment. Maintenence of performance levels entirely depends on devising appropriate responses to any changes that may arise from such factors constituting operating environment (Ibrahim & Mas'ud, 2016). Firms that effectively implement strategies and best knowledge management practices in place may find even the most perceived environmental turbulence to be a source of opportunities rather than threats, as the operating environment can either be perceived as a threat or as an opportunity to steer performance (Hamad, 2016). The capacity of firms to adapt successfully to its surrounding environment is therefore greatly facilitated by their ability to predict the future of operating environment.

Several operating environment dimensions have been identified to be critical contingencies for effective strategic management. According to Jegede and Nieuwenhuizen (2021) these factors are threat of new entrants, bargaining power of suppliers, the threat of product substitutes and the magnitude of rivalry amongst competitors. These dynamics affect the distribution of value in industry actors, whether performance is too controlled by replacements or entrants of new products, influenced by consumers or suppliers, or devoured by rivals, and so decide a company's stability in performance.

By analyzing these elements, a corporation can gain a competitive advantage in an industry by influencing favorable aspects or insulating itself from the effects of operating environment factors (Tsoho, Musa, Aminu & Jumare, 2021). The industry in which a corporation and its competitors compete for business is the arena in which competition takes place. Each company has its own set of methods or strategies for shaping the type of competitive engagement that occurs in the appropriate operational environment. The capacity of firms to adapt successfully to its surrounding operating environment is therefore greatly facilitated by their ability to interact more with the factors constituting the operating environment.

1.1.4 Firm Performance

Zhu, Dai and Wan (2022) defined performance as the ability of a firm to attain its goal by using its available resources in the most effective and efficient way. Chabachib (2020) defines performance to mean how resources within a firm’s disposal can be put into their use effectively and efficiently with the aim of achieving the objectives of the firm depending on the arising present or future opportunities. Keramati and Palanichamy (2020) argue that firm performance refers to an organizations achievement as compared to the set goals and objectives.

Performance is a multidimensional concept and is viewed in many different ways such as financial (objective) such as sales turnover, return on investments, profits and non-financial (subjective) indicators such as product or service quality, employee satisfaction, customer satisfaction (Venkatraman & Ramanujam, 1986). Kaplan and Norton (1996) introduced the Balanced Scorecard (BSC) comprising internal process, learning and growth, customer focus and financial focus that added strategic measures that are non-financial to traditional financial measures into aiding managers with a more balanced view of organizational performance.

According to Abbasi, Malmir and Geramipoor (2020), subjective measures are more considerable than objective measures since accounting metrics may not be readily and easily accessible and thus deemed unreliable which therefore may be manipulated by business owners for many reasons. Mu, Zhang and Gilliland (2019) argue that subjective measures of performance are highly correlated with objective measures and subjective measures are often used as a valid indicator of performance. In addition, Al Mamun, Hayat, Fazal, Salameh, Zainol and Makhbul (2022) contend that performance may be different from firm to firm depending on how a particular firm puts emphasis on the performance aspects which may be determined by the size of the firm under consideration and concluded that performance measurements differ sharply from one firm to another firm. Yinusa and Salman (2021) used measures such as profits retained, human capital efficiency, shareholders equity, brand awareness and market share. This study adopted Kaplan and Norton (1996) measures which fits well in the context of retail pharmaceutical firms.

1.1.5 Retail Pharmaceutical Firms in Nairobi City County

Development, production and marketing of medication is all held responsible by pharmaceutical industry. Therefore, its importance globally is immense unquestionably inarguably. The industry comprises three segments namely the manufacturers, distributors and retail firms. In 2017, the records showed that the world's largest market for pharmaceutical is in the United States which as compared to other markets accounting for about 37 percent. In recent study, there's been shrinkage of the gap between other markets and American markets.

Globally there was accountability in the pharmaceutical market of 48 percent in the US market, 22 percent on the emerging market and 19 percent in Europe in 2019. Still same year there's an ingrowth of exceedingly one trillion accounted of the total pharmaceutical revenues worldwide for the first time. Because of the pharmaceutical industry's dominant position in the United States, North America generates the most income. Nonetheless, the Chinese Pharmaceutical business, like many other industries, has enjoyed the strongest growth rates in recent years.

In Kenya the retail pharmaceutical firms are units comprising primarily independent pharmacies usually privately owned and majority employing between 1 and 10 staff. The retail firms provide consumers with over the counter healthcare, nutritional products and prescription drugs among other products to support health sector, in many instances acting as a first line in healthcare needs (PPB, 2019). A majority of formal, licensed retail pharmacies are more within the Central business district whereas the informal unlicensed ones operate more in the slum and semi-formal settlements. The formal licensed pharmacies tend to compete more on differentiation of their services whereas the unlicensed pharmacies tend to compete more on price (POP, 2020).

The Pharmacy and poisons board (PPB) is responsible for regulating and keeping in check the pharmaceutical industry in Kenya. According to the PPB (2019), the country has 5,700 registered pharmacies. Out of these, Nairobi County has a total of 720 licensed retail pharmaceutical firms. In addition, (POP, 2019) reports that Nairobi County has in addition, over 3,000 unlicensed retail pharmacies. The majority of the retail pharmaceutical firms are owned by individuals with a few attempting several branches.

The vast majority of Kenyans cater for their health needs and these retail pharmaceutical firms are sources of prescribed medicines and in many instances are regarded as a first option healthcare provider. Therefore, the retail pharmaceutical firms occupy a central position in the healthcare needs of Kenyans. This requires retail pharmaceutical to adhere to some form of knowledge specific to their operation and also to put in place strategies that make them competitive in a highly dynamic environment for them to achieve desired performance. The study therefore aims at establishing the role of the operating environment and competitive strategies in the knowledge management level and performance relationship of retailing pharmaceutical firms in Nairobi City County.

1.2 Research Problem

There has been strong argument by previous scholars on the relationship between knowledge management and organization performance in strategic management field (Babaee, Moradi and Fathollahi 2022; Hazeri, Makkizadeh, Soheili & Zare, 2022; Aslam, Saleem, Khan and Kim, 2021). In order for firms to overcome the competitive challenges they go through, they need to equip themselves with an effective knowledge Management which will record superior performance in their operating environment (OuYang, 2014). There are conflicting results proposed by different authors.

For instance, Tubigi and Alshawi (2015) and Mills and Smith (2011) affirm that knowledge management provide a basis of sustainable competitive advantage leading to firms performance with Zack et al., (2009) establishing a contrary view that there is lack of direct relationship between KM practices and firm performance thereby leading to inconclusive results that require further studies to ascertain the true position of the relationship.

Retail pharmaceutical firms comprise pharmacies and chemists where the retail firms provide consumers with over the counter medicines, nutritional products and prescription drugs among other products to support the health sector, in many instances acting as a first line in healthcare needs (PPB, 2019). The majority fall under small and medium enterprises, a sector that is key for economic development of Kenya. MSE bill guides the definition of small and medium enterprises which is in this context, the Sessional Paper No 2 of 2005 as those with between 1-100 employees and a capital investment of not more than Kshs 30 million. Majority of the retail pharmaceutical firms in Kenya fall within this definition.

According to Micro and Small Enterprises Authority (MSEA, 2019) the sector provides about 70% of total employment and contribute about 45% to the Kenyan gross domestic product (GDP). The retail pharmaceutical firms are characterized by variation in performance with some performing well and others performing poorly and some suffering closure (PPB, 2016). Jakes (2018) argue that, 20% of the SMEs that have been newly established, including small businesses in pharmaceutical industry, collapse or fails within 2 years with over 50% of them fail during the first 5 years. This is as a result of inadequate and poorly chosen strategies to sustain the businesses for a long period.

This therefore requires a study to establish factors that results to variations in performance which could be attributed to combination of knowledge management, operating environment as well as competitive strategies adopted by different retail pharmaceutical firms. Further most of existing empirical studies on knowledge management have focused on large firms with the assumption that small firms may not have the same need for knowledge management as larger firms (Darroch & McNaughton, 2002; Hutchinson & Quintas, 2008). In addition, there are limited studies examining knowledge management issues relating to small businesses despite the role they play in an economy (Pillania, 2006).

Gold et al., (2001), asserts a positive association between KM and firm performance through analysis of surveys collected from over 300 senior US firm executives. Further a study by Nguyen and Neck (2009) on managing knowledge capabilities and competitive advantage within the Vietnamese companies revealed that managing knowledge significantly affect firms' competitive advantage. In Nigeria, Amodu et al., (2014) in a case study of Kogi State University while analyzing the barriers and challenges of knowledge revealed that knowledge management is major determinant of organizational performance.

Other studies depicted no direct positive links between knowledge management and performance. For instance, Mafabi, Munene & Ntayi (2012) studying knowledge management and organizational resilience with organizational innovation as a mediator in Uganda parastatals found negative but significant results on the knowledge management and performance. Further Byukusenge and Munene (2017) seeking to determine the mediating influence of innovation on the KM and business performance relationship of 250 SMEs in Rwanda established that knowledge management and performance do not significantly relate but when innovation is introduced as a mediating variable positive and significant results are realized.

Ambula (2015) in the large manufacturing firms and Kinyua (2015) in the Kenyan commercial bank's context identified the limitations of not considering other variables while examining the KM and performance relationship. While studying Malaysian SMEs, Mills and Smith (2011), using a cross sectional survey found that knowledge management process capabilities influence organizational performance. Liao and Wu (2009) applying longitudinal survey in a study on knowledge management and organizational performance in Taiwan manufacturing firms found that organizational performance depends on effective implementation of knowledge management processes. Matin and Sabagh (2015) study used applied and descriptive survey based on correlation analysis of 252 senior managers of Khorasan Razavi exporters union established a positive link between KM and performance.

Hsu (2012) performed a study on the effects of competitive strategy, knowledge management and e-business adoption on performance of Taiwanese firms using cross sectional survey and concluded that it's significant for firms to identify a differentiation strategy for organizational performance to be realized. Other studies for instance Cheruiyot, Jagongo and Owino (2012) studied the influence of knowledge management institutionalization on performance of manufacturing enterprises in Kenya using cross sectional survey and found that well institutionalized knowledge leads to superior performance. In an exploratory study, Zack et al., (2009) looked at the relationship between knowledge management and corporate performance in North America and Australia. According to the data, there is no direct link between KM practices and financial performance measurements. Ahmad, Mohamad and Ibrahim (2013) study on how knowledge acquisition influences firm performance of multinational Corporations in Malaysia in a cross-sectional survey found that firms with proper knowledge in the context of the environmental demands influence performance.

Different studies have provided contradicting conclusions resulting to conceptual, contextual and methodological gaps. Some studies for instance (Gold et al., 2001; Nguyen and Neck 2009; Amodu et al., 2014) revealed a positive and significant relationship between knowledge management and firm performance. Other studies depicted no direct positive relationship between knowledge management and performance (Mafabi, Munene & Ntayi 2012; Byukusenge and Munene 2017; Ambula 2015). This therefore require further studies to ascertain the true position of the relationship by further interrogating how knowledge management influence firm performance and the role played by operating environment and competitive strategies in influencing the relationship between knowledge ma agement and firm performance specifically in retail pharmaceutical firms.

Most of the previous studies have been carried out in developed economies, in large firms, and in different contextual setups ranging from manufacturing firms (Liao and Wu, 2009), universities (Amodu et al., 2014), export companies (Matin & Sabagh, 2015), service organizations (Olaima et al., (2015) agriculture, construction, fishing, wholesale and retail trade, accommodation and food service (Rasula et al. 2012).Moreover, scholars have noted that knowledge management research in small firms particularly in developing countries, are few and suggested further research to enrich empirical knowledge management research in small firms (Molnar, et al., 2011; Durst & Edvardsson 2012; Tee et al., 2012).

Most of existing empirical studies on knowledge management have focused on large firms with the assumption that small firms may not have the same need for knowledge management as larger firms (Darroch & McNaughton, 2002; Hutchinson & Quintas, 2008). This study therefore covers the retail pharmaceutical firms in Kenya specifically Nairobi County. Furthermore different scholars have adopted different study methodologies to come up with conclusions. For instance both Mills and Smith (2011), Liao and Wu (2009) and Cheruiyot, Jagongo and Owino (2012) used mixed research method and also applied structural equation modelling to determine the significance levels among the variables. Further Liao and Wu (2009) applied longitudinal survey to come up with their conclusions. Mills and Smith (2011) used cross sectional survey to come up with their conclusions and Amodu et al., (2014) applied a case study.

However, this study adopts a different methodological approach by applying a descriptive cross sectional survey design, purely quantitative data and a regression analysis to test the significance levels along the stated hypothesis. Further, this study uses an integrative model to examine the joint effects of the study variables and how interactions among the variables; knowledge management, operating environment and competitive strategies and how they influence performance.

Studies on the impact of the operating environment and competitive strategies on the relationship between knowledge management and firm performance are scarce in the retail pharmaceutical firms in a developing economy like Kenya, in contrast to previous studies that addressed variations in knowledge management and performance measurement, this study sought to answer, What is the impact of the operational environment and competitive tactics on the relationship between knowledge management and performance of retail pharmaceutical enterprises in Nairobi City County, Kenya?

1.3 Research Objective

The objective of this study was to determine how competitive strategies and operating environment affect the relationship between knowledge management and performance of retail pharmaceuticals firms in Nairobi City County. The specific research objectives were to:

i. Evaluate the influence of knowledge management on performance of retail pharmaceutical firms in Nairobi City County.
ii. Demonstrate the effect of operating environment on the relationship between knowledge management and performance of retail pharmaceutical firms in Nairobi City County.
iii. Examine the effect of competitive strategies on the relationship between knowledge management and performance of retail pharmaceutical firms in Nairobi City County.
iv. Establish the joint effect of knowledge management, operating environment and competitive strategies on performance of retail pharmaceutical firms in Nairobi City County.

1.4 Value of the Study

The study findings contribute to the testing of current theories by providing a framework that links knowledge management, operating environment, competitive strategies and firm performance. The study advances the Knowledge-Based view and Resource Based view by providing insight on knowledge management influence on firm performance while the environmental dependence theory and industrial organization economics theory enhances further understanding on operating environment and competitive strategies respectively.

The study informs practitioners in the health sector in general and in particular the pharmaceutical industry on the role played by management of knowledge with the aim of improving their performance. The health sector is one of the key pillars in Universal Health Coverage with a focus on increasing access to affordable and quality healthcare services. The study is of value in formulating knowledge management and competitive strategies for superior performance of retail pharmaceutical firms in Kenya.

The study finding is of value to policy makers enabling them to have a different perspective on the pharmaceutical subsector's role in driving the country's health sector. This study also informs policy on the modalities to improve organizational knowledge management frameworks especially in retail pharmaceutical firms and other stakeholders in the health sector. Policy makers utilizes the study findings to assess how the retail pharmaceutical firms can be leveraged through knowledge management and competitive strategies in order to contribute to the overall health and economic development of the Country.

1.5 Organization of the Thesis

This thesis has a clear outline for its six chapters. The study's introduction is provided in the first chapter, which also highlights important philosophical and contextual issues. Such ideas are relevant to important elements like performance, operating environment, competitive tactics, and knowledge management. The context is where the study covers and this entails retail pharmaceutical firms in Nairobi County, Kenya.

The second chapter is logically organized and covers a thorough review of the literature. It begins by presenting the theories that are thought to be important for the study. It then moves on to a review of the empirical literature based on the study variables and their potential effects on performance as well as how the variables interact with one another. Finally, it summarizes the gaps in the literature that are felt to be important to identify and discuss.

The data offered in chapter three relates to the study's methodology, with important subsections including how it was influenced by philosophy and the design taken into account. The population and the method used to determine it, along with other elements like operationalization and analysis features, were also discussed. The fourth chapter discussed the analysis process and how the results were interpreted, which led to the fifth chapter's discussion of the findings. The sixth chapter summarized the most important aspects of the results and provided a deeper understanding of the implications involved, including key conclusions and limitations.

CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

In this area of study, the emphasis is on review of main theoretical and empirical literature. The researcher is guided by the review of literature in identifying appropriate foundation of the study theoretically. Dynamic capabilities theory is the main anchoring theory, supported by Knowledge-based theory, resource-based view, the industrial organization economics theory and the environment dependency theory.

In this chapter the issue of knowledge management and organization performance having a direct link is depicted while considering the possible effect of the operating environment and competitive strategies on such a relationship. The three variables on organization performance with joint effect is discussed.

Finally, summarized knowledge gaps is presented and identified in literature. These gaps relate to diverse contexts of previous studies, methodological and conceptual gaps, and how this research will address them. A presentation of relationship highlighting conceptual framework of the variables studied and four conceptual hypotheses are presented.

2.2 Theoretical Foundation

Knowledge Based Theory, Resource Based View and the industrial organization economics theory are support studies that were anchored on the Dynamic Capabilities Theory (DCT). Theories are key to guiding the study objectives and how key concepts interrelate in testing a phenomenon and therefore researchers especially in social science are keen to applying relevant theories to test key concepts in hypotheses. The assumptions, critique and the inter-link of the theories to the study variables are presented and discussed in detail in subsections herein.

2.2.1 Dynamic Capabilities Theory

Teece, Pisano and Shuen (1997) advanced the study of The Dynamic Capabilities Theory (DCT). The ability of the firm to merge, to intensify, to reconfigure internal and external competencies and skills to address rapidly-changing environments for performance to be realized is what this theory focus on and emphasize (Hurd, 2019). The theory explains that activities such as development of strategies and knowledge management are driven by discussions on how organizations are well managed in discontinuous and dynamic environments (Denrell & Powell, 2016). The theory argues and explains why some firms within a certain dynamic environments and market niches differ in performance with some being more successful in building competitive edge than others (Gaby, 2020).

According to the theory, the dynamic capabilities approach views knowledge management as a critical strategic endeavor that ensures a firm's competitive advantage and performance (Batko, 2017). It is argued that knowledge management provides the necessary skills and competencies to managers in creation, retention, transferring and usage of firm's tacit and explicit knowledge and also formulates best combination of strategies (McLean, 2020). Empirically this theory tries to link how dynamic capabilities are facilitated by management of knowledge in a quest to create competitive strategies to link theoretically these constructs and performance (Lin, Hsu, & Yeh, 2015).

The critique of the theory includes how the elements of dynamic capabilities adopted fit their own purposes which may not be representative argument to other firm's especially in different operating environments since different disciplines may apply the model unconsciously without taking in to consideration the discussions that led to emerging constructs. The theory further possess an argument of potential limitations arising in different fields leading to unrealistic conclusions and miss the opportunity of developing research fields substantially. The theory is thus key in this study as it helps to understand how knowledge management, operating environment and competitive strategies can converge to provide a theoretical account of the relationships among the constructs and how they can be complimented to provide a theoretical link on firm performance. The theory is considered the anchoring theory since it is based on an argument that activities such as development of strategies and knowledge management are driven by discussions on how organizations are well managed in discontinuous and dynamic environments

2.2.2 Knowledge-Based Theory

Wright and McMahan (1992) proposed Knowledge-Based Theory. It argues that knowledge is a key strategic resource for a company to sustain its competitive advantage (AlMehairi, 2019). Knowledge-Based Theory's basic assumptions state that enterprises are diverse entities packed with knowledge, and that the value of that knowledge can only be realized if the organization can facilitate sharing and use in the functional units intended. According to the notion, a firm is a knowledge system with employees as knowledge holders who must be coordinated in order to create value for the company (Grant, 1991).

According to Tavana, Hajipour, and Oveisi (2020), a firm's top priority is to create and transform knowledge into a competitive advantage, and that those resources, particularly knowledge, are critical in ensuring that the firm's advantage is enhanced because some types of knowledge are difficult to replicate. According to this viewpoint, a company's capacity to profit on defends, and use the knowledge it creates and shares determines its superior performance (Staunton, 2017).

According to Yozgat and Güngörmez (2015), the theory's primary critique is that information is only thought to be derived through employees' knowledge sharing, ignoring the fact that, for greater employee utilization, knowledge management should include other resources such as technology and business competencies. Ahmad, Mohammad, and Ibrahim all have the same viewpoint (2013). The theory is significant because it aims to establish the interactions between the manifestations of managing knowledge in terms of acquisition, sharing, and application for performance in retail pharmaceutical enterprises.

2.2.3 Industrial Organization Economics Theory

The industrial organization economics theory as originated by Bain (1951) assumes that the operating environment as an industry structure, strategy and performance relationships in this conceptualization postulates that an environment or the industry where a company operates on lays the strategy to be selected by a firm thus has an influence on performance (Davlyatova & Abdullaeva, 2019). The theory further assumes that in any industry, it is the operating environment that will dictate the application of the necessary strategies, depending on the laid down goals and objectives of the firm, in order to achieve the desired performance (Dhir, 2019). The environment to which a firm operates gives a firm an option of strategies to engage in solving a certain problem and therefore management should scan the industry keenly before any decision is made.

This theory has received a lot of criticism especially when the industry or operating environment alone or the external side of the organization could not explain variations in organizational performance. The theory only considers the effects arising from the industry in which a firm operates without a keen interest on other factors like management style that a firm depends on. On further critique the theory fails to understand the magnitude to which each factor contribute to the performance aspects of the firm and at what percent does performance change with respect to each of the factors influence.

The theory is important as it sheds light in the current study in the sense that performance of the firms cannot be realized without first looking at the operating environment. The operating environment according to the theory dictates which strategies should be picked and in what combination for a certain level of performance to be realized. A well-developed KM capability will be necessary in the case of the firm performance perspective in this study in order to comprehend the operating environment and subsequently enable the owners or managers to come up with the best combination of strategies that are competitive in the market to foster superior performance.

2.2.4 Resource Based Theory

Through utilization of resources and competences considered core, the Resource Based View says that strategic advantage of a firm revolves on combination of different skills and more capabilities (Wernerfelt, 1984, Barney 1991). The notion asserts that resources are put to better use when they are intended to serve customers, when their availability is limited (scarce), when they provide income, and when they are stronger (Dhir, 2019). Irangani, Liu, and Sanjeewa (2019) assert that the theory highlights the importance of resources in forecasting success. All businesses that want to perform better than their competitors must develop internal assets and processes.

The critiques of this theory argue that in assumption resources are heterogeneously spread and distributed thoroughly in organizations and the sustainability can be achieved over time. It puts forth different resource variables excluding other factors, for example the notion of co-alignment of variables; performance booster capability. The theory conceptualized the analysis that organizational performance is boosted and achieved when organizations use differentiated resources that they own and configure the same to enable the firm attain a competitive advantage position (Dhir, 2019).

The theory is key to this study as it enables firms in particular retail pharmaceutical firms to put in place resources that are unique and non-imitable for them to gain competitiveness and performance in the long run. The theory further gives an understanding on how knowledge management coupled with the operating environment and competitive strategies leads to achievement of firm's goals, objectives and overall performance through a firm combining necessary resources and apply them in the right proportion in different functional areas.

2.2.5 Models and Typologies

The study was further supported on select models and typologies; ZACK Knowledge Management Model (Zack, 1999), Porter's Generic Strategies model (Porter, 1985), Porter's five competitive forces (Porter's, 2007) and Balanced Scorecard Model (Kaplan & Norton, 2004). These models were key to enriching the proponents of the theoretical underpinnings involving knowledge management, operating environment and competitive strategies on performance.

The study adopted ZACK Knowledge Management Model to explain the relationship among variables used in the study. The model states that the source of information and the context in which the materials are derived vary depending on factors such as application scope, credibility, correctness, relevance, breadth, and cost (Shujahat, Sousa, Hussain, Nawaz, Wang & Umer, 2019). From information gathering, storage, and retrieval to dissemination and application, the model illustrates and defines the various steps of knowledge management. After the data has been collected, it will be saved and transformed into knowledge packets for easy retrieval, sharing, and application, according to the notion (Shang, Yao & Liou, 2017). Managers must organize knowledge in such a way that it is well managed so that all processes function smoothly and performance is achieved. The knowledge management cycle is depicted in Figure 2.1.

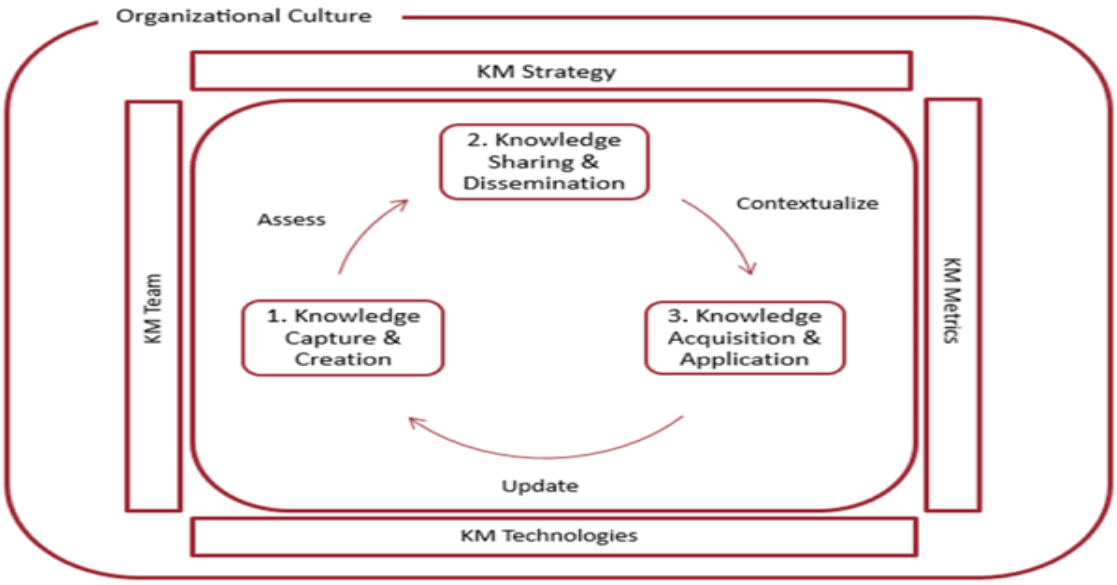


Figure 2.1: ZACK Knowledge Management Model

Source**:** Zack, (1999)

Porter's Generic Strategies model added to this approach's credibility (Porter, 1985). The model explains the three approaches of cost leadership, differentiation and focus that lead to a firm's positioned competitively and high performance. The model suggests that firms are in a position to adequately able to analyze and forecast the evolution of the industry in order to effectively and efficiently compete and outperform other firms in the same sector.

According to Porter (2007), the structure of industry is shown in the strength of the five forces which thereafter determine an industry's long-term profit potential since these forces mould the division of usefulness among industry actors. The model deduce that by the study of these forces, a firm positions itself in an industry where it has the power to influence the forces in its gain or hedge itself from the power of the forces (Hitt, Ireland & Hoskisson, 2011).

The study adopts further the BSC tool which incorporates monetary and non-monetary measures as critical elements of measuring performance. The non-monetary measures includes; internal processes, customer focus and learning with growth element. The models are critical for this study as they create a synergy of understating performance through the interaction of the study variables within the context of retail pharmaceutical firms.

2.3 Empirical Review

The study presented the empirical arguments from previous studies that have been carried on the relationships between the study variables namely knowledge management, operating environment and competitive strategies and how they infleucne firm performance. The review is organized in the order of how they appear in the objectives and subsequent hypothesis. First the study looks at how management of knowledge and firm performance relate, followed by competitive strategies and operating environment role and finally the joint effect.

2.3.1 Knowledge Management and Firm Performance

Previous studies have presented arguments on the relationship between KM and firm performance with conflicting results. For instance, Wen, Wu, Kanb, Wang and Zeng, (2020) studied the conditions of knowledge management, innovation, capability and firm performance in Colombia. The study examined the association among inbound open innovation, customer knowledge management and firm performance. Data was collected from the ICT industry from about 238 enterprises. It was found that firm performance is significantly and positively influenced by customer knowledge management. The study concluded that knolwledge management leads to innovation and improved firm capabilities which in turn lead to improved performance. The study however did not specify what type of knowledge influences performance and marjorly focused on firm capability and was undertaken in Colombia which requires another study to provide a wholistic view on how knowledge is acquired, stored and shared to enhance performance of firms specifically in SMEs including retail pharmaceutical firms in Kenyan context.

Davila, Andreeva and Varvakis (2019) studied how innovativeness can be supported by strategic leadership through application of knowledge with the results showing that those firms where strategic leaders support application of knowledge efficiency in operational process is likely to improve resulting to customers getting the best value resulting to enhanced performance. The study presents conceptual weaknesses as it does not strongly support to what magnitude the organizational performance are influenced by knowledge management. The study therefore concludes that it's a strategic leader who inititates how knowledge is managed and transferred among different functional units of the firm for performance to be realized.

On the other hand, KM and organizational performance relationship has remained difficult to prove and lacks clarity. Capestro and Kinkel (2020) when reviewing literature at previous levels established that the management of knowledge can bring about necessary changes within the firms that are geared towards creating change through innovativeness and focusing on the perspectives of customer. The study concluded that the major reason associated to management of knowledge is to give chance to employees to think and solve associated problems through shared and applied knowledge concept. The study however was based on reviewed literature which may differ with studies that apply primary data to come up with conclusions at specified time period.

Eresia and Makore (2017) employed a mixed research methodology to collect data from all construction companies listed on the Johannesburg Stock Exchange website via self-administered questionnaires to investigate knowledge acquisition and organizational performance from a positivist philosophical standpoint found that for high knowledge acquisition, scores were related with sound performance of the organization for companies that were project-focused therefore recommended that firms are needed to invest in enabling mechanism of knowledge acquisition from individuals and its transfer to institutional repositories. The study only focuses on knowledge acquisition and it does not present arguments on how such knowledge can be shared and applied to various functional units for performance to be realized. The study concludes that acquisition of knowledge is key to firm performance as it enables its application to various units where it is required to enhance its operation.

Hartono and Sheng (2016) embarked on studying sharing of knowledge and how performance is reached on the firm; how social network site and capability of innovation with a well developed work frame to exploring SNSs capability as a strategic platform for companies to going through the turbulence and tide of environment thus developing knowledge level sharing that is high and performance that is acknowledged highly. From the findings is that key to upgrading knowledge sharing performance is based on SNSs capabilities paired with strong development capability thus resulting to improving firm performance by advancing incremental innovation processes. The study does not fully show how managing knowedge through, acquisition, sharing and application play the role in firm performace creating a conceptual gap to be relooked to finality. It is thus concluded that managing knowledge is a process that involves acquisition, sharing and application to various functional areas to improve performance.

Using a comprehensive integrated model, Payal, Ahmed, and Debnath (2019) investigated the dynamic interactions between the key knowledge management (KM) elements, namely strategy, enablers, and procedures, to establish their links to organizational performance. The research study employed a structural equation modeling methodology. The primary sources of information were IT managers of Indian software companies. An integrated KM model was successfully tested in the study using an Indian context. The study discovered a substantial positive association between organizational performance and the KM strategy, enablers, and procedures. The KM process and enablers were considerably impacted by a properly developed KM strategy. An organization's nurturing of KM enablers had a favorable effect on the KM process.

Additionally, the relationship between organizational performance and KM enablers and the relationship between the KM strategy and organizational performance were both partially mediated by the KM process. One of the few studies to objectively demonstrate the interplay between the key KM constructs of strategy, enablers, and processes and organizational performance. However, important elements like knowledge gathering, storing, and sharing were not taken into account.

In order to understand the relationships between various knowledge management (KM) practices and organizational performance (OP) using the four balanced scorecard (BSC) outcomes—learning and growth, internal process, customer satisfaction, and financial performance—Gupta and Chopra (2020) looked into the literature on KM. To understand the relationships between KM practices and OP, a systematic review of theoretical and empirical peer-reviewed journal articles has been conducted. These articles were primarily accessed through databases like ProQuest, EBSCO host, Google Scholar, and other e-databases. To assess the severity of the effect, measures of OP have also been taken from the literature and classified under the four BSC outcomes. The relationship between the aforementioned variables is explored using an integrated conceptual framework. This study offers a conceptual model of how various KM methods affect specific OP features as measured by BSC. It benefits organizations by assisting them in realizing how crucial it is to integrate KM efforts in order to achieve desired outcomes. Managers will be able to understand the total impact of KM practices for the first time because it will put the entire organization into perspective. This paper adds to the KM literature by pointing out that KM practices have a significant impact on OP in terms of customer service perspective, internal process perspective, and financial perspective in addition to learning and growth perspective of an organization. However it was purely a review of literature which might differ from cross-sectional studies in terms of conclusions and associated study implications.

2.3.2 Knowledge Management, Competitive Strategies and Firm Performance

Competitive strategies have been found to play a role on how management of knowledge and firm performance relate. Umar and Arafah (2020) examined the role of competitive strategies in influencing knowledge on market and government policies on firm performance in Arabian firms. They applied regression analysis and established that when knowledge is under play, performance is inevitable if combination of right strategies is in place. They concluded that firms must consider the idea to create an environment where knowledge is transmitted freely and competitive strategies combined in the right proportion for performance to be realized. The study did not use generic strategises to influencing performance and was undertaken in Arabia a different context to Kenyan perspective.

In another study Byukusenge and Munene (2017) seeking to determine the mediating influence of innovation on the KM and business performance relationship of 250 SMEs in Rwanda established that knowledge management and performance do not significantly relate but when innovation is introduced as a mediating variable positive and significant results are realized. It is concluded that innovation plays key role to enhancing performance when knowledge is well managed. The study considered innovation which is an organizational factor thus differing from compwtitive strategies specifically generic strategies and was done generally in SMEs unlike the current study which picks the retail pharmaceutical firms in the context of Kenya.

Taghipour, Barzegar, Mahboobi and Mohammadi (2020) carried out a study in Persian Banks of Tehran to examine the association between competitive strategies and corporate performance and how banks competitive strategies play a mediating role in the relationship. A sample of 210 employees was used and a questionnaire was used to collect data. Data was analyzed using the LISREL software as structural equation modeling was employed. The study results showed that the association between knowledge management and corporates performance is significant when competitive strategies are introduced as a mediating variable. This thus shows that competitive strategies are key to influencing the role of knowlwege management in influencing firm performance. However the study was undertaken in large banks unlike the current study which focuses on SMEs and in particular retail pharmaceutical firms in Kenya.

Harjadi, Yuniawan, Abdurrahman, Dananjoyo, Filatrovi and Arraniri (2020) carried out a study on how knowledge management and market competitive strategies influence performance of SMEs in Indonesia. The study focused on how to enhance performance of SMEs in order to continue existing even though there are adverse effects of the Covid-19 pandemic. The study identified the associations between knowledge management, market competitive strategies and SMEs performance in the West Java parts of Indonesia to be significant. The study findings also showed that there was a significant association between market competitive strategy, product features and performance of SMEs. The study concludes that for a firm to develop and manage knowledge, other factors like market competitive strategies are necessary for performance to be realized. The study was however undertaken in Indonesia and only considered marketing competitive strategies unlike the current study which is undertaken in Kenyan perspective and considers generic strategies as part of overall competitive strategies.

2.3.3 Knowledge Management, Operating Environment and Firm Performance

The starting point for developing a strategy is through understanding the operating environment in an industry since it exposes the most aspects of the competitive environment that are important and also the crucial limitation to the performance in overall. Sedighi and Zand (2017) in cross-sectional study used a convenience sampling method and sampled 35 pizza selling outlets in Pakistan on how knowledge management and operating environment as a moderating variable influence firm performance. The study revealed that the operating environment significantly influences the relationship between knowledge management and performance. It is thus concluded that for performance of the firm to be achived, operating environment play a key role in determining how knowledge is acquired and managed with the aim of enhancing key processes. This study was undertaken in Pakistan which might be different to environmental perspective as a result of different government policies setups

A Study by Ting, Sui, Kweh, and Nawanir (2021) was undertaken to determine the effect on firm innovation thorugh knowledge management. In this study, transformational leadership was used as the moderating variable. Questionnaires were used to collect data from the managers of the public listed companies in Malaysia and about 200 of them participated. Main knowledge management effects were estimated using partial least squares structural equation technique. Emphasis was put on its processes and infrastructures as well as firm innovative performance and transformational leadership was used as the moderating variable. The study findings concluded that processes of knowledge management and structures of knowledge management have positive and significant effect on firm innovative performance.

Mbithi et al., (2017) employed a descriptive cross-sectional research methodology to determine the moderating effect of the operational environment on the link between strategy and performance in eight Kenyan sugar enterprises. Questionnaires, face-to-face interviews, and secondary data were employed in the study. According to the findings, operational environmental factors affect the relationship between strategy and performance to varied degrees which therefore calls for a good combination of strategies, environmental scanning to achieve desired performance.

Study by Tsai, Huang and Chen (2020) examined the variation in the association between firm performance and practices of environmental management as influenced by knowledge management. A total of 92 studies were reviewed using the meta-analysis approach. It was revealed from the meta-regression analysis that practices of environmental management and performance of the firm are positively related and that knowledge management is key to firm performance.

Shahzad, Qu, Zafar, Rehman and Islam (2020) examined the knowledge management process's role in influencing corporate sustainable performance and the moderation role of operating environment using cross-sectional approach and data was collected through convenience sampling from about 475 respondents all from multinational corporations specializing in manufacturing in Pakistan. Analysis was done through help of structural equation modeling. It was found that knowledge management process with operating environment link influences positively corporate sustainable performance. This imply that when operating environment is well scanned, the acquisition and management of knowledge process is well implemented leading to enhanced firm performance.

2.3.4 Knowledge Management, Operating Environment, Competitive Strategies and Firm Performance

Elements like competitive strategies within specific operating environmental factors might be useful in informing the decision of how information is managed inside a given firm. Performance will therefore be inevitable if a business adopts the finest management of knowledge capabilities. Yang, Ishtiaq, and Anwar (2018) conducted a descriptive study to examine the factors that affect organizational performance and found that all of them have a significant impact. Performance can be achieved when strategies at competitive levels are put in place to cushion the environment and also well managed knowledge.

According to Pellegrini, Ciampi, Marzi, and Orlando (2020), the implementation of competing tactics might result in resource coordination and cooperation by way of rearranging, integrating, co-evolving, and combining in a certain pattern. It is through the operating environmental tenets that a firm can engage better combined knowledge and strategies to outperform competitors and enjoy the accrued benefits. The operating environment enables quick responses by way of properly managing knowledge and strategies in place to enhance performance.

Young (2020) studied the relationship between knowledge management, innovative systems, operating environment and firm performance based on knowledge creation theory concluded that there was a positive and significant relationship between knowledge management, strategies, operationg environment and firm performance with an argument that operating environment dictates which type of knowledge is managed for desired outcome.

The 2020 study by Obeso, Hernández-Linares, López-Fernández, and Serrano-Bedi5a focused on organizational performance, competitive strategies, and environment, as well as knowledge management processes. Data from 400 managers of Spanish companies who participated in the study's telephone survey were gathered. The study examined the individual effects of various knowledge management techniques on business performance while taking into account the environment's function as a moderator and strategies' function as a mediating factor. Multiple regressions were used to examine the data that was retrieved. It was discovered that there is no direct correlation between performance and knowledge storage, and that knowledge development, strategies in place, and the environment in which the organization operates all improve the performance of the firm. The hypothesis that the research attempted to experimentally establish—that knowledge management, competitive strategies, and operating environment have an interactional impact on performance—thus emerges.

2.4 Summary of Knowledge Gaps

This section summarizes the empirical studies reviewed. Previous studies show diverse outcomes, methodologies and contextual differences. Table 2.1 presents the summary of the review of pertinent literature on KM, operating environment, competitive strategies and performance.

Table 2.1: Summary of Knowledge Gaps

Author(s)	Focus of the Study	Research methodology	Findings	Knowledge gaps	Focus of this Current Study
Eresia and Makore (2017)	Knowledge acquisition and organizational performance	Mixed Research Design	The process of managing knowledge Influence how a firm perform	Knowledge acquisition as a construct of knowledge managementt related positively to firm performance but other constructs like knowledge sharing, knowledge application were not studied	The target population will be retail pharmaceutical firms in a developing country context with knowledge sharing and application considered in the model
Wen, Wu, Kanb, Wang and Zeng, (2020)	knowledge management, innovation, capability and firm performance in Colombia	Cross-sectional research design	Firm performance is significantly and positively influenced by customer knowledge managemen	The study however did not specify what type of knowledge influences performance and marjorly focused on firm capability	It therefore requires another study to provide a wholistic view on how knowledge is acquired, stored and shared to enhance performance of firms specifically in SMEs including retail pharmaceutical firms in Kenyan context
Davila, Andreeva & Varvakis (2019)	How innovativeness in Brazil can be boosted through mechanisms associated to governance and also well application of knowledge	Review of literature	Processes as well as efficiency improves resulting to customers getting the best value thus enhancing performance	The discovery was placed simply on organizations from other countries which may not reflect the practices of managing knowledge in other geographic as well as economic or rather cultural settings and also considered the aspects of finance and further was exploratory in nature	The current study will include the monetary and non monetary performance measures of retail pharmaceutical firms in Kenya The study will adopt a descriptive cross sectional research design to test empirically the KM and performance relationship
Capestro and Kinkel (2020)	How the management of knowledge can bring about necessary changes within the firms that are geared	In-depth case study method and cross sectional research design	The major reason associated to management of knowledge is to give chance to employees to think and solve associated problems through shared and	Generalization of results was made questionable after a convenience sample was used.	The current study will adopt a cross sectional survey design with a population of 720 retail pharmaceutical firms drawn from a different operating environment and competitive structure.

Table 2.1 Contd'…

	towards creating change through innovativeness and focusing on the perspectives of customer		applied knowledge concept		
Umar and Arafah (2020)	How strategies at competitive levels as influenced by orientations of the market and policies of the government leads to performance in Arabian context	applying regression equation	Knowledge is under play; performance is inevitable and thus firms must consider	The study was conceptual making generalization questionable	The study will empirically test the influence of competitive strategies, operating environment on KM and performance of retail pharmaceutical firms in Nairobi which is a developing economy context
Sedighi and Zand (2017)	How operating environment influence firm performance.	Cross sectional survey	The operating environment significantly influences performance	Observation might differ from other settings due to single data base obtained from the survey findings.	The current study will be based in retail pharmaceutical in Kenya and also consider the effect of operating environment influence performance relationship
Pellegrini, Ciampi, Marzi and Orlando (2020)	Competitive strategies put in place can lead to resource coordination and cooperation by reconfiguration, integration, co-evolution and combination in a particular pattern	Cross sectional survey	firms can engage better combined knowledge and strategies to outperform competitors and enjoy the accrued benefits.	The study considered only competitive strategies and knowledge management but did not recognize operating environment which may play important role in influencing the relationship	The current study will consider operating environment as a moderator to how management of knowledge and performance changes

Table 2.1 Contd'…

Yang, Ishtiaq and Anwar (2018)	How performance can be achieved when strategies at competitive levels are put in place to cushion environment	Cross sectional study	Management of knowledge and environment at the operating levels contribute highly to performance	The study did not check how competitive strategy can link knowledge to performance	The current study considers competitive strategies with the notion that knowledge management is a composite of how strategies are developed to enhance performance.
Mbithi et al., (2017)	Environment effects on strategy and performance of sugar companies in Kenya	Descriptive cross-sectional survey	environment moderates the strategy and performance relationship	The study population were 8 private and private sugar companies in Kenya whose management and strategies would be different from other types of firms	The population of study will be 720 retail pharmaceutical firms in Nairobi
Byukusenge & Munene (2017)	KM, innovation and business performance of 250 SMEs in Rwanda	Cross sectional survey design	KM and innovation influences performance of SME's.	Possible biases of individual participants who provided empirical data makes generalization of results questionable	The moderating role of operating environment and the mediating effect of competitive strategies will be included

Source: Researcher, (2018)

The summary of gaps indicates that knowledge management and performance studies have been done in different economies and contexts as opposed to the Kenyan perspective specifically retail pharmaceutical firms and also manifest lack of consensus on their measurement criteria. Further the studies manifests different research methodologies which have resulted in diverse research finding and how the current study addressed the identified conceptual, methodological and contextual gaps.

2.5 Conceptual Model

The inter linkage among concepts and the variables under study is explained by the conceptual framework (Ravitch & Riggan, 2012). It was developed after literature review to support the hypotheses under consideration by providing a link between the key study variables. The variables entail management of knowledge as independent variable conceptualized as acquisition, storage, dissemination and application, operating environment was conceptualized as moderating variable conceptualized as new entrants, suppliers, customers, competitors and substitutes, competitive strategies as intervening variable conceptualized as differentiation strategy, focus strategy and cost leadership strategy and firm performance as dependent variable conceptualized as financial perspective, internal processes, customers focus and earning and growth. This relationship is as illustrated in Figure 2.2.

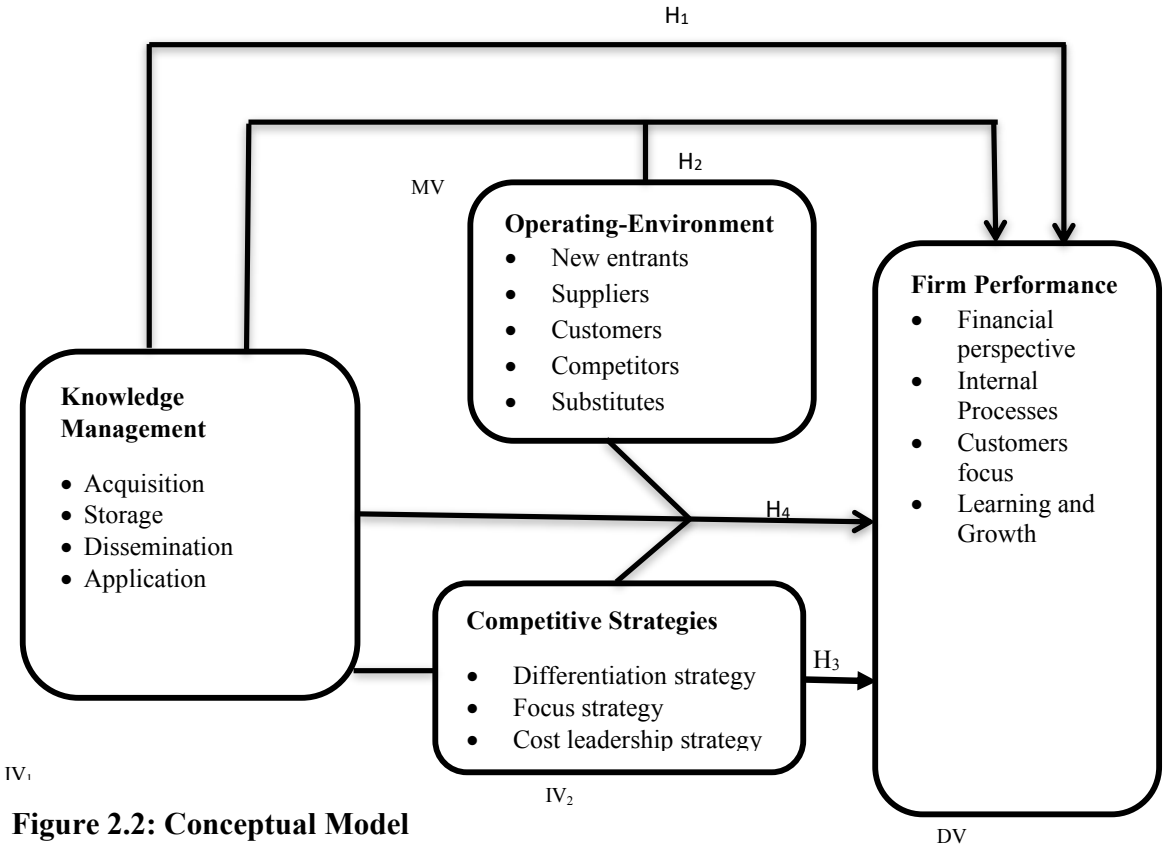


Figure 2.2: Conceptual Model

***Scale; DV**: Dependent Variable, **IV1** Independent Variable, **IV2**: Intervening Variable and **MV**: Moderating Variable*

Firm performance is directly influenced by Knowledge management whereas the relationship is moderated by operating environment and intervened by competitive strategies. Finally, the model suggests a joint effect of knowledge management, operating environment and competitive strategies on firm performance.

2.6 Research Hypotheses

The study formulated the hypotheses from the conceptual model and outlined them in null form as presented.

H01 There is no significant relationship between Knowledge management and Performance of retail pharmaceutical firms in Nairobi City County

H_{02} There is no significant moderating effect of operating environment on the relationship between knowledge management and performance of retail pharmaceutical firms in Nairobi City County.

H_{03} There is no significant intervening effect of competitive strategies on the relationship between knowledge management and performance of retail pharmaceutical firms in Nairobi City County.

H_{04} The combined effect of knowledge management, operating environment and competitive strategies on performance of retail pharmaceutical firms in Nairobi City County is not significant.

The hypotheses guided the researcher in understanding the relationship among the study variables. H_{01} tested the link that is direct between knowledge management and the performance of the firms. H_{02} tested the moderating effect of operating environment while H_{03} tested the mediating effect of competitive strategies on the knowledge management and firm performance relationship. Finally, H_{04} examined the joint effect of knowledge management, operating environment and competitive strategies on firm performance.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The research rationale, design, and population of the study are all discussed in this chapter. It goes on to describe data collection methods, reliability and validity, as well as operationalization of study variables, diagnostic tests, and analysis methodologies to be applied. This is in line with the set objectives and hypotheses that the study had proposed to achieve. The methodology gives the study a snapshot of how the study will be carried out procedurally in order to achieve the desired goal.

The chapter outlines and discusses the research philosophy, how is determined and applied to achieve the research objectives. The research design and population of study and sampling method are further discussed. The study will target the retail pharmaceutical firms in Nairobi County and provides a framework and criteria upon which the sample will be arrived. The sample will enable the study to conveniently carry out the study within the stipulated timeframes.

The chapter further discusses the how data shall be collected, unit of analysis and reliability and validity tests. Finally, the chapter outlines how the study variables will be operationalized, and how data will be analyzed. Further, Further, a summary of the research objectives and hypotheses, analytical models and interpretations of research findings are presented.

3.2 Research Philosophy

Research philosophy alludes to a framework of assumptions and beliefs about knowledge development (Collis & Hussey, 2013). Research philosophy deals with the source, nature, and development of knowledge (Saunders, Lewis & Thornhill, 2019). It is a belief about the ways in which data about a phenomenon should be collected, analyzed and used. The inherent features of knowledge incorporate fundamental assumptions by which those carrying out research perceive the world (Saunders *et al*., 2019). Knowledge consists of a set of beliefs about some particular aspects of reality or phenomenon (Ryan, 2018). This leads the researcher to the nature of reality and existence and how knowledge concerning the reality can be made available. This research adopted positivism approach to allow the researcher to empirically determine the relationships between the variables.

Research philosophy incorporates ontological and epistemology where ontology embraces objectivity and realism, which, in its most extreme form, considers social entities to be like physical entities of the natural world, in so far as they exist independently of how we think of them, label them, or even of our awareness of them whereas epistemology philosophies apprehends the interaction differences between humans like social actors and with the world (Ryan, 2018). Out of these positivism and phenomenology philosophical orientations are developed. This study adopts positivism research philosophy.

In positivism, hypothesis testing is used to identify correlations between variables and population-level facts (Sekaran & Bougie, 2016). By postulating theories that are so general in terms of assertions that represent the regular relationships, it aims to achieve predictive and explanatory comprehension of the outside creation and allows scientific hypotheses to be actualized through empirical testing (Collis & Hussey, 2013). The philosophy is based on principles of truth, objectivity and legitimacy and is usually by statistical analysis through quantitative methods measured empirically. Additionally, positivism is considered appropriate when the research is theory driven and the test of hypothesis is envisaged. Under this philosophy, the researcher was able to collect a large quantity of data at appoint in time, analyzed it and thereafter presented results. In addition, hypotheses were tested and necessary generalization of the findings was made.

3.3 Research Design

In this study, a descriptive cross-sectional survey was used. A descriptive research was utilized to determine the nature of the study variables, according to Sekaran (2006). The descriptive research design was chosen because it detailed the phenomena that affected the population, assessed the proportion of the population, and revealed correlations between the study variables.

A cross sectional study is key as currently done specifically within units in the suggested population with given time period and known respondents required to provide information relevant and precise for the study expectations (Sekaran, 2006). The design affords or rather gives an opportunity to researchers to capture data on knowledge management, operating environment, competitive strategies and their individual and joint influence on firm performance at a particular point in time.

Queirós, Faria and Almeida (2017) emphasizes how descriptive studies are key to knowing how relationships behave among variables that also to what magnitude they can be measured in statistical terms. The study collected primary data, analyzed, interpreted results and conclusions were drawn. Previous studies adopted descriptive, cross-sectional research design (Byukusenge & Munene, 2017; Ambula, 2015).

3.4 Population of the Study

It is important to identify a target population which will satisfactorily help the researcher achieve his objectives and provide credible information which can be used for comparative empirical studies (Asiamah, Mensah & Oteng, 2017). The researcher is charged with the responsibility of identifying the most appropriate target population for the purpose of the research. This gives true pattern in the manner in which a study should be carried out should population get adjusted within the study period.

The population of the study was all the 720 registered retail pharmaceutical firms in Nairobi City County as at December, 2019 as per the Pharmacy and Poison Board (Appendix II). Pharmacy and Poison Board (2019) report observe that dynamism and changing environment in the pharmaceutical industry, the number of retail pharmaceutical firms operating in Nairobi County is likely to keep changing as new ones emerge and others exit depending on their performance, purpose or other strategic factors. The retail pharmaceutical firms were therefore updated periodically to make sure the study is up to date.

The main reason for the choice of the retail pharmaceutical firms is that these firms might not have well documented information on the knowledge management implementation. In addition, the firms are varied in terms of the location and customers' diversity which enhanced the generalizability of the study findings. Further since they are retail, application of strategies might be less even if the environment at the competitive level changes.

The study considered the pharmacist, pharmaceutical technologist, owner manager or manager in charge of operations as the respondents. The main reason for this choice is that these firms are regulated by the Pharmacy and Poisons Board and must have on board either a pharmacist or a pharmaceutical technologist taking charge of operations. This population has sufficient knowledge on all operations in this field.

The study used the Cochrans sample size formula, which was proposed by Zikmund et al. (2010) and Almalki, to estimate the sample size (2016). The authors believe that the formula is more important because it can be used to calculate both a sample of more than 10,000 people and a sample of less than 10,000 people.

$$n = \frac{z^2 pq}{d^2}$$

Where: n is a representative size of the sample of 10,000 and above, whereas *p* is the estimated population proportion deemed having necessary information. According to International pharmaceutical Federation (2017) approximately 90% of the managers in retail pharmaceutical firms have necessary information. This was also confirmed by Bates, John, Bruno, Fu and Aliabadi (2016). This study took (0.9) 90% and *q* as *1-p* which means that population proportion with characteristics not measured (1-0.9) = 0.1 and *pq* as dispersion sample and *d* the population standard error. The study applied 95% level of confidence.

$$n = \frac{z^2 pq}{d^2} = \frac{(1.96)^2(0.9)(0.1)}{(0.05)^2}$$

n =138 which represents the size of the sample with greater than 10,000

In the event of 10,000 and less, the formula: $nf = \frac{n}{1+n/N}$ with nf = the size of the sample desired (at <10,000 population). n = the size of desired sample (at>10,000). N = the size of the population estimate.

$nf = \frac{138}{1.192}$=115.80

The study looked at 116 retail pharmaceutical companies using a systematic sampling strategy in which the Kth variable was utilized to choose the population until it was exhausted. The 4th firm was taken in to consideration to come up with 116 firms out of the total of 720 firms in retail pharmaceutical in Nairobi County Kenya. These ensured chances of inclusion for each unit. The resultant sample frame to be used for the study is presented in Appendix III.

3.5 Data Collection

In this study primary data is collected with a structured questionnaire developed from literature review and previous studies. The questionnaire is modified with the aim of addressing the specific research objectives and context of study. The unit of analysis is the retail pharmaceutical firms in Nairobi City County, Kenya.

The questionnaire consisted of four parts. Part A focused on information about the demographic of respondents, B focused on knowledge management, Part C focused on operating environment, Part D focused on competitive strategies and Part E focused on firm performance. Secondary data is collected from published materials such as magazines and reports from the pharmacies and poisons Board.

The questionnaires were administered by use of the drop and pick method with the help of trained research assistants. The owner-manager or manager or equivalent are the key respondent. According to Queirós, Faria and Almeida (2017) one respondent who is knowledgeable of issues regarding a study is well placed to be a key informant. Previous studies have used the views of key informants to study the knowledge management and performance relationships (Cheng Ling & Nasurdin, 2010; Matin & Sabagh, 2015).

A pilot test was done to establish the reliability and validity of the data collection instrument. The group under pilot can go between 25 and 100 subjects under the circumstances of the method though not statistical selection is required to select the respondents (Saunders et al., 2011). The 10% of sampled population was thus selected for pilot which is approximately 12 retail pharmaceuticals. The same firms were excluded from the main survey not to fall under biasness and repeated views. After the pilot study, modifications were made to the questionnaire.

3.6 Validity Test

Validity represents true information that arises from the instrument from the phenomenon under study investigation. The argument is that an instrument has to measure precisely the objectives under investigation (Mugenda & Mugenda, 2003). Validity understanding is key when constructs of interest as represented by a sample (Mahoney, 2010).

The study tested face validity via pilot testing of the research instruments to respondents from five select firms. Aaker et al., (2001) indicates that in order to identify if an instrument can provide the necessary expected information as intended by the researcher, pretesting is inevitable. These firms did not form part of the sample to avoid biaseness in responses. In content validity, the aspects that a concept is to deal with must be represented to a certain degree. To improve the content validity, sugestions from supervisors in strategic management were incorporated.

The validity especially construct was assessed by the use of exploratory factor analysis as well as varimax rotation where loadings of factors above 0.5 were taken to be acceptable factor loadings (Hair, Black, Babin & Anderson, 2010). In improving how criterion validity is manifested, questions especially from previous literature works were adopted and modified to fit the purpose of the current measurements as per the objectives in place.

3.7 Reliability Test

Reliability testing is a measure of the internal consistency of the study variable and how consistently similar measures produce similar results in two instances (Zikmund, Babin, Carr, & Griffin, 2010). According to Cooper and Schindler (2006), an instrument is deemed reliable if it yields consistent results after repeated trials.

Cronbach's alpha that assesses the items and their scores to test consistency in internal measure was applied. Reliability was particularly deemed necessary in the study since the focus of the study is further informed by the accuracy and consistency that can be minimized or even completely eliminated if the instrument is well developed after trial (Sekaran & Bouge, 2009).

Cronbach's α was used to assess the instrument's reliability. Cronbach's α ranges from 0 which indicates no internal consistency to 1 which indicates complete internal consistency (Nunally, 1978). The study adopted a Cronbach alpha value of 0.7 and above which is a suitable threshold for determining reliability as suggested by Marczyk, DeMatteo and Festinger (2005). Previous studies have adopted a Cronbach's α of 0.7 and above (Nunally, 1978; Ambula, 2015; Matin & Sabagh, 2015).

3.8 Operationalization of Key Study Variables

The independent variable is knowledge management and the dependent variable is firm performance. The moderating variable is operating environment while competitive strategies is the mediating variable. The variables are operationalized using indicators adopted and modified from previous studies. A summary of operationalization of key study variables is presented in Table 3.1.

Table 3.1: Operationalization of Key Study Variables

Study Variables	Operational Indicators	Supporting Literature	Rating measure	Questions
Knowledge Management **(Independent Variable)**	Knowledge acquisition Knowledge application Knowledge storage Knowledge sharing	Eresia and Makore (2017); Davila, Andreeva & Varvakis (2019), Xue (2017)	5-point Likert type scale	Section II
Operating environment **(Moderating Variable)**	New entrants Suppliers Customers Competitors Substitutes	Mkalama (2015) Sedighi and Zand (2017); Umar and Arafah (2020)	5-point Likert type scale	Section III
Competitive strategies **(Mediating Variable)**	Differentiation Focus Cost leadership	Porter, (1985), Grant (2016); Pellegrini, Ciampi, Marzi and Orlando (2020)	5-point Likert type scale	Section IV
Performance of retail pharmaceutical firms in Kenya **(Dependent variable)**	Financial perspective Internal Processes Customers focus Employee focus Learning and Growth	Byukusenge & Munene (2017); Yang, Ishtiaq and Anwar (2018); Rajabzadeh, Reza Sadeh, & Rasekh, (2012)	5-point Likert type scale	Section IV/ Secondary data

Source: Research, (2018)

Knowledge management was proxied as acquisition of knowledge, application and sharing as well as storage (Ahmad et al., 2013; Xue, 2017) and firm performance according to the Balance Score Card (Kaplan & Norton, 1996). The Operating environment was operationalized according to Pearce, Robinson and Mital (2012) and competitive strategies according to Porter (1980).

3.9 Diagnostic Tests

Hair, Black, Babin and Anderson (2010) indicates that social sciences are prone to errors and thus key if data fitness is tested. The study at hand thus tested the assumptions to a certain correctness of data more so between independent and dependent variables. The tested assumptions included; normality, linearity, multicollinearity and homoscedasticity. To test normality both numerical as well as graphical techniques were applied. The data that is normally distributed shows zero or near zero skewness and also mean near the median. The study used scatterplots to test for linearity indicating a visual impression of the relationship between the independent and dependent variables.

Multi-collinearity is where some variables or statements relating to the variable correlates highly to the level of unacceptability thus not able to determine or show effects as far individual independent variables are concerned. The Variance inflation Factors (VIF). Ambula (2015) details that the values of tolerance that are small and values large for VIF indicates high correlations thus multi-collinearity. Value of VIF<5 and tolerance >0.1 are the threshold in the current study.

The test of Levene's t test was used for homoscedasticity at significance level of $p<0.05$. The independent variable is differed across when the error term size is also different and therefore signifying heteroscedasticity problem. There is a weakened analysis when heteroscedasticity is high and thus resulting to type I error (Matin & Sabagh, 2015). This thus will give data free of homogeneity of variables leading to reduction in errors during data analysis and subsequent results.

3.10 Data Analysis

The collected data was analyzed by descriptive and inferential statistics. To test the first hypothesis one, a simple linear regression analysis was used. To test the moderating effect of operating environment and the intervening effect of competitive strategies, the study employed Baron and Kenny (1986) hierarchical method. A multiple regression was used to test the combined effect. All the statistical tests were conducted at 95 percent confidence level.

Descriptive statistics included scores of mean, standard deviation, percentages and coefficient of variation. Shapiro-Wilk test, histograms, skewness and kurtosis and Q-Q plots were used to test for data normality. Variance Inflation Factor (VIF) was adopted and used in testing multicollinearity. The VIF value greater or equal to 10 indicates multicollinearity problems.

The model that was general in predicting how firm performance changes as a result of the equated predictors was: $Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon_1$ where Y is the firm performance and is a linear function of X_1 (knowledge management), X_2(operating environment) and, X_3 (competitive strategies), β_{1-3} are the regression coefficient. Table 3.2 presents the summary of research objectives, hypotheses, analytical techniques techniques and interpretations.

Table 3.2: Hypotheses, Analytical Statistical Models and Interpretation of Results

Objective	Hypotheses	Analytical techniques	Interpretation
Objective One: To determine the effect of knowledge management on firm's performance	H_{01}: There is no significant relationship between knowledge management and firm performance among retail pharmaceutical firms in Kenya.	Simple Regression Analysis $FP_1 = \alpha + \beta_1 KM_1 + \varepsilon_1$ FP_1= composite index of Firm Performance. α= constant (intercept), $\beta_1, \beta_2, \beta_3, \beta_4, \beta_5$= regression coefficients KM_1= composite index of knowledge management ε_1 = Error term	R^2 assess the level and degree the independent variable adds to dependent variable P-value checks the significance at 95% level of confidence (<0.05) F-ratio show model at overall significance and robustness t- test show individual significance Beta (β) gives a value which predictors individually adds to the model significance
Objective Two: To establish the effect of operating environment on the relationship between knowledge management and firm's performance	H_{02}: Operating environment has no significant moderating influence on the relationship between knowledge management and firm performance among retail pharmaceutical firms in Kenya.	Stepwise Regression analysis $FP_2 = \alpha + \beta_1 KM_1 + \varepsilon$ $FP_3 = \alpha + + \beta_2 ME + \varepsilon$ $FP_4 = \alpha + \beta_1 X + \beta_2 ME + \beta_3 X*Z + \varepsilon$ α =constant (intercept), $\beta_1, \beta_2, \beta_3$= regression coefficients FP_2, FP_3 and FP_4 = composite index of Performance ; KM_1= composite index Knowledge management, ME= composite index Operating Environment ε= Error term; X*Z= Knowledge management and Operating environment interaction term	R^2 assess the level and degree the independent variable adds to dependent variable P-value checks the significance at 95% level of confidence (<0.05) F-ratio show model at overall significance and robustness t- test show individual significance Beta (β) gives a value which predictors individually adds to the model significance Changes arising from adjusted R^2 significance when the term of interaction term is introduced (knowledge management * operating environment) confirms a moderating effect of the term
Objective Three: To assess the effect of competitive strategies on the relationship between knowledge management and firm's performance	H_{03} Competitive strategies have no significant intervening influence on the relationship between knowledge management and firm performance among retail pharmaceutical firms in Kenya.	stepwise regression analysis Step 1 : $FP_5 = \alpha + \beta_1 KM_1 + \varepsilon$ Step 2 :$CS = \alpha + \beta_1 KM_1 + \varepsilon$ Step 3 :$FP_6 = \alpha + \beta_1 CS + \varepsilon$ Step 4 : $FP_7 = \alpha + \beta 1\ KM_1 + \beta_2 CS + \varepsilon$ α =constant (intercept) β_1, β_2, = Regression coefficients KM_1= composite index Knowledge management FP_5, FP_6 and FP_7=	R^2 assess the level and degree the independent variable adds to dependent variable P-value checks the significance at 95% level of confidence (<0.05) F-ratio show model at overall significance and robustness t- test show individual significance Beta (β) gives a value which predictors individually adds to the model significance If Knowledge management is no longer significant when W is controlled, the findings support full mediation.

Table 3.2 Contd'…

		composite index of Firm Performance CS = composite index of Competitive strategies	If knowledge management is still significant (both knowledge management and competitive strategies both significantly predict performance) the findings support partial mediation
Objective Four: To determine the joint effect of knowledge management, operating environment and competitive strategies on firm performance	Ho_4: The joint effect of knowledge management, operating environment and competitive strategies on firm performance is not significantly different from the total sum of the independent effects of individual variables on firm performance among retail pharmaceutical firms in Kenya.	Hierarchical Regression analysis $FP_8 = \alpha + \beta_1 X_{1.} + B_2 X_{2.} + \beta_3 X_{3.} + \varepsilon$ FP_8= firm performance α= constant (intercept) $KM_{1=}$ composite index of knowledge management $ME_{2-=}$ composite index of operating environment $CS_{3=}$ composite index of competitive strategies $\beta_1, \beta_2, \beta_{3-}$ are the coefficients ϵ-is the error term	R^2 assess the level and degree the independent variable adds to dependent variable P-value checks the significance at 95% level of confidence (<0.05) F-ratio show model at overall significance and robustness t- test show individual significance Beta (β) gives a value which predictors individually adds to the model significance The significance that results to the overall dependent variable when predictors are combined shows The effect of joint

Source: Research, (2018)

According to the summary presented in Table 3.3, a simple regression model tested direct link between operating environment and the mediating effect was analyzed using the steps advanced by Baron and Kenny (1986) for testing moderation and mediation. A multiple regression model tested the joint effect of knowledge management, operating environment and competitive strategies on performance.

CHAPTER FOUR

DATA ANALYSIS AND RESULTS

4.1 Introduction

The study is undertaken among retail pharmaceutical firms in Nairobi City County focusing on how operating environment and competitive advantage influence how knowledge management and performance relate in Kenyan perspective. There were four hypotheses derived from the four objectives. The findings take the form of preliminary perspective which further leads to hypotheses testing. The preliminary analysis involves determining how variables are manifested among the pharmaceutical firms at retail form and the hypotheses are presented systematically as per the objectives where results are discussed.

The data analyzed was derived from the questionnaire from the field where before being subjected to analysis underwent several data cleaning processes including checking the regression assumptions to acertain its suitability. The questionnaire took the form of Likert scale where statements pertaining the organizational undertakings with respective to research objectives and respondent to. The questions and statements were derived from the previous studies and empirical studies pertaining the variables under investigations.

The major subheadings included response rate, reliability and validity results. Means, standard deviation and coefficient of variation were used in descriptive section where manifestations were studied and analyzed. Further diagnostic tests were performed and hypotheses presented where discussion was followed presented as per the objectives as outlined earlier. The chapter ended with summary pertaining the contents of the chapter where the further details were presented in another subsequent chapter.

4.2 Response Rate

The questionnaires were self-administered to respondents in retail pharmaceutical firm who are considered to have the information relating to how operating environment, competitive strategies affect how management of knowledge affects firms in retail pharmaceuticals within the city County of Nairobi. The 116 questionnaires were given out by the researcher of which 96 were responded positively and returned. The results are presented in Table 4.1.

Table 4.1: Response Rate

Category	Distributed Questionnaires	Filled and returned questionnaires	Percentage %
Respondents	116	96	82.76%

Source: Primary data, (2019)

The results in Table 4.1 present an overall positive response rate of 82.76%. This study response rate therefore according to Creswell and Creswell (2017) who suggest that a response rate of 70-85% is considered good. It is therefore adequate enough for generalizability since it captures majority of the responses in the targeted firms.

4.3 Test of Reliability

The study's goal was to establish the reliability of the variables used in the investigation. Cronbach's alpha was used to evaluate the test items' internal consistency or average correlation. The alpha coefficient was set to a value ranging from 0 to 1. As shown in Table 4.2, this study used alpha coefficients over 0.7, which is a consistency metric according to Creswell and Clark (2017).

Table 4.2: Summary of Cronbach's Alpha Reliability Coefficients

Variable	Components of Variables	Cronbach's Alpha Coefficients	Number of items	Decision
Knowledge Management	• Knowledge Acquisition • Knowledge Storage • Knowledge sharing • Knowledge Application	.896	25	Reliable
Operating Environment	• New Entrants • Customers • Suppliers • Competitors • Substitutes	.792	32	Reliable
Competitive Strategies	• Differentiation • Focus • Cost Leadership	.861	17	Reliable
Firm Performance	• Financial Perspective • Internal Process • Customer Focus • Employee Focus • Learning and Growth	.880	43	Reliable

Source: Primary data, (2019)

The results as indicated shows the coefficient of alpha which is above the threshold of 0.7 implying data lacks errors that might influence its output and prepositions as suggested by previous undertakings in form of literature. Cronbach's alpha coefficient showed that knowledge management had the highest with 0.896 followed by firm performance with 0.880, competitive strategies with 0.861 and finally operating environment with 0.792 revealing a high degree of reliability of the instrument. The findings show that all constructs have excellent reliability coefficients.

4.4 Validity Test

Factor analysis (FA) in this study was regarded key to establishing validity in form of convergent, discriminant and construct. It was performed by use of the Kaiser – Meyer – Olkin (KMO) and Bartlett's Test (Ghazali, 2008). The methods of Varimax as well as Principal Component Analysis were used in extraction of variable measurements under the study. Principle element analysis as well as the technique of varimax rotation was established through values of Eigen above 0.5 where those factors that gave the Eigen values more than one were derived and factor loadings greater or equal 0.5 retained for further analysis. The study results are presented in Table 4.3.

Table 4.3: Summary of KMO and Bartlett's Test

Variable	KMO	Bartlett's Test of Sphericity		
		Chi-square (χ)	df	Sig. Level
Knowledge Management	.683	1300.878	300	.000
Operating Environment	.866	2522.656	153	.000
Competitive Strategies	.535	1020.719	136	.000
Firm Performance	.833	3133.551	231	.000

Source: Primary data, (2019)

The results as shown reveal that the adequacy of sampling of the variables within the study is adequately represented within the samples. Knowledge management (KMO=.683, Chi-square (χ) =1300.878, df=300 and level of significance=0.000); Operating environment (KMO=.866, Chi-square (χ) = 2522.656, df=153 and level of significance=0.000), competitive strategies (KMO=.535, Chi-square (χ) = 1020.719, df=136 and level of significance=0.000), firm performance (KMO=.833, Chi-square (χ) = 3133.551, df=231 and level of significance=0.000. Factor loadings were varied depicting they closely measure the variables under investigation and more so the dependent variable. This result implies that the variables have a highly significant association.

An item with a KMO score of.50 to.99 is regarded authentic and reliable for statistical analysis, according to Ghazali (2008). In the statistical analysis, all of the KMO scores were significant with a value greater than 0.50, meaning that all of the items recorded were valid for further statistical analysis on the dataset.

4.5 Tests of Statistical Assumptions

There are different assumptions for statistical tests that the study variables should meet. It is beneficial to test assumptions to ensure that your data meets important assumptions (Nimon, Zientek & Henson, 2012). The regression assumptions were performed before both descriptive as well as inferential which included Test of Normality, Test of Multicollinearity, Test of Homoscedasticity and Test of Linearity.

This was followed by determining central tendency measures like dispersion as well as significance tests and also predictions involving significance testing. According to Bolker et al., (2009) if assumptions are met then data is ready for modeling. If not met then violation is the outcome giving wrong results signal. The study thus concentrated to testing the below assumptions to achieve the purpose.

4.5.1 Test of Normality

The procedures in any statistical measures depend on how data has met the set criteria in form of normality. According to Ghasemi and Zahedias (2012), normality is key to validity and thus requires clear indication and seriousness attached to it. The test thus is helpful in establishing if the data meets validity issues before it is taken to another level of analysis especially regression tests and other tests requiring deeper understanding of the phenomenon. The test gives detects skewness as well as kurtosis in a range of 0-1 upon which values above 0.05 depicts normal data (Razali & Wah, 2011). The pertinent results are presented in Table 4.4.

Table 4.4: Test of Normality

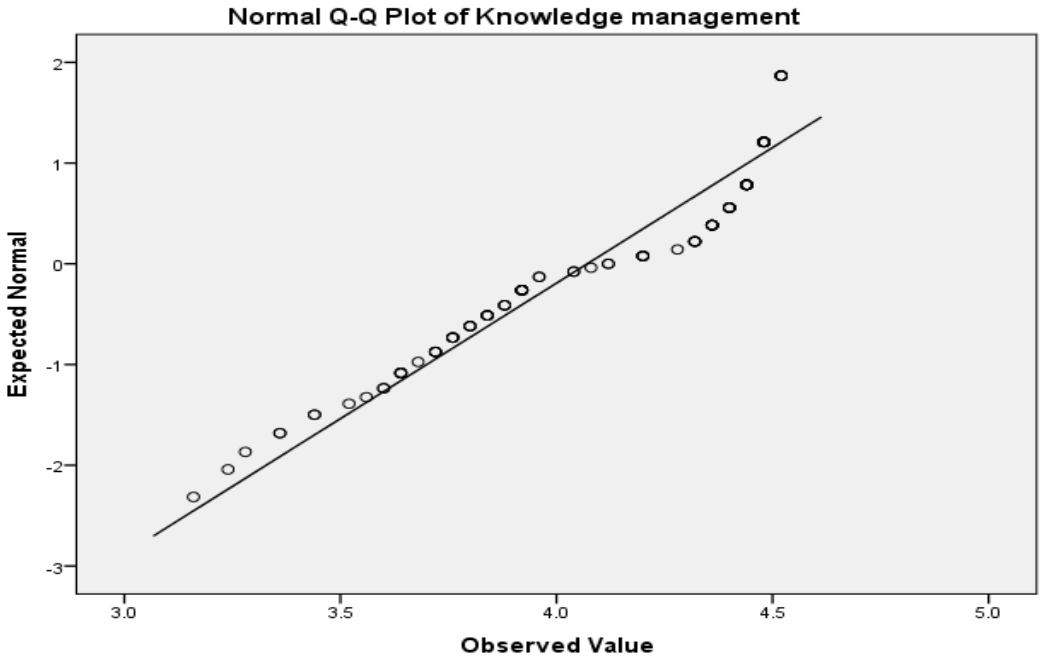
Tests of Normality						
	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Knowledge management	.186	96	.000	.907	96	.102
Operating Environment	.102	96	.015	.968	96	.118
Competitive Strategies	.214	96	.000	.894	96	.201
Firm Performance	.114	96	.003	.943	96	.121

Source: Primary data, (2019)

The concept of normality revolves around how mean is distributed within a given sample. Shapiro-Wilk tests and the associated p-values showed insignificant manifestations implying data normality. For instance, management of knowledge had 0.102, environment at the operating level had 0.118 whereas competitive strategies registering 0.201 and finally performance at firm level registering 0.121. The threshold associated to normality was above 0.05 (p-value > 0.05) and all variables had sig. values greater than 0.05 thus the distribution is well fitted on a normal curve. To further fit data on a normal curve, QQ plot (quantile quantile plots together with histograms representing the normality in data were considered as shown in Figures 4.1(a), 4.1(b), 4.1 (c) and 4.1 (d).

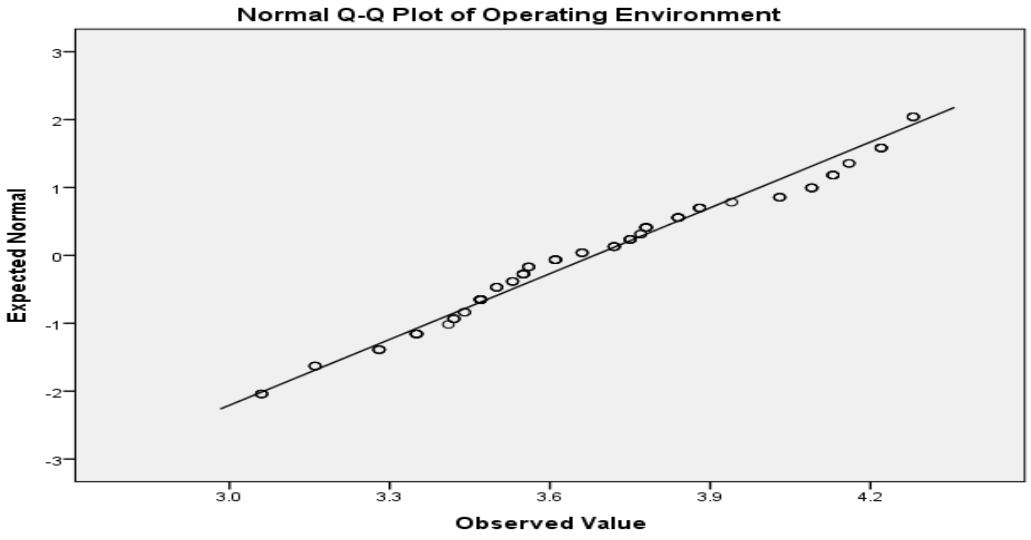
The figures demonstrate that the data was typical because most cases were seen to cleave along the line of greatest fit. The large sample (n 30) can account for the few instances of observed values deviating from a straight line. This shows a decent fit and normal data on important study variables.

Figure 4.1 (a): Normal Q-Q plot of Data on Knowledge Management



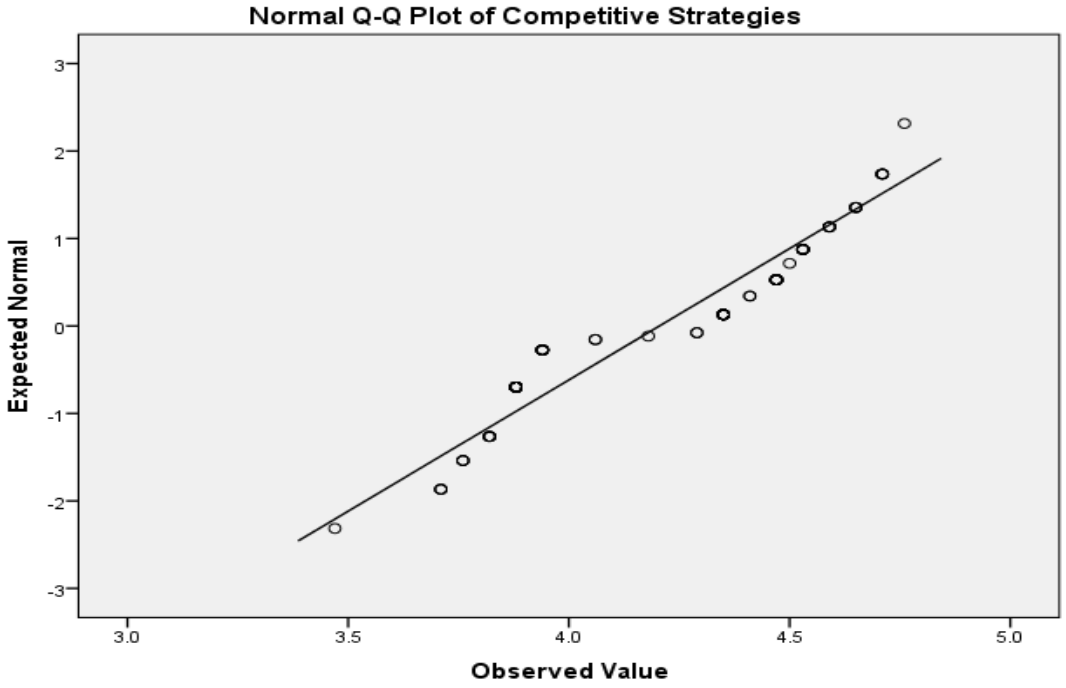
Source: Primary data, (2019)

Figure 4.1 (b): Normal Q-Q Plot of Data on Operating Environment



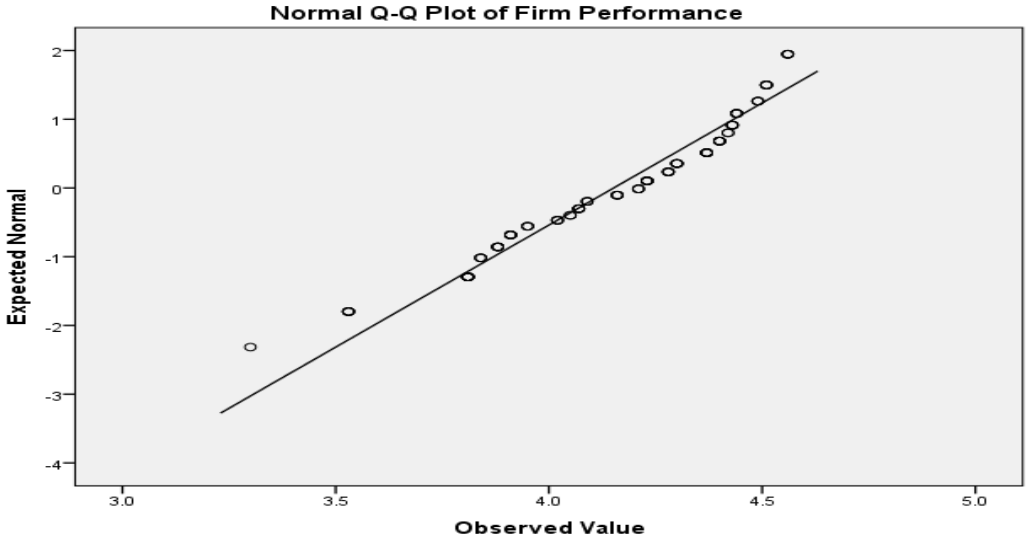
Source: Primary data, (2019)

Figure 4.1 (c): Normal Q-Q Plot of Data on Competitive Strategies



Source: Primary data, (2019)

Figure 4.1 (d): Normal Q-Q Plot of Data on Firm Performance



Source: Primary data, (2019)

4.5.2 Test of Multicollinearity

The correlation might exist highly among the variables, sub variables and statements within different measures of the study under investigation. This may result to unreliable estimates arising from the statistical measures. The direction as well as how variables relate may bring about differences that are strange and false. The decision that arises from such results may not be true picture on the ground thus leading to misleading decisions to theory, practice and policy level (Creswell, 2014).

The estimate errors may increase substantially due to the consequences that arises from highly correlated data thus reliability issues will arise giving confusion and therefore it was necessary to limit the chances of correlations in order to have informed base upon which further analysis can be carried out especially modeling the format of regression. The studies that have violated this assumption have given rise to many uncertain decisions that are misleading and can lead to serious problems if adopted.

Variance Inflation Factor (VIF) was key to this measure since it gives the correlation measurement of how variables and sub-variables manifest themselves under the predictability in a linear dependence. The threshold or rule of thumb is at VIFs>10 or higher levels implies present of severe multi-collinearity issues. Tolerance values of below 0.1 indicate present of serious correlation issues (Menard, 2000). Table 4.4 presents the results.

Table 4.5: Test for Multicollinearity

Model	Collinearity Statistics		**Comment**
	Tolerance	VIF	
(Constant)			
Knowledge Acquisition	.573	1.744	No multicollinearity
Operating Environment	.581	1.723	No multicollinearity
Competitive strategies	.657	1.522	No multicollinearity

Source: Primary data, (2019)

The variables of the study indicated VIF values of between 1.522 and 1.744 with knowledge management having 1.744, operating environment with 1.723 and competitive environment with 0.657 which are less than 10; the figure recommended by the rule of thumb. This indicated that the data set displayed no multicollinearity.

4.5.3 Test of Homoscedasticity

The test of Levene's measured Homoscedasticity where examination was based on whether the variance is equal among dependent and independent where the insignificant levels of the Levene's Test indicated equal variances and significance results indicates unequal variances. There is also the checking of the scores which are approximated the same among the variables.

Table 4.6: Tests for Homogeneity of Variances

Variable	Levene's Statistic	df1	df2	Sig.	Comment
Knowledge management	3.236	22	72	.070	p>0.05 hence equal variance
Operating environment	3.988	22	72	.103	p>0.05 hence equal variance
Competitive strategies	2.068	22	72	.123	p>0.05 hence equal variance

Source: Primary data, (2019)

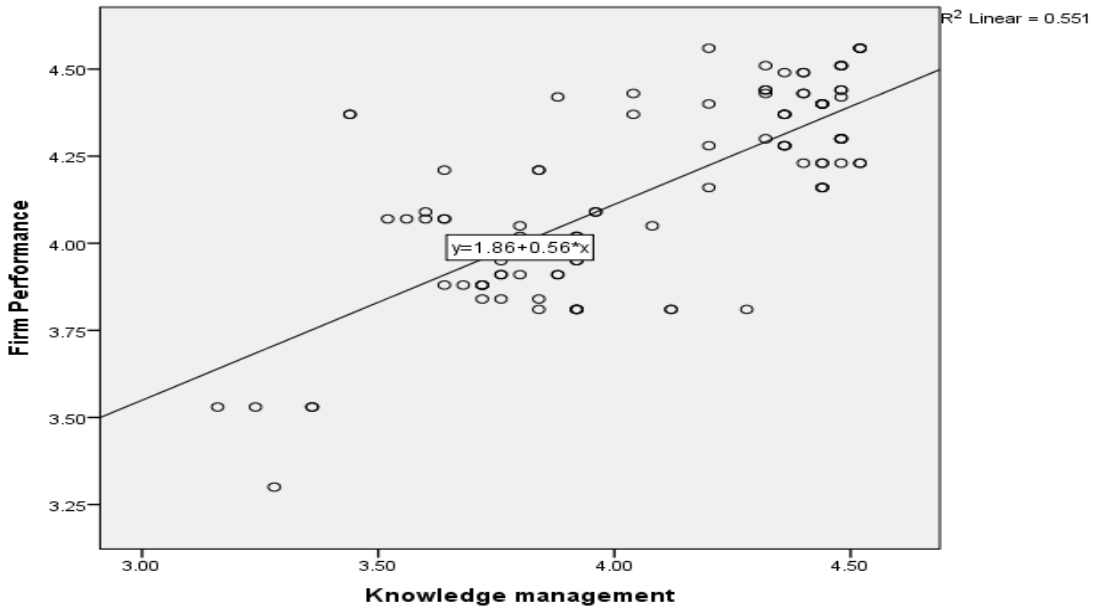
The values relating to values for the Levene's depicted varying degrees including management of knowledge at 0.070, operating environment at at 0.103 and competitive strategies resulting to 0.123. All the values of Levene's test were higher than 0.05 meaning they are not significant thus confirming homogeneity.

4.5.4 Test of Linearity

In the study, scatterplots were used to test for linearity. The relationship between the independent and dependent variables is visually represented by the scatter plot. Positive associations are those in which both the dependent and independent variables move in the opposite direction, negative associations are those in which there is no association at all, and there is no obvious linear pattern.

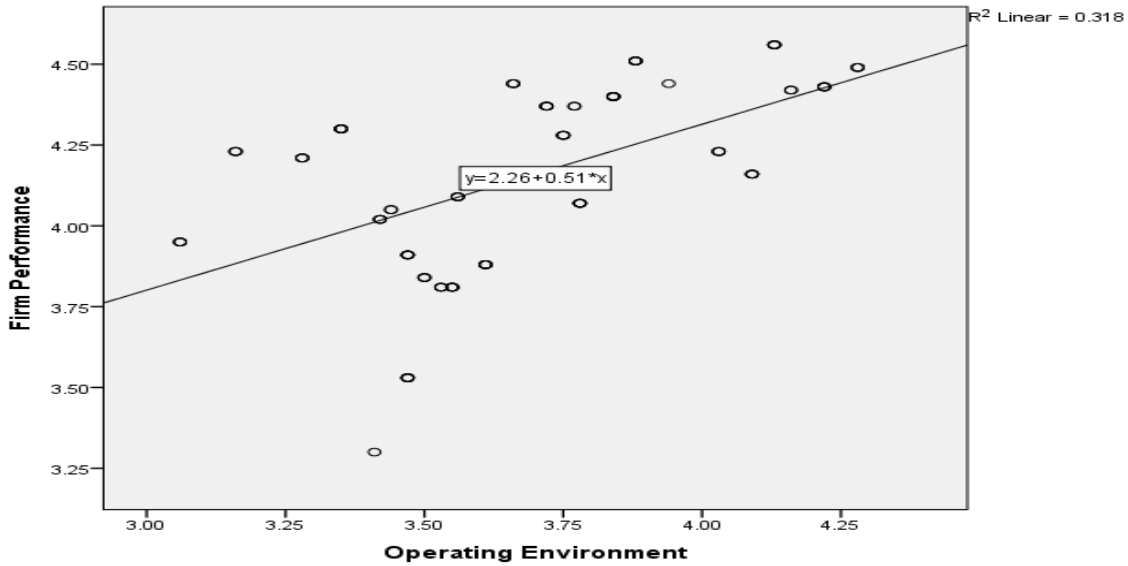
If there is no linear relationship existing between dependent and independent variables then the regression equation will fail to give true estimate or relationship therefore approximations will fail to meet. There is only one way a regression is done, that is if there is linear relationship among independent and dependent variables and therefore linearity is key. The pertinent results are presented in Figure 4.2(a), 4.2(b) and 4.2(c).

Figure 4.2(a): Test for Linearity for Knowledge Management



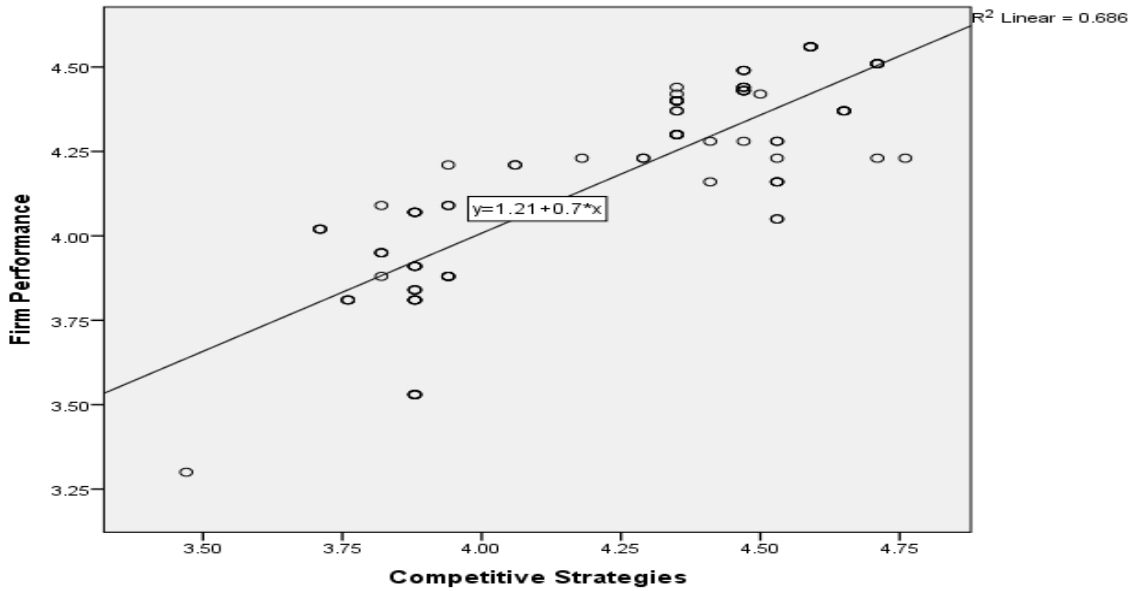
Source: Primary data, (2019)

Figure 4.2 (b): Test for Linearity for Operating Environment



Source: Primary data, (2019)

Figure 4.2 (c): Test for Linearity for Competitive Strategies



Source: Primary data, (2019)

There is a moderately positive linear association between the independent factors (Knowledge Management, Operating Environment, Competitive Strategies), and the dependent variable, as illustrated in the scatter plot above (Firm Performance). In other words, dependent variable increases as independent variable does. This demonstrates that the relationship validates the linearity assumption.

4.6 Firm Characteristics

Years the firm has been in operation, scope of operation, kind of firm, number of branches, and number of employees of pharmaceutical firms in Nairobi County are among the firm profile demographics that were taken into account in the study. The subsections below provide a summary of all the study's conclusions for these firm characteristics.

4.6.1 Years of Operation

The study determined the number of years the firms have been in existence. This was to investigate whether the retail pharmaceutical firms were well versed with the dynamics of the pharmaceutical industry and fully understand the various knowledge management practices required for firm performance to be achieved. The study findings are presented in Table 4.7.

Table 4.7: Years of Operation

Years of Operation	Frequency	Percentage (%)
0-1 years	26	27.1
2-5 years	48	50.0
6-10 years	18	18.8
11-15 years	4	4.2
Total	**96**	**100.0**

Source: Primary data, (2019)

Results in Table 4.7 findings indicate that majority of the firms had been in operation for 2-5 years at 50%. It further indicated that other firms had been in operation for 0-1 years at 27.1%, 6-10 years of operation at 18.8% and 11-15 years of operation at 4.2%. Older firms are said to perform better since they have fully adapted to changes in the industry and are well conversant with the operations in the market. However, those firms considered younger experiences dynamism and volatility as opposed to those who are older. From the results it was evident that majority of the firms were younger and hence more dynamic and volatile for better firm performance. The results support Jakes (2018) assertion that majority of businesses under SMEs fail within five years and those who go beyond 5 years are able to perform better due to the ability to scan the operating environment and adapt adequate strategies to gain competitiveness in the industry.

4.6.2 Scope of Operation

The study determined the scope of operation of the retail pharmaceutical firms surveyed. This was in the premise that, firms with a wide scope of operation are able to have a better competitive advantage in serving a large market and therefore realize great profits. The results are presented in Table 4.8.

Table 4.8: Scope of Operation

Scope of Operation	Frequency	Percentage (%)
National (throughout Kenya)	30	31.2
Regional (Counties)	66	68.8
Total	**96**	**100.0**

Source: Primary data, (2019)

The findings in Table 4.8 indicate that majority of the surveyed firms operated regionally (counties) at 68.8% while the others operated nationally (throughout Kenya) at 31.2%. This imply that majority of firms operate within certain geographical location where they were established.

4.6.3 Ownership of Firms

The study determined the ownership of the firms with the aim of ascertaining how they share responsibilities and roles in the governance undertakings and also determine how performance can be affected by the type of ownership structure. The results are presented in Table 4.9.

Table 4.9: Ownership of the Firm

Ownership Structure	Frequency	Percentage (%)
Limited Company	28	29.4
Partnership	20	21.1
Sole Proprietorship	48	49.5
Total	**96**	**100.0**

Source: Primary data, (2019)

Additionally, the study sought to establish the type of the firms. Majority of the firms were found to be sole proprietorship at 49.5% while other firms were found to be limited company at 29.4% and partnership at 21.1%, indicating that majority of the firms were managed individually. This implies that since the unit of analysis was retail, majority are individually owned.

4.6.4 Number of Branches (Size)

The study determined the size of the firms in relation to number of branches. This was to establish the growth pattern of the industry in form of branches and market coverage. The results are presented in Table 4.10.

Table 4.10: Size in Terms of Number of Branches

Number of branches	Frequency	Percentage (%)
1	48	50.0
2-5	25	26.0
6-10	16	16.7
Over 10	7	7.3
Total	**96**	**100.0**

Source: Primary data, (2019)

The results in Table 4.10 shows tha most of the firms were found to have one branch at 50%, other firms had 2-5 branches at 26%, those with 6-10 branches at 16.7% and over 10 branches at 7.3%. The study also sought to establish the number of employees present in the surveyed firms. This was to establish efficiency of the firms and generally to establish workforce present for firm performance.

4.6.5 Number of Employees

Number of employees is key in ascertaining internal processes and therefore the study determined how retail pharmaceutical firms in Nairobi City County are manifested in terms of employees. Because a company with a large number of employees has a larger operation, it requires more personnel in each functional unit to perform the required functions. It further indicated that the firm may be doing well in terms of number of customers and distribution channels as well as stores. The findings are presented in Table 4.11.

Table 4.11: Number of Employees

Number of Employees	Frequency	Percentage (%)
1-5	59	61.5
6-10	13	13.5
11-15	9	9.4
16-20	4	4.2
21-30	5	5.2
41-50	4	4.2
Above 50	2	2.1
Total	**96**	**100.0**

Source: Primary data, (2019)

The findings indicated that majority of the firms had 1-5 employees at 61.5%. Other firms had 6-10 employees at 13.5%, those with 11-15 employees at 9.4%, 21-30 employees at 5.2%, 16 - 20 employees at 4.2%, 41-50 employees at 4.2% and above 50 employees at 2.1%. Few numbers of employees could be attributed to the fact that most firms were small in size and operated only within their region.

4.7 Knowledge Management

Knowledge management manifests itself in four ways, according to the study: knowledge collection, storage, sharing, and application. Statements to quantify this feature were designed to determine the characteristics of knowledge management that influenced pharmaceutical firm performance. The respondents were asked to rate knowledge management factors on a five-point Likert scale ranging from 1 (not at all) to 5 (very) (large extent). Table 4.12 presents results for knowledge management dimensions.

Table 4.12: Knowledge Management Dimensions

ITEM	N	Mean	Std. Dev	C V	Z Score	Skewness	Kurtosis
Knowledge Acquisition							
Our firm has continuously acquired knowledge concerning our customers	96	4.04	0.695	0.17	-0.014	.204	-.744
Our firm has continuously acquired knowledge concerning different suppliers	96	4.2	0.69	0.16	0.217	-.676	3.666
Our firm uses feedback from customers and suppliers to improve on key functions	96	4.29	0.614	0.14	0.391	-.677	3.075
Our firm exchanges knowledge on products with suppliers and other retail firms.	96	4	0.781	0.2	-0.064	-.700	1.617
Our firm has ways of acquiring knowledge about new product/services within our industry	96	4.07	0.684	0.17	0.029	-1.173	.941
Our firm has ways of acquiring knowledge about competitors within retail industry	96	4.03	0.76	0.19	-0.026	.204	-.744
Our firm benchmarks performance with related retail firms	96	3.64	0.975	0.27	-0.421	-.676	3.666
Our firm encourages employee learning for better practice	96	4.28	0.593	0.14	0.388	-.677	3.075
Overall Mean	**96**	**4.07**	**0.724**	**0.18**	**0.028**	**-0.52138**	**1.819**
Knowledge Storage							
Information related to products is centrally stored for ease of access by all within the firm	96	4.042	0.71	0.18	0.693	-.216	-.610

Table 4.12 Contd'…

Our firm retains employees with unique operational information	96	4.073	0.603	0.15	0.022	-1.945	5.054
In my firm, relevant information is well preserved for future use	96	4.25	0.649	0.15	0.293	-.646	-1.045
Our firm record all information from discussions or meetings	96	3.927	0.729	0.19	-0.182	.171	-.557
Overall Mean	**96**	**4.073**	**0.673**	**0.17**	**0.019**	**-0.659**	**0.7105**
Knowledge sharing							
Knowledge in our firm is shared among employees	96	3.88	0.729	0.19	0.322	-.870	.381
Management in our firm encourages employees to learn by doing and by watching	96	4.09	0.741	0.18	0.067	-.965	-.342
Our firm makes knowledge accessible to those who need it	96	4.11	0.679	0.16	0.103	.119	1.202
Knowledge is shared across sections/units in our firm	96	4.13	0.811	0.2	0.111	.721	-.815
In our firm supervisors share knowledge with subordinates	96	4.02	1.005	0.25	-0.020	-.837	.077
Overall Mean	**96**	**4.05**	**0.793**	**0.2**	**0.013**	**-0.3664**	**0.1006**
Knowledge Application							
Our firm uses stored knowledge to improve functional areas	96	3.94	0.558	0.14	0.069	-1.638	3.083
Our firm knows how conditions changes and thus able to execute knowledge appropriately	96	4.04	0.614	0.15	-0.049	-.530	.391
Challenges as well as problems in our firm are well matched to knowledge sources	96	3.98	0.649	0.16	-0.139	-.686	.790
Our firm utilizes different sources and types of knowledge for decision making	96	4.08	0.592	0.15	0.017	-.661	-1.183
Our firm uses knowledge to improve efficiency	96	4.18	0.503	0.12	0.219	-.163	-.386
Our firm uses knowledge to adjust strategic direction	96	4.22	0.547	0.13	0.274	-.694	-.893
Our firm uses knowledge to respond to preferences as well as needs associated to customers	96	4.19	0.568	0.14	0.211	.324	-.890
Our firm uses knowledge to solve new problems	96	4.08	0.627	0.15	0.016	-.069	-.817
Overall Mean	**96**	**4.09**	**0.582**	**0.14**	**0.034**	**-0.51463**	**0.011875**
Grand Mean	**96**	**4.07**	**0.53**	**0.13**	**0.057**	**-.46022**	**.0023411**

Source: Primary data, (2019)

The results in Table 4.12 present statements depicting manifestations of knowledge management. On Knowledge management dimensions, knowledge application was found to have the highest mean of 4.09, standard deviation of 0.582, coefficient of variation of 14% and Z score of 0.034. The positive Z score implies that the deviation from the mean is positive and therefore knowledge application is important in explaining firm performance. Knowledge management had a grand mean of 4.07, standard deviation of 0.530, coefficient of variation of 13% and Z score of 0.057. The high mean score and positive z score imply that knowledge management dimensions were considered important to boost firm performance. The statement with the highest mean was 'our firm uses knowledge to adjust strategic direction' with a mean of 4.22, standard deviation of 0.547, coefficient of variation of 13% and Z score of 0.274.

From the results, it was evident that pharmaceutical firms in Kenya applied knowledge in decision making, solving of problems and challenges as well as to improve functional areas all geared to improve firm efficiency and hence better firm performance. Knowledge application is making it relevant and more active for the organization and hence employee failure to share knowledge become of little value to an organization. Effective storage and retrieval mechanisms enable a firm to quickly access knowledge and hence improves a firm's efficiency and leads to reduce costs. In addition, the value must be created in terms of repackaging, training and motivating for creativity and processes that improve on services and products.

On knowledge storage, the average mean recorded by the findings was 4.073, standard deviation of 0.673, coefficient of variation of 17% and Z score of 0.019. This implies that knowledge storage deviates from the mean by 0.019 which a positive deviation is implying that knowledge storage contributes to firm performance posively. Statement that showed highest mean score was that in my firm, relevant information is well preserved for future use (Mean=4.250, SD=0.649, CV=15% and Z score=0.293). From the findings, it was evident that information was well stored and preserved in the firms for easy retrieval and for future use. Because information storage and protection is vital for successful functioning and management within organizations, businesses must also ensure that organizational knowledge is preserved safely and accessed only by authorized employees.

The average mean of statements depicting knowledge acquisition was 4.07, standard deviation of 0.724, coefficient of variation of 18% and Z score of 0.028. A high mean and positive Z score indicate that knowledge acquisition attributes actively contributed to firm performance. Knowledge acquisition done through valuing of employee attitudes and opinions, development of well systems of finance and focused on market through obtaining customers and information on the industry as well as sensitivity to information on the market place changes and getting information from market surveys all contribute to positive firm performance.

Statement that had highest mean score on knowledge acquisition was our firm uses feedback from customers and suppliers to improve on key functions (Mean=4.29, SD=0.614, CV=14% and Z score=0.391). The findings indicated that the surveyed firms continuously acquired knowledge from concerns of customers, on new products and service in the medical industry as well as encouraged employee training and learning for better practice. Since majority of the surveyed firms were small in size, they had an advantageous position of acquiring feedback and concerns from customers and suppliers to improve their products and service hence boosting firm performance.

Lastly on knowledge sharing, the average mean recorded by the findings was 4.05, standard deviation of 0.793, coefficient of variation of 20% and Z score of 0.013. The statements that had the highest mean score was that knowledge is shared across sections/units in our firm (Mean=4.13, SD=0.811, CV=20% and Z score=0.111). The results of the findings indicated that the surveyed firms promoted knowledge sharing across the firm as supervisors shared knowledge with subordinates and employees were encouraged to learn by doing and watching.

The sharing of knowledge gives learning opportunities to all employees and enhance the quest to solving problems like how others have solved before and how best it can be solved more than the past experience. This will give quicker response to customers since knowledge sharing can enable them realize the synergies results that are greater as compared to those achieved individually. The learning of a firm will give activities that improve the processes, innovativeness on the market and the overall efficiency in operation. The average score for skewness was 0.460 which is negatively skewed and near to zero which clarified that the constructs are asymmetrical. Kurtosis values indicated that all the sub constructs have a sharp peak thus normally distributed (.00234).

4.8 Operating Environment

Organizational performance is highly influenced and relates to the changes and the dynamic nature of the relationship that exist between the organization and the operating environment. As the operating environment changes, organization's survival entirely depends on devising appropriate responses to unforeseen environmetal circumstances. Several operating environment dimensions have been identified to be critical contingencies for effective strategic management.

The operating environment dimensions identified to influence organization performance in the study were new entrants, customers, suppliers, competitor and substitutes. To determine the dimensions of operating environment which influenced performance of retail pharmaceutical firms, statements to measure this aspect were developed. The respondents were asked to rate factors on operating environment on a Likert scale of 1(not at all) to 5 (large extent) as applied in pharmaceutical firms. Table 4.13 presents results of the findings.

Table 4.13: Operating Environment Dimensions

	N	Mean	Std. Dev	CV	Z Score	Skewness	Kurtosis
New Entrants							
Our firm has been largely affected by threat of new entrants	96	3.63	0.943	0.26	0.28	.952	-.553
The players in the retail pharmaceutical industry have imposed barriers to entry	96	2.77	0.788	0.28	-0.76	.813	2.176
There are government regulations for entry in to the retail pharmaceutical industry	96	3.34	1.055	0.32	-0.03	-.026	-2.010
Our firm enjoys cost advantages that hinders potential competitor's entry to the industry	96	2.9	0.968	0.33	-0.49	.438	-.787
There is high initial capital investments required for new entrants	93	3.26	0.883	0.27	-0.12	.324	-.890
Our firm enjoys favourable geographical	96	4.33	0.706	0.16	0.87	-.627	-.336

Table 4.13 Contd'…

location							
Overall Mean	**96**	**3.37**	**0.89**	**0.27**	**0.04**	**0.312333**	**-0.4**
Customers							
Customers are keen on prices of our products	88	4.23	0.707	0.17	0.14	-.324	-.496
Our customers are concentrated within our reach	96	4.13	0.715	0.17	0.00	-1.086	3.157
Our firm minimizes cost through innovation	96	3.99	0.912	0.23	-0.15§	-.368	1.233
Our prices match our customer expectations	91	4.08	0.719	0.18	-0.07	-.761	.322
Our customers have trust in our products and prices	96	4.18	0.68	0.16	0.07	-1.859	4.495
Our customers rate our prices as affordable	96	4.24	0.497	0.12	0.22	2.256	3.141
The income levels of our customers are taken seriously in product we sale	96	4.2	0.473	0.11	0.15	.049	-.370
Overall Mean	**96**	**4.15**	**0.672**	**0.16**	**0.03**	**-0.299**	**1.640286**
Suppliers							
Our suppliers makes products available at the right time, in the right place and in the right quantity	96	4.18	0.632	0.15	0.35	-2.300	8.252
Our suppliers wider availability facilitates our customers' ability to find their favourite brand	96	4.35	0.542	0.12	0.72	-.015	-.129
The large distributed supplier agents play a central role in building new brands	96	4.28	0.66	0.15	0.48	-.011	-1.033
Our firm has well established branches to ensure convenience and ease to our suppliers	94	3.13	1.54	0.49	-0.54	.270	-.875
Our suppliers networks and efficiency have enabled our customers to be flexible and to perceive our products convenient and reliable	96	3.96	0.664	0.17	0.32	.034	-.322
Our firm benefit from a well managed and effective supply network	96	3.97	0.623	0.16	0.02	.761	-.110
Our supplier networks have enhanced customer satisfaction	96	4	0.681	0.17	0.06	.868	.154
Overall Mean	**96**	**3.98**	**0.763**	**0.2**	**0.03**	**-0.0561**	**4 0.848143**
Competitors							
Our firm faces rivalry among competitors in the industry	96	3.89	0.63	0.16	0.83	1.151	.407

Table 4.13 Contd'…

There are large number of competing firms in our market of reach	96	3.86	0.803	0.21	0.61	1.123	.798
There is frequent price cutting/price wars e.g. discounts in our industry	96	3.65	0.995	0.27	0.28	1.250	.459
There is power play among competitors over the market of reach	96	3.51	1.152	0.33	0.12	2.054	2.234
Our firm has entered strategic partnership with competitors to reduce unhealthy competition	91	2.02	1.291	0.64	-0.91	.965	-.081
Overall Mean	**96**	**3.39**	**0.974**	**0.32**	**0.02**	**1.3086**	**0.7634**
Substitutes							
We have different brand identity in the industry	96	3.26	1.308	0.4	-0.29	-.087	-2.003
We have differentiated our products to that of our competitors	96	2.85	1.33	0.47	-0.59	.173	-.846
We engage in intense advertising for our products	96	2.47	1.314	0.53	-0.89	.046	-1.078
Our customers have high propensity to substitutes	96	3.67	0.804	0.22	0.04	-1.207	.711
Our customers are sensitive to substitute prices	96	3.78	0.547	0.14	0.26	-1.020	.173
There is presence of substitute products in the industry	96	3.98	0.711	0.18	0.48	.003	.273
We have encountered threat of substitute products	96	3.77	1.165	0.31	0.11	-.006	.545
Overall Mean	**96**	**3.4**	**1.025**	**0.32**	**-0.23**	**-0.29971**	**-0.31786**
Grand Mean	**96**	**3.66**	**0.865**	**0.24**	**0.02**	**-.36722**	**.-385432**

Source: Primary data, (2019)

Table 4.13 presents the results of the manifestations of operating environment. On operating environment dimensions, customer dimension had the highest mean of 4.15, standard deviation of 0.672, coefficient of variation of 16% and Z score of 0.03. A relatively high mean and positive Z score indicate that most of the customers' needs were catered for by the products and services the surveyed pharmaceutical firms provided.

The statement with the highest mean was that our customers rate our prices as affordable with a mean of 4.24, standard deviation of 0.497, coefficient of variation of 12% and Z score of 0.22. Price play a key role in attraction and retention of customers' hence affordable pricing on goods and services attract customers hence boosting a firm performance. Better and more effective price strategy will continuously enable a firm acquire and retain new customers to improve its performance and hence it is evident that good pricing of commodities for customers play a great role in organizational performance. Firms which focuses on customer orientation attributes strive to meet needs and wants of customers hence are able to respond rapidly to customers' feedbacks hence satisfying their wishes and needs to realize better performance. In this case customers play a key role towards a firm's performance.

Further, the findings established that innovative technologies greatly influences firm performance, through saving time and money, expanding capabilities as well as providing a platform of greater compliance. On statements depicting suppliers, the average mean was 3.98, standard deviation of 0.763, coefficient of variation of 20% and Z score of 0.03. The statements with the highest mean stated that our suppliers wider availability facilitates our customers' ability to find their favourite brand with a mean of 4.35, standard deviation of 0.542, coefficient of variation of 12% and Z score of 0.72 indicating that suppliers played a role in meeting needs of the consumers by availing the products that suits the needs and demands of the consumers. From the findings, it was established that suppliers enhanced customer satisfaction by establishing a well-managed and effective supply system, availing products at right time, right quantity and place hence meeting consumer needs. Additionally, firms had well established branches which ensured convenience to the suppliers as they distribute products. A well-established supply system increases efficiency which improves firm performance.

On substitutes, the average mean was 3.40, standard deviation of 1.025, coefficient of variation of 32% and Z score of -0.23. A moderate mean and negative Z score indicates that presence substitutes of products and services in the industry contributed to competition which affected firm performance negatively. The results indicated that the surveyed firms encountered threat of substitute's products and that customers were sensitive to substitute prices as well as had high propensity to substitutes.

There is competition of firms in a given industry especially producing or dealing with substitutes in either goods or services. The substitutes will give a reduction in potential returns in form of profits through placing ceilings as far as the firm cans comfortably charge. Additionally, the study found that brand identity was an important aspect that influences the success and performance of a firm. Brand identity development is defining brand vision and values. All visual symbolism of the brand should promote the intangible aspects of the brand identity in the process of brand communication. Proposition of the brand is to strengthen customers' perception so that communication efforts are consistent. Brand identity can further be established in the way employees of the firms relate to their clients. Hence firms ought to ensure that their employees deliver a coherent brand message through communication and behavior.

The average mean of statements depicting competitors was 3.39, standard deviation of 0.974, coefficient of variation of 32% and Z score of 0.02. A moderate mean and positive Z score indicates that the surveyed firms faced competition to a moderate extent and equally influences firm performance. The results indicated that offering better prices as well as price cut on firm services woos customers. Customers are attracted to a service or a product when there is an offer.

Additionally, presence of competing firms in the industry is most loved by consumers of the products and services in the industry. This is done by have suitable prices giving rise to Price competition, ad wars, new product debuts, and improved customer service are just a few examples. Furthermore, the data revealed that the majority of the questioned firms had not formed strategic partnerships with competitors in order to limit unhealthy competition, implying that if competition was not regulated, it would have a significant impact on company performance.

Lastly on new entrants, the average mean established by the findings was 3.37, standard deviation of 0.899, coefficient of variation of 27% and Z score of 0.04. When an industry's profits are able to rise, it is expected that more and additional firms would or may enter the market for in order to enjoy the high profits experienced. Over time, this profit will go down due to congestion in the market. Other firms may opt to exit the market and therefore bringing the industry at equilibrium. The market may limit potential entrants if prices are falling or they are expected to fall or even uncertainty may also reduce chances of entering the market in terms of costs that are high and no returns guaranteed.

Further, government plays a key role in regulating entry to a market. However when the market become profitable, more firms will enter that market to get share of the profit. In the event that there are minimal barriers on the market, many firms will enter that market thus being threat to those firms that are already in market. Therefore the study indicates that government regulation of entry influences firm performance.

On statements depicting operating environment, the grand mean was 3.66, standard deviation was 0.865, coefficient of variation of 24% and Z score of 0.02. A moderate mean and positive Z score indicate that operating environment attributes in the study were moderately met. The average score for skewness was 0.367 which is negatively skewed and near to zero which clarified that the constructs are asymmetrical. Kurtosis values indicated that all the sub constructs have a sharp peak thus normally distributed (-.385).

4.9 Competitive Strategies

Firms gain competitiveness when they focus on key areas of their strength, apply both cost strategy and also differential strategy. Performance of firms are able to be realized when a right competitive scope and the associated activities are taken in to account. This will further enhance how a firm can get profits and be viable in a given industry competition. The study established competitive strategy dimensions as differentiation, focus and cost leadership which affect firm performance. Table 4.14 gives the results of the findings in terms of mean, standard deviation and coefficient of variation on statements relating to competitive strategy in influencing its performance.

Table 4.14: Competitive Strategy Dimensions

	N	Mean	Std. Dev	CV	Z Score	Skewness	Kurtosis
Differentiation							
Our firm understands well customers' needs on the market	96	4.35	0.481	0.11	0.25	-.373	-1.485
Our firm ensures customers are privy to how attributes changes	96	3.91	0.952	0.24	-0.34	.564	-.687

Table 4.14 Contd'…

Our firm strives to have an upper considered hand when delivery of products as well as services is taken in	96	4.42	0.556	0.13	0.34	.707	-.790
Our firm encourages employees to be outstanding in service delivery than competitors	96	4.34	0.477	0.11	0.23	-1.148	-.443
Our firm offer products at the recommended prices	96	4.23	0.571	0.13	0.07	-.919	.801
Our firm involves customers to enhance service delivery	96	3.79	0.767	0.2	-0.57	-.373	-1.485
Overall Mean	**96**	**4.17**	**0.634**	**0.15**	**-0.09**	**-0.257**	**-0.6815**
Focus							
Our firm does not deviate from its core mandate	96	4.34	0.662	0.15	0.17	-.359	-.677
Our firm always understands its key market	96	4.3	0.545	0.13	0.13	.614	-.314
The customers of the firm are well categorized for easy product and service delivery	96	3.93	0.811	0.21	-0.37	-.483	-.325
Our firm always strives to remain in its market	96	4.34	0.477	0.11	0.23	-.392	-.781
Our firm always reviews changes in the niche market	94	4.2	0.738	0.18	-0.04	.309	-.748
Overall Mean	**96**	**4.22**	**0.647**	**0.15**	**0.02**	**-0.0622**	**-0.569**
Cost Leadership							
Our management encourages staff on cost reduction undertakings	96	4.21	0.433	0.1	-0.05	-.355	-.774
Our firm emphasizes on efficiency during operation	96	4.23	0.423	0.1	0.05	-.226	-.834
Our firm emphasizes on time management	96	4.19	0.466	0.11	-0.09	-.329	-.697
Our firm minimizes cost through use of technology	96	4.16	0.509	0.12	-0.14	-.118	-.859
Our firm does costing of all products	96	4.23	0.47	0.11	0.09	-.355	-.774
Our firm has optimum level of personnel	96	4.33	0.474	0.11	0.21	-.226	-.834
Overall Mean	**96**	**4.22**	**0.462**	**0.11**	**-0.02**	**-0.26817**	**-0.79533**
Grand Mean	**96**	**4.2**	**0.581**	**0.14**	**-0.05**	**-.45326**	**-.67321**

Source: Primary data, (2019)

Table 4.14 reveals that cost leadership had a comparatively high mean of 4.22, standard deviation of 0.462, coefficient of variation of 11%, and Z score of -0.05, indicating that cost leadership had a significant impact on business performance. However the deviation from the mean is negative as shown by Z score implying that cost if not well managed leads to reduced performance. From the findings, the firms minimized cost through use of appropriate technology as well as encouraged staff on cost reduction undertaking. It further indicated that the surveyed firms did costing for all of their products and ensured efficiency on operation. There is wish to produce at lowest cost if a firm is following leadership strategy in form of cost so that to offer prices that are affordable and obtain good profits. The strategy of cost also entails goods that are uniquely featured and sold cheaply to customers as compared to those sold by competitors in order to achieve high profitability and hence cost leadership influenced firm performance.

The average mean of statements depicting focus was 4.22, standard deviation of 0.647, coefficient of variation of 15% and Z score of 0.02. Statements on focus that had the highest mean score was that our firm does not deviate from its core mandate (Mean=4.34, SD=0.662, CV=15% and Z score=0.17). The results therefore indicated that the surveyed firms did not deviate from their core mandate and that the firms understood their individual key markets as well as strived to remain in their markets to meet customers' needs. Focus enables a firm to concentrate in meeting its markets needs and achieve its goals without deviating in order to realize better profits and hence improved firm performance.

On differentiation, the average mean was 4.17, standard deviation of 0.634, coefficient of variation of 15% and Z score of -0.09. Statements on differentiation that had the highest mean score was that our firm always strives to lead in product/service delivery in our sector (Mean=4.42, SD=0.556, CV=13% and Z score=0.34). The findings evidence that majority of firms have a strategy on how they can differentiate their operations and focus on key areas that will give them ability to offer unique services as well as products for them to gain loyalty. Further if differentiation takes place, customers are able to be fulfilled as far as their needs are concerned since products as well as services are tailored towards their needs and in turn firms are able also to generate good profits thus performance becomes inevitable.

The grand mean of statements depicting competitive strategies was 4.20, standard deviation of 0.581 and coefficient of variation of 14%, a high mean indicating that competitive strategies enabled firms compete competitively and hence to be successful a firm must decide on an effective way to position itself in a competitive market to realize good profits. The average score for skewness was .453 which is negatively skewed and near to zero which clarified that the constructs are asymmetrical. Kurtosis values indicated that all the sub constructs have a sharp peak thus normally distributed (-.673).

4.10 Firm Performance

The performance of any firm is the goal at primary level as it shows how success in terms of operation is all about. To capture different aspects of firm performance in this study, non-financial measures were adopted which include financial perspective, internal processes, customer focus, employee focus and learning and growth. Table 4.15 gives the results of the findings in terms of mean, standard deviation and coefficient of variation on statements relating to firm performance.

Table 4.15: Firm Performance

	N	Mean	Std. Dev	CV	Z Score	Skewness	Kurtosis
Financial Perspective							
The finances in our firm are well managed	96	4.41	0.515	0.117	0.45	-.326	-.212
Our firm pays its financial obligations on time	96	4.39	0.569	0.130	0.37	-.285	-.501
Our firm finances are enough for operational activities and we rarely borrow from financial institutions	96	4.22	0.811	0.192	0.05	-.175	-.487
Our firm maximizes on assets and minimizes liabilities	96	4.19	0.529	0.126	0.02	-.117	-.760
Our firm's revenues are more than expenses incurred	96	4.15	0.598	0.144	-0.05	-.169	-.704
Our firm sets aside finances for hard times speculations	96	3.79	0.917	0.242	-0.43	-.326	-.212
Our firms profit margins have been increasing over the years	96	3.91	0.769	0.197	-0.35	-.285	-.501
Our firm gets supplies on credit from suppliers.	92	3.99	0.749	0.188	-0.25	-.175	-.487
Overall Mean	**96**	**4.13**	**0.682**	**0.165**	**-0.07**	**-0.23225**	**-0.483**
Internal Processes							
The ability of our staff is well utilized to enhance performance	96	4.23	0.64	0.151	0.08	-.172	-.675
The firms facilities are well utilized	96	4.46	0.579	0.130	0.48	-.543	-.394
Our firm discourages employee absenteeism	96	4.77	0.423	0.089	0.39	.400	-.660
The administrative systems in our firm are of high quality to support the internal processes	96	4.42	0.61	0.138	0.39	.354	-.245
Our firms processes are benchmarked for improvement	92	3.85	1.167	0.303	-0.28	.106	-.802
There is proper communication in our firm in tandem with the internal processes	96	4.23	0.607	0.143	0.08	-.232	-.647
Overall Mean	**96**	**4.33**	**0.671**	**0.155**	**0.22**	**-0.0145**	**-0.5705**
Customer Focus							
Our firm solves customers complaints in time	96	4.19	0.529	0.126	0.02	.061	-.304
Our firm encourages employees to handle customers right	94	4.35	0.562	0.129	0.30	-.088	-.284

Table 4.15 Contd'…

Our firm informs customers of any changes that might affect them in good time	94	4.07	0.676	0.166	-0.16	.171	-.259
Our firm gives customers good attention whenever they are transacting	94	4.44	0.499	0.112	0.52	-.104	-.682
Our firm considers customers feedback to improve its services	94	4.39	0.491	0.112	0.43	-.028	-.388
Our firm handles customers with debts professionally	94	4.16	0.493	0.119	-0.04	.041	-.838
Our firm has customers' interests at heart	94	4.28	0.516	0.121	0.19	.079	-.517
Our consumers are enticed to stay with us because of the wide range of products we provide.	94	4.27	0.444	0.104	0.20	.006	-.769
Even though our company raises pricing, our clients are unconcerned.	94	3.45	1.325	0.384	-0.55	-.075	-.833
The time for serving our customers is satisfactory	96	4.08	0.516	0.126	-0.19	.106	-.866
Our customers have always sought more products and services from our firm	92	3.96	0.901	0.228	-0.24	.050	-.520
Our employees knows customers by their names	96	2.89	1.548	0.536	-0.83	.002	-.575
Our customers are loyal to our firm	96	3.09	1.354	0.438	-0.81	.006	-.769
Overall Mean	**96**	**3.97**	**0.758**	**0.191**	**-0.28**	**0.017462**	**-0.58492**
Employee Focus							
Our firm has been on occasion to ensure working place is conducive for operations support.	96	4.11	0.613	0.149	-0.11	.094	-.665
Our staff are content with their working conditions at our company.	96	4.11	0.456	0.111	-0.15	.028	-.790
Complaints from our personnel are processed in real time.	96	4.2	0.555	0.132	0.04	.021	-.865
Our employees are happy with their pay at the company.	96	4.2	0.592	0.141	0.03	.196	-.225
Our staff are pleased with the working atmosphere at our company.	96	4.23	0.571	0.135	0.09	.146	-.679
Employees views are considered in decision making	96	4.21	0.614	0.146	0.05	-.145	-.860
Our employees are extremely enthusiastic.	91	4.1	0.684	0.167	-0.12	-.168	-1.068
Employees and management have an excellent working connection.	96	4.27	0.589	0.138	0.15	-.169	-.997

Table 4.15 Contd'…

Employees and management maintain a steady line of communication.	96	4.15	0.523	0.126	-0.06	.084	-.919
Employees are given the necessary work leave and time off when they are needed.	96	4.23	0.423	0.100	0.12	.335	-.817
Overall Mean	**96**	**4.18**	**0.562**	**0.134**	**0.07**	**0.0422**	**-0.7885**
Learning and Growth							
The management gives ability for qualified as well as professional personnel in the firm	93	4.56	0.499	0.109	0.76	-.168	-1.068
	96	4.23	0.718	0.170	0.07	-.169	-.997
Doing things better is part of continuous learning which is part of our firm	96	4.32	0.589	0.136	0.24	.084	-.919
Our firm has highly charged motivated and loyal employees.	96	4.23	0.788	0.186	0.06	.335	-.817
Our firm has been very keen on employee health and safety.	96	4.25	0.523	0.123	0.13	.250	-.348
Our firm's employee productivity and staff development has improved.	96	4.49	0.523	0.116	0.59	-.168	-1.068
Overall Mean	**96**	**4.35**	**0.607**	**0.140**	**0.28**	**0.027333**	**-0.8695**
Grand Mean	**96**	**4.19**	**0.656**	**0.157**	**0.02**	**0.03481**	**-.60432**

Source: Primary data, (2019)

Table 4.15 presents the results on manifestations of the statements relating to performance. On firm performance measurements, learning and growth had the highest mean of 4.35, standard deviation of 0.607, coefficient of variation of 14% and Z score of 0.28, a high mean and positive Z score indicate that learning and growth level in the surveyed firms was high therefore implied good firm performance. Statements depicting learning and growth that had the highest mean score was that management has always ensured there is enough qualified and professional staff in the firm (Mean=4.56, SD=0.499, CV=11% and Z score=0.76).

Results of the findings indicated that in the surveyed firms, employee working conditions was considered a crucial factor in ensuring employees remain motivated and loyal to their firms. In any firm, employees play a crucial role in ensuring the mission and vision of the organization is achieved. They are the action masters. For a firm to achieve success, they need to invest in their employees. That is by providing conducive environment for their working, good structures to support upward growth as well as ensure health and safety of the employees. According to the study's findings, the retail pharmaceutical companies examined understand the value of treating employees properly to provide a positive work environment and employee motivation. Employee appreciation is a crucial factor that must be considered for any business to flourish. Annual performance reviews for employees are insufficient; they require frequent and ongoing input. When management teams often provide feedback, staff members are typically encouraged to consistently maintain high performance. Further, because employees are close to customers, they are able to give useful feedback from customers that will aid the firm in identifying metrics that truly evaluate performance.

On internal processes, the average mean recorded by the findings was 4.33, standard deviation of 0.671, coefficient of variation of 16% and Z score of 0.22. Statements on internal processes that had the highest mean score was that our firm discourages employee absenteeism (Mean=4.77, SD=0.423, CV=9% and Z score=0.39). The findings established that there was good operation and efficiency in the firms surveyed.

Conceptualization and measurement of efficiency relies on the specification of a production function. Companies must increase their operational efficiency if they want to be competitive in the modern global economy. Operational efficiency involves more than just reducing expenditures and expenses for the business; it also involves closely examining how the business's internal processes and overall operations are carried out. The strategy that will guarantee consistently healthy earnings is for a company to look at not just what it is doing but also how it is doing it and how it is providing its clients with its goods and services. Well-structured businesses can run more efficiently, foster a healthier environment, and so boost their revenues.

On employee focus, the results findings established a mean of 4.18, standard deviation of 0.562, coefficient of variation of 13% and Z score of 0.07. Statements on employee focus that had the highest mean score was that there is a good relationship among employees and management (Mean=4.27, SD=0.589, CV=14% and Z score=0.15). According to the study's findings, the retail pharmaceutical companies examined understand the value of treating employees properly to provide a positive work environment and employee motivation. Employee appreciation is a crucial factor that must be considered for any business to flourish. Annual performance reviews for employees are insufficient; they require frequent and ongoing input. When management teams often provide feedback, staff members are typically encouraged to consistently maintain high performance.

The average mean established by statements depicting financial perspective was 4.13, standard deviation of 0.682, coefficient of variation of 17% and Z score of -0.07. Statements on financial perspective that had the highest mean score was that the finances in our firm are well managed (Mean=4.41, SD=0.515, CV=12% and Z score=0.45). The findings of the study indicated that finances in the surveyed firms were well managed and that they had a good overall financial performance reflecting good firm performance.

Respondents indicated that the firm's profits have increased and so is the growth. This could have been facilitated by the training offered to employees, promotion of brand image as well as good management. Additionally, since most of the retail pharmaceutical firms were found to be under sole proprietorship and partnership ownership, managing the firms was simple, flexible and less complicated. This therefore ensured maximum supervision on utilization of resources to generate more income. Additionally, the study noted that firms maximized on assets and minimized liabilities as well as received more revenue than incurred expenses. This could be attributed to the fact that the firms had applied cost control measures and monitoring in order to improve performance. Expenses majorly influence the income levels of firms. Higher expenses may affect firms negatively and bring about low income and less profit. On the other hand, less expenses leads to accumulation of more profits therefore good income. In a bid to increase firms' profits, organization has come up with cost cutting measures that will see it to firms increasing their revenue.

The results show that customer focus had an average mean score of 3.97, standard deviation of 0.758, coefficient of variation of 19% and Z score of -0.28. A moderately high mean indicating that customer focus perspective which is customer feedback, on time delivery, customers given priority during trading process, solving of customer complaints on time, quality of products and services, retention of customers by the company was moderately met by the firms in the study. Statements on customer focus that had the highest mean score was that our firm gives customers good attention whenever they are transacting (Mean=4.44, SD=0.499, CV=11% and Z score=0.52).

Generally, the study indicates that firms under study met the needs and expectations of their customers. For any business to make good sale, customer relationship is key in order to win and retain customers. Firms that respond and resolve to their customer complaints in time tend to have many customer referrals as well as handle a lot of custom. Provision of best customer service increases trust and that would explain the difference between customer loyalty and customers who jump ship. The study further concludes that the reason behind good profits was attributed to the exceptional services they offered to their clients.

Additionally, since it is the customer who pays for the good and services offered by firms, it is necessary for firms to take into consideration feedbacks from the customers. Firms hence need to focus on the customer needs in order to attract and retain their customers and services to their customers, as they need to ensure that their customers are satisfied fully. Further, firms depend on their customers and hence need to understand current and future needs of its customers, meet customer requirements and strive to exceed customer expectations. Delivery of quality service requires that an organization should know what the customer really requires, create a service climate in the organization and link internal quality metrics with the needs of the customers. For any firm to be successful, it has to align its operational practices to the needs and requirements of its customers. This therefore means putting measures in place where communication between the organization's management and customer's issues such that feedback is relayed in both directions.

A high mean indicating good performance in the questioned pharmaceutical enterprises was the grand mean of statements describing firm performance, which was 4.19 with a standard deviation of 0.656 and a coefficient of variation of 16%. The average skewness score was 0.0348, which indicates that the constructs are asymmetrical and is positively skewed and close to zero. Kurtosis results showed that each sub component had a sharp peak, indicating that they were all regularly distributed (-.604).

4.11 Correlation Analysis

Knowledge management, the operating environment, competitive tactics, and the performance of retail pharmaceutical enterprises were the study's initial study variables. Pearson's product moment correlation (r) was used to measure this degree of association by assessing both the direction and strength. The coefficients at Pearson correlation is in the range of -1 and +1 where values with negative implying the association negatively affect each other and positive ones gives an indication that variables positively relate to each other. The magnitude of the association therefore follows that when the coefficient (<0.3) then it is a weak relationship, (>0.3<0.5) indicates moderate, (>0.5) indicates strong while coefficient of 0 indicates no relationship and 1 implies the relationship perfectly matches each other (Saunders, Lewis & Thornhill, 2016). The relevant results are presented in Table 4.16.

Table 4.16: Correlation Analysis

Correlations					
		Knowledge management	Operating Environment	Competitive Strategies	Firm Performance
Knowledge management	Pearson Correlation	1			
	Sig. (2-tailed)				
	N	96			
Operating Environment	Pearson Correlation	.394**	1		
	Sig. (2-tailed)	.000			
	N	96	96		
Competitive Strategies	Pearson Correlation	.740**	.497**	1	
	Sig. (2-tailed)	.000	.000		
	N	96	96	96	
Firm Performance	Pearson Correlation	.742**	.564**	.828**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	96	96	96	96
**. Correlation is significant at the 0.01 level (2-tailed).					

Source: Primary data, (2019)

Table 4.16's findings demonstrate that knowledge management and firm performance have a strong correlation (r =.742 and P0.05). This is a positive and strong correlation coefficient, which suggests that knowledge management and performance have a strong and statistically meaningful link. Competitive strategies and performance are favorably and substantially associated, as shown by the correlation between the two (r =.828 and P 0.05). A p-value of less than 0.5 shows that the association is statistically significant.

Finally operating environment and performance (r=.564 and p-value<0.05) implying a significant relationship. This can be interpreted to mean that for most retail pharmaceutical firms, knowledge management, operating environment and competitive strategies play a big role towards performance of retail pharmaceutical firms.

4.12 Tests of Hypotheses

The section gives results as further derived from hypothetical understanding as suggested earlier by the objectives under investigation. The study was based on the premise that there is an association or influence between knowledge management and performance of retail pharmaceutical firms in Nairobi County and that this association is moderated by operating environment and intervened by competitive strategies. The researchers wanted to see how these variables interacted to affect organizational performance. Parametric statistical approaches were employed to examine the correlations because the study set out to test four hypotheses and the data passed the statistical tests of relevant assumptions. As parametric tests, simple linear regression, multiple regression, and stepwise regression techniques were used.

The outcomes of the hypothesis testing are presented in this section. It gives adequate explanations for each hypothesis' findings. These hypotheses corresponded to the aims derived from the literature and used in this investigation. Simple regression analysis was used to assess hypotheses one and two of the direct association hypothesis, regression analysis for hypotheses two and three of the indirect association hypothesis, and multiple regression analysis for hypotheses four and five of the indirect association hypothesis. The study purpose, type of data, and measurement scales all influenced which analytical tools were employed. The test which was at 95% level of confidence (α=0.05), was thus rejected or rather failed to be rejected based on p values and whenever $p<0.05$ it was failed to be rejected at null level and whenever p value>0.05 it formed a reason of being rejected on the null basis.

The interpretation of the results was based on statistical concepts such as R2, which is a coefficient that determines the overall course of influence, R, which describes correlation in terms of a coefficient of a relationship magnitude, F, which is a value of a statistic that represents F and overall influences related to a model, and also value of t and (), where t represents significant pertaining single factor and is value added by sing. The results are given with the study's goals and the accompanying hypotheses.

4.12.1 Knowledge Management and Firm Performance

The goal was to figure out how knowledge management affected the performance of retail pharmaceutical companies in Nairobi County. Knowledge management was expected to have a considerable and favorable impact on the performance of retail pharmaceutical enterprises in Nairobi County, according to this study. As a result, the following hypothesis was put to the test.

H_1 There is no significant relationship between Knowledge management and Performance of retail pharmaceutical firms in Nairobi County.

Table 4.17 presents a summary for knowledge management and performance.

Table 4.17: Regression Results from the Test of the Effect of Knowledge Management on Overall Performance

Model Summary[b]										
				Std. Error of the	Change Statistics					
Model	R	R Square	Adjusted R Square	Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.742[a]	.551	.546	.18965	.551	115.206	1	94	.000	1.995
a. Predictors: (Constant), Knowledge management										
b. Dependent Variable: Firm Performance										

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4.144	1	4.144	115.206	.000[b]
	Residual	3.381	94	.036		
	Total	7.525	95			
a. Dependent Variable: Firm Performance						
b. Predictors: (Constant), Knowledge management						

Coefficients[a]								
		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
Model		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	1.863	.214		8.702	.000		
	Knowledge management	.562	.052	.742	10.733	.000	1.000	1.000
a. Dependent Variable: Firm Performance								

Source: Primary data, (2019)

The study found relationship that is strong when knowledge management and performance are measured (R= .742). R^2 =.551 indicates that management of knowledge explain 55.1 % of performance variance. Also the results noted that the model at overall level was significant ($F=115.206<F_c=3.94$, $p<0.05$).

The t-value also gave an indication concerning significance at individual perspective ($\beta=.742$ $t=10.733$, $p<0.05$). As a result, knowledge management is critical in determining the success of retail pharmaceutical firms in Nairobi County, and the hypothesis that there is no substantial relationship between knowledge management and retail pharmaceutical firm performance in Nairobi County has been disproved.

The model is developed based on the findings of the regression analysis.

$Y=1.863 +.742 X_1$ Where Y was performance and X_1 is knowledge management.

4.12.2 Knowledge Management, Operating Environment and Firm Performance

With regard to the relationship between knowledge management and performance of retail pharmaceutical enterprises in Nairobi County, the study aimed to determine the moderating impact of operational environment. The following theory was tested to see how this link affected it;

H_2: There is no significant moderating effect of operating environment on the relationship between knowledge management and performance of retail pharmaceutical firms in Nairobi County.

The three-step stepwise regression methodology recommended by Baron and Kenny was used to test the hypothesis (1986). Testing the impact of knowledge management on performance was the first step. The second step involved introduction of the moderator into the first regression hence testing the influence of knowledge management and operating environment on performance. The third step include the introduction of the interaction term and regressing it against the dependent variable.

As suggested by Iraya (2014), there is a possibility of generating multicollinearity resulting from creation of a new variable by multiplying the scores of knowledge management and operating environment which is the independent variable. To solve this challenge, the study converted two factors to standardized (Z) scores that have mean zero and standard deviation one. This aids in maintaining the main effects of regression coefficients. The two standardized variables (knowledge management and operating environment) were then multiplied to create the interaction variable. Regression results for the influence of operating environment on the relationship between knowledge management and performance is contained in Table 4.18.

Table 4.18: Moderation Effect of Operating Environment on Relationship between Knowledge Management and Firm Performance

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.742[b]	.551	.546	.18965
2	.799[c]	.638	.630	.17110
3	.801[d]	.684	.641	.16901

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4.144	1	4.144	115.206	.000[b]
	Residual	3.381	94	.036		
	Total	7.525	95			
2	Regression	4.802	2	2.401	82.024	.000[c]
	Residual	2.723	93	.029		
	Total	7.525	95			
3	Regression	14.169	3	4.723	63.824	.000[d]
	Residual	6.808	92	.074		
	Total	20.977	95			

a. Dependent Variable: Firm Performance
b. Predictors: (Constant), Knowledge management
c. Predictors: (Constant), Knowledge management, Operating environment
d. Predictors: (Constant), Knowledge management, Operating environment, Knowledge Management_Operating Environment interaction

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.863	.214		8.702	.000
	Knowledge management	.562	.052	.742	10.733	.000
2	(Constant)	1.176	.241		4.871	.000
	Knowledge management	.466	.151	.415	3.086	.000
	Operating Environment	.843	.125	.544	6.744	.000
3	(Constant)	2.563	.288		8.899	.000
	Knowledge management	.748	.177	.482	4.226	.000
	Operating Environment	.387	.179	.218	2.162	.034
	Knowledge Management_Operating Environment interaction	-.293	.112	-.222	-2.616	.027

a. Dependent Variable: Firm Performance

Source: Primary data, (2019)

The result in Table 4.18 on the moderating effect of operating environment on the relationship between knowledge management and performance of pharmaceutical firms was computed using three steps. In model one the result shows that the association between knowledge management and firm performance was moderate and significant ($R=.742^{a,}$ $R^2=0.551$, $F=115.206$, P-value<0.05). In model two ($R= .799^{a,}$ $R^2=.638$, $F=82.024$, P-value<0.05) which was strong and significant and in model three ($R= .801^{a}$, $R^2=0.684$, $F=63.824$, P-value<0.05) which is strong and significant at 5% level, suggesting presence of a moderating effect in model three after an interaction term is introduced. From the findings, the respective effects of knowledge management and operating environment in the third model after introduction of an interaction term maintained to be statistically significant thus confirming a presence of moderation effect of operating environment.

In addition to reporting the overall significance in the third model, the value of the interaction term (KM*OE) had a negative and significant influence ($\beta=-.293$, $t=2.616$, $p<.05$). According to Mackinnon et al., (2007) if the coefficient of the interaction term is statistically different from zero, then there is significant moderation effect between the variables.

The change in variance of firm performance accounted for (R^2) was equivalent to.011 (.641 -.630) with the introduction of the interaction term, according to the results (model 3). Most notably, the interaction term was statistically significant ($p<0.05$), showing that the operational environment moderated the connection between knowledge management and business performance significantly. This finding refuted the premise that the operational environment has no substantial moderating effect on the relationship between knowledge management and pharmaceutical firm performance in Kenya.

4.12.3 Intervening Influence of Competitive Strategies on the Relationship between Knowledge Management and Firm Performance

Through the development of the following hypothesis, the study examined the impact of competitive tactics as an intervening variable in the relationship between knowledge management and company performance.

H_{03}: There is no significant intervening effect of competitive strategies on the relationship between knowledge management and performance of retail pharmaceutical firms in Nairobi County.

The study dedicated the use of Baron and Kenny (1986) to test how competitive strategies add to management of knowledge and performance relationship as an intervenor. The conditions pertaining the procedure of intervening testing must be met for conclusion to be met if or not intervening is taking place. In the first step, independent and dependent must relate significantly that is if intervener is not present.

The condition at the second position is that intervening factor and the predictor or independent must relate significantly and the third condition relate to significance that must exist when intervener is subjected to dependent variable. The final says that when controlling of intervener takes place, independent and dependent influence must be significant.

Thus, step one was geared towards regressing management knowledge on performance at firm level. In the event that there is results that are significant, the process shiftly moves to second step and if not termination takes course and conclude no intervening effect.

The second step evaluated how management of knowledge and competitive strategies relate in a regression model. There was determination if results are significant or not, if significant the step 3 takes charge for the condition has been met and in step three competitive strategies on performance is tested and a significant condition is necessary to proceed. The controlling of competitive strategies takes place at step four when management of knowledge is regressed to performance at firm level. A significant influence must be attained if controlling of competitive strategies takes place which is a condition for an intervening effect. Results presented in Table 4.19(a), 4.19(b), 4.19 (c) and 4.19(d) respectively are for the intervening.

Step One: Knowledge management was regressed against firm performance. The results are presented in Table 4.19 (a).

Table 4.19 (a): Regression Results from the Test of the Effect of Knowledge Management on Firm Performance

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.742[a]	.551	.546	.18965
a. Predictors: (Constant), Knowledge management				

ANOVA[a]						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	4.144	1	4.144	115.206	.000[b]
	Residual	3.381	94	.036		
	Total	7.525	95			
a. Dependent Variable: Firm Performance						
b. Predictors: (Constant), Knowledge management						

Coefficients[a]						
		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	T	Sig.
1	(Constant)	1.863	.214		8.702	.000
	Knowledge management	.562	.052	.742	10.733	.000
a. Dependent Variable: Firm Performance						

Source: Primary data, (2019)

The findings in Table 4.19 (a) shows a positive and also a significant relationship existing on management of knowledge and firm performance (R=.742). R^2=.551 depicts that management of knowledge explains 55.1% of firm performance. The F-value = 20.210 <F_c=3.94 and p-value of 0.00<0.05 confirmed the first step in testing for intervening effect.

The intervening test then proceeded to the second step that involved testing the influence of knowledge management on competitive strategies. The results of the tests are presented in table 4.19 (b).

Table 4.19 (b): Regression Results from the Test of the Effect Knowledge Management on Competitive Strategies

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.740[a]	.548	.543	.22509
a. Predictors: (Constant), Knowledge management				

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.772	1	5.772	113.918	.000[b]
	Residual	4.762	94	.051		
	Total	10.534	95			
a. Dependent Variable: Competitive Strategies						
b. Predictors: (Constant), Knowledge management						

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.504	.254		5.921	.000
	Knowledge management	.663	.062	.740	10.673	.000
a. Dependent Variable: Competitive Strategies						

Source: Primary data, (2019)

The results as presented in Table 4.19 (b) indicate that management of knowledge is statistically and also positively relates with competitive strategies (R = .740). Further the R^2 = .548 depicting competitive strategies being explained by 54.8% of management of knowledge. The value of F gave 113.918<F_c=3.94 with P-value of .00 which is <0.05, signifying significance of the model. This satisfies the condition for step 3 to take effect.

In Step Three competitive strategies was regressed against firm performance. The results for the step 3 are presented in Table 4.19 (c).

Table 4.19 (c): Regression Results from the Test of the Effect of Competitive Strategies on Firm Performance

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.828[a]	.686	.682	.15862
a. Predictors: (Constant), Competitive Strategies				

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.160	1	5.160	205.071	.000[b]
	Residual	2.365	94	.025		
	Total	7.525	95			
a. Dependent Variable: Firm Performance						
b. Predictors: (Constant), Competitive Strategies						

Coefficients[a]						
		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	T	Sig.
1	(Constant)	1.209	.206		5.862	.000
	Competitive Strategies	.700	.049	.828	14.320	.000
a. Dependent Variable: Firm Performance						

Source: Primary data, (2019)

The results in Table 4.19 (c) indicate that competitive strategies had a significant relationship with firm performance (R = .828) with competitive strategies explaining 68.6% of firm performance (R^2 = .686). The F-value is 205.071 <F_c=3.94 with P-value <0.05 signifying the model at the overall level thus fulfilling the condition for the process to move higher to fourth step.

Step four thus controlled effect of competitive strategies when testing management of knowledge and performance where statistically positive results must be met for a conclusion to be met at α=.05. The relevant results are summarized in Table 4.19(d).

Table 4.19 (d): Regression Results Depicting Intervening Effect of Competitive Strategies on Knowledge Management on Firm Performance

Model Summary				
Model 1	R	R Square	Adjusted R Square	Std. Error of the Estimate
	.851[b]	.723	.718	.14958

ANOVA[a]						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	5.444	2	2.722	121.654	.000[b]
	Residual	2.081	93	.022		
	Total	7.525	95			

a. Dependent Variable: Firm Performance
b. Predictors: (Constant), Knowledge management, Competitive Strategies

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.100	.196		5.601	.000
	Knowledge management	-.304	.121	-.402	-2.517	.014
	Competitive Strategies	1.036	.136	1.217	7.623	.000

a. Dependent Variable: Firm Performance

Source: Primary data, (2019)

The results in Table 4.19 (d) shows that when competitive strategies is used as a control variable, knowledge management is statistically significant (p-value=0.000 which is less than 0.05 threshold at 95% confidence level). It can be observed that competitive strategies adds significantly to the firm performance as the variation increased from coefficient of 0.551 to .723 with a p-value=.000. The results further reveal that the variance explained by competitive strategies is significant (p-value=.000<0.05) in addition to the fact that the significance was increased from $F=115.206<F_c=3.94$ in the first model (step one) to ($F=121.654<F_c=3.94$, p-value<.05) in the fourth model.

Based on the analysed models as suggested by Baron and Kenny (1986), the first three ssteps have revealed presence of zero order condition. Since there was no model that was insignificant in that case, it can be concluded that intervening effect is most likely. In the fourth step, it is suggested that some form of mediation is supported if the effect of the intervener (competitive strategies) remains significant after controlling for knowledge management. If knowledge management ceases to be significant when competitive strategies is controlled, the finding supports full mediation. If knowledge management is still significant (that is, both knowledge management and competitive strategies both significantly predict firm performance, the finding supports partial mediation.

From the findings in step four, competitive strategies remained to be significant (β= 1.036, t=7.623, p<.05), even after controlling for knowledge management implying some form of mediation. Further, it can be observed that knowledge management, despite having a negative effect, it is statistically significant (β= -.304, t=-2.517, p<.05). Considering all these results, the hypothesis that there is no significant intervening effect of competitive strategies on the relationship between knowledge management and performance of retail pharmaceutical firms in Nairobi County was rejected. The study concludes that competitive strategies have partial intervening effect on the hypothesisied relationship.

4.12.4 The Joint Effect of Knowledge Management, Operating Environment and Competitive Strategies on Firm Performance

The purpose of the fourth hypothesis was to determine how knowledge management, the operational setting, and competitive strategies interacted to affect the performance of retail pharmaceutical enterprises in Nairobi County. The following was tested to determine the joint effect:

H_{04}: The combined effect of knowledge management, operating environment and competitive strategies on performance of retail pharmaceutical firms in Nairobi County, Kenya is not significant.

Table 4.20 presents results for joint influence of knowledge management, operating environment and competitive strategies on performance.

Table 4.20: Joint Influence of Knowledge Management, Operating Environment and Competitive Strategies on Performance

Model Summary[d]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.742[a]	.551	.546	.18965	.551	115.206	1	94	.000	
2	.799[b]	.638	.630	.17110	.088	22.497	1	93	.000	
3	.866[c]	.751	.743	.14280	.113	41.518	1	92	.000	1.980

a. Predictors: (Constant), Knowledge management

b. Predictors: (Constant), Knowledge management, Operating Environment

c. Predictors: (Constant), Knowledge management, Operating Environment, Competitive Strategies

d. Dependent Variable: Firm Performance

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	4.144	1	4.144	115.206	.000[b]
	Residual	3.381	94	.036		
	Total	7.525	95			
2	Regression	4.802	2	2.401	82.024	.000[c]
	Residual	2.723	93	.029		
	Total	7.525	95			
3	Regression	5.649	3	1.883	92.347	.000[d]
	Residual	1.876	92	.020		
	Total	7.525	95			

a. Dependent Variable: Firm Performance

b. Predictors: (Constant), Knowledge management

c. Predictors: (Constant), Knowledge management, Operating Environment

d. Predictors: (Constant), Knowledge management, Operating Environment, Competitive Strategies

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1.863	.214		8.702	.000		
	Knowledge management	.562	.052	.742	10.733	.000	1.000	1.000
2	(Constant)	1.176	.241		4.871	.000		
	Knowledge management	.466	.051	.615	9.069	.000	.845	1.184
	Operating Environment	.293	.062	.322	4.743	.000	.845	1.184
3	(Constant)	.778	.211		3.690	.000		
	Knowledge management	.208	.059	.274	3.542	.001	.451	2.216
	Operating Environment	.176	.055	.193	3.221	.002	.752	1.330
	Competitive Strategies	.447	.069	.529	6.443	.000	.402	2.486

a. Dependent Variable: Firm Performance

Source: Primary data, (2019)

Given the overall relevance, the findings in Table 4.20 show that competitive tactics, operating environment, and knowledge management all influence business performance. The variables' combined ability to explain 75.1% of performance variation (R2 =.751) suggests that other variables not included in the model are responsible for the remaining variation. Knowledge management, when combined with operating environment, explains 63.8% of variation in firm performance, while knowledge management, when combined with operating environment, explains 55.1% of variation in performance at the individual level (R2 =.551).

The operational environment (r=.176, t=3.221, p.05), competitive strategies (r=.447, t=6.443, p.05), and knowledge management (r=.208, t=3.542, p.05) all showed greater significant results when compared to the individual components. The combined model's results specifically showed strong overall significance (F=92.347Fc=3.94, p-value.05).

The estimated model that resulted was;

Performance= 0.778+0.208KM+0.176OE+0.447CS

Knowledge management (KM), operating environment (OE), and competitive strategies (CS) are used in this context. The idea that the combined impact of knowledge management, operating environment, and competitive strategies on the performance of retail pharmaceutical enterprises in Nairobi County, Kenya is not substantial was therefore rejected based on the aforementioned findings.

A summary of the above analyses with respect to the study objectives and hypotheses is presented in table 4.21.

Table 4.21: Summary of Research Objectives, Hypotheses, Analytical Models and Conclusions

Objective	Hypothesis	Conclusion
Objective One: Establish the influence of knowledge management on performance of retail pharmaceutical firms in Nairobi County	H_{01}: There is no significant relationship between Knowledge management and Performance of retail pharmaceutical firms in Nairobi County.	Knowledge management is a strong statistical predictor of performance. **H_{01}:was rejected**
Objective Two: Establish the effect of operating environment on the relationship between knowledge management and performance.	H_{02}: There is no significant moderating effect of Operating Environment on the relationship between knowledge management and performance of retail pharmaceutical firms in Nairobi County.	There is a strong statistical moderating influence of operating environment on the association between knowledge management and performance. **H_{02}: was rejected**
Objective Three: Determine the effect of competitive strategies on the relationship between knowledge management and performance.	H_{03}: There is no significant intervening effect of competitive strategies on the relationship between knowledge management and performance of retail pharmaceutical firms in Nairobi County	There is a strong statistical intervening influence of competitive strategies on the association between knowledge management and performance. **H_{03}: was rejected**
Objective Four: Establish the joint effect of knowledge management, operating environment and competitive strategies on performance.	H_{04}: The combined effect of knowledge management, operating environment and competitive strategies on performance of retail pharmaceutical firms in Nairobi County; Kenya is not significant.	There is a significant joint effect of knowledge management, operating environment and competitive strategies on performance **H_{04}: was rejected**

Source: Primary data, (2019)

From the summary results in Table 4.21 above, that there is a statistically significant and positive association between knowledge management and performance of retail pharmaceutical firms in Nairobi City County. Operating environment and competitive strategies were found to significantly moderate and intervene the relationship between knowledge management and firm performance respectively. Regarding the joint effects, the results reveal that this effect is statistically significant. Therefore, all four null hypotheses were rejected.

CHAPTER FIVE

DISCUSSION OF RESULTS

5.1 Introduction

The discussion of the findings are presented and analyzed to support or contradict to arrive at the conclusions. Discussions are carried out to support or contradict the findings obtained in this study. This is through objectives in question as well as hypotheses derived through theory and extant views. The study had a focus on how operating environment as well as competitive strategies affect management of knowledge as well as its effect of performance in the context of pharmaceutical firms at retail level in the City County of Nairobi.

The literature in the form of empirical and conceptual led to formulation of hypothesis as stipulated in the objectives where the model at conceptual level enabled the hypothesized relationships. This chapter discusses the findings and explains why they were made, as well as whether or not they are consistent with earlier empirical investigations or theoretical reasoning. After doing statistical assumptions tests, regression analysis was utilized to test the hypotheses.

The results showed knowledge management having an effect on retail pharmaceutical firms which was significant. It was further established that both operating environment as well as competitive strategies significantly moderate and intervene how knowledge management and performance relate. The effect at joint level also showed significant outcome meaning a joint influence exist when knowledge management is supplemented by competitive strategies and operating environment. Discussion follows therefore in the next sections.

5.2 Knowledge Management and Performance

This objective was geared towards establishing how knowledge management is key to performance of firms especially from the retail pharmaceutical firms in Nairobi County. The subsequent hypothesis was formulated in a null form where it was assumed there was no significance which exist and was subject to rejected or failed to be rejected according to the threshold subjected in testing. At the 95% level the dimensions of managing knowledge had significant effect with p-values of 0.05 and below thus suggesting the importance of managing knowledge among the retail pharmaceuticals in Nairobi County.

The findings suggest that the day to day performance of firms especially in retail pharmaceutical firms relies much on how information resulting from application of knowledge flows between functional areas. The processes within the firm must be supported by knowledge in its form of acquisition and utilization for capabilities to be achieved. There are other factors that enhance acquisition of knowledge including attitudes of employees, systems of financial reporting, the market focus on active customers and flow of information from different sources including surveys pertaining the market and industry thus resulting to high performance. The findings concur with Byukusenge and Munene (2017) in that acquiring knowledge ensures competitiveness is initiated for dominance to the market. In knowledge sharing firms are able to cushion themselves from loss arising from areas of knowledge deficit in order to build strong knowledge base and frameworks that encourage building of knowledge further.

The acquisition of knowledge gives a strategic leverage that empower employees psychologically as well as practical knowledge. The findings support Eresia-Eke and Makore (2017) argument that acquisition of knowledge brings about benefits such as intermediate, knowledge and those pertaining the organization. The benefits relating to knowledge includes accessing knowledge fast and thinking improved. Further intermediate relates to minimized duplication and solving problems quicker whereas benefits relating to organization involve customer service improvement and innovativeness.

The findings further indicate the role of sharing knowledge to include facilitating learning among employees and give a room to study and improve problems solving. This gives quick response as far as customer's issues are concerned since sharing knowledge can bring ideas together as opposed to the singular ideas possessed by one individual. The learning of an organization therefore revolves around knowledge shared and thus it is an integral part to an organization to enhance innovativeness and market sensing to greater operational efficiency. The findings concurs with Hartono and Sheng, (2016) who perceived knowledge sharing to be the most essential process for knowledge management. Knowledge sharing is a fragile process that improves organizational performances by promoting competitive advantage, organizational learning, innovation and even survival.

As more and more companies realize that knowledge sharing gives them a competitive edge through accelerated learning and innovation, this particular activity of knowledge management becomes more and more important to organizations. For organizational capabilities to be improved, shared knowledge across the functional units gives greater output and minimal costs and also maximizing the potential to grow. When knowledge shared is made available to people at the right time in form of information, the skills are enhanced leading to the value to the customer. The findings also concurred with Gopal and Joy (2011) studies that considered knowledge management as a method that utilizes the values of knowledge resources so as to improve the performance for employees and organizations. Additionally, Tseng (2010) argued that knowledge management is essential for continuous firm performance. Similarly, Kharabsheh, et al. (2012), carried out a study on influence of KM on performance of Jordanian pharmaceutical firms and found a positive relationship.

The findings indicated that information was well stored and preserved in the firms for easy retrieval and for future use. Protection of knowledge is important to an organization to enable it access safe knowledge especially if only authorized people are allowed to use it. This will lead to effective controlling knowledge towards proper firms functioning. The study further found a relatively strong relationship between knowledge storage and performance. Daud and Yusoff (2010) results are concurred in this study by emphasizing that creation, implementation and acquisition influence the performance.

Further on knowledge application, the findings established that retail pharmaceutical firms in Nairobi city county applied knowledge in decision making, solving of problems and challenges as well improving functional areas all geared to improve firm efficiency and hence better firm performance. Kombo (2015) looking at knowledge strategy, innovation and how it is applied among manufacturing firms found strategy of knowledge is key to innovation by emphasizing that there is positive, significant results on knowledge strategy and activities pertaining innovativeness in the organization.

Knowledge application showed a relationship that is strong when performance is concerned with R being .673 and coefficient of determination R^2 being =.454 thus showing that 45.4% of performance is explained by knowledge application. Nawaz and Shaukat (2014) on practices of knowledge management in an empirical study showed importance differences on how knowledge management is implemented and also efficiency to transmitting knowledge that exists.

The findings also concurs with the prepositions of Gopal and Joy (2011) that when knowledge is well utilized employees will improve in their tasks that bringing about efficiency and that performance is a key outcome of a well managed knowledge. It is through knowledge that employees are able to learn new ideas and improve the way of doing things normally to sophisticated manner that bring about efficiency and the same time enable customers to acquire satisfaction. Kharabsheh, et al. (2012) results are also in tandem with the current results in that knowledge management among pharmaceutical firms are key to fostering performance since the created knowledge flows through major important supply chain thus reaching the industry for the improvement of processes and services to the customers.

The results further concur with Salina and Fadzilah (2010) who argued that the creation of knowledge, sharing and possibly implementation and storage gives a major milestone on company's effort to manage knowledge efficiently thus translating to employee output, fulfillment of the clients and innovations. There are further benefits of managing knowledge including new products, accomplishing activities of the organization and ideas pertaining innovation.

Mills and Smith (2011) in the study on practices of managing knowledge targeting SMEs in Malaysia which are large in size found the strategies of managing knowledge to have a significant impact to improving processes and efficiency in both small as well as large companies. The procedures of operation are in relation to how knowledge is managed where knowledge of the firm is affirmed by the individual knowledge that is distributed within functional units and operating section. When such knowledge is well distributed and managed, competitiveness of the firm is inevitable.

The overall effect of knowledge management on performance showed the relationship that is strong where R= .742. The model at overall level showed high robustness as shown by F=115.206, $p<0.05$. Individually there is significant contribution as far as managing knowledge to performance is concerned. Thus there is a depiction that managing knowledge in pharmaceutical firms especially retail section leads to enhanced performance and thus the hypothesis is rejected and conclusion is made that managing knowledge leads to high performance. In summary, when the right knowledge management practices are adopted in an organization, success is evident. For better performance and competitive advantage of firms, the best Knowledge management processes should be implemented that enable firms to create and acquire knowledge and to apply, share and preserve knowledge.

The study findings support knowledge-based theory, which advocates for knowledge as a strategic resource for a corporation to preserve its competitive advantage, when considering theoretical explications. According to the notion, businesses are diverse entities full of information, and the value of that knowledge can only be realized if the organization can facilitate sharing and use in the desired functional units. Knowledge acquisition, storage, sharing, and application were all linked to improved performance in retail pharmaceutical companies, according to the research.

The theory also assumes that a firm is a knowledge system with employees as knowledge holders who must be coordinated to create value for the company (Grant, 1991). Tavana, Hajipour, and Oveisi (2020) recently argued that a firm's top priority is to create and transform knowledge into a competitive advantage, and that those resources, particularly knowledge, are critical in ensuring that the firm's advantage is enhanced due to the difficulty of replicating some types of knowledge. On this view, the firm's superior performance is determined by its ability to capitalize on, defend, and utilize information that it creates and shares.

5.3 Knowledge Management, Operating Environment and Performance

The second objective aimed to establishing how operating environment influences how management of knowledge can lead to changes in firm performance especially at the retail pharmaceutical sector in Nairobi County, Kenya. Operating environment according to the study was measured through the competitive forces manifested in five folds; entrants of new players threat, goods at substitution level, suppliers' power of bargaining as well as rivalry competitors and customers. The potentiality of a firm is thus determined by the forces in question which bring about value among the forces in competing equation.

The study established that price played a key role in attraction and retention of customers' hence affordable pricing on goods and services attract customers hence boosting a firm performance. Better and more effective price consideration was therefore thought to enable a firm acquire and retain new customers to improve its performance and hence it was evident that good pricing of commodities for customers played a great role in organizational performance.

Firms which focus on customer orientation attributes strive to meet needs and wants of customers hence are able to respond rapidly to customers' feedbacks hence satisfying their wishes and needs to realize better performance. In this case customers play a key role towards a firm's performance. Further, the findings established that innovative technologies greatly influence firm performance, through saving time and money, expanding capabilities as well as providing a platform of greater compliance.

The results further indicated that the surveyed firms encountered threat of substitute's products and that customers were sensitive to substitute prices as well as had high propensity to substitutes. The goods regarded as substitutes are competent in an industry since they reduce the price prospects through ceilings thus firms are not able to charge as their will. Additionally the study found that brand identity was an important aspect that influences the success and performance of a firm and hence firms ought to ensure that their employees deliver a coherent brand message through communication and behavior.

Moreover, the findings in the study established that government played a key role in regulating entry to a market. The profitable industry always results to more players in competition for the slice arising from the attractive industry. An easy entry market will result to unattractiveness of the firms already in the market since other firms will bring unhealthy competition affecting pricing levels as well as the overall market operation as a result of more production and supply to the market.

Ogollah et al., (2011) argument forms basis of how strategy in any firm is dependent of the ability to knowing well the operating environment. Also Brock et al., (2006) notes that the environmental issues are key determinant to performance and thus knowledge management through proper mechanisms will result to better processes that will boost the firm's ability to plan the unforeseen events for performance to be achieved. The opportunities as well as challenges that are brought by the industry in terms of how suppliers, entrants, buyers, rivals as well as substitutes determines to greater extent to how a firm need to cushion itself through well managing the knowledge to boost performance (Hubbard, 2009).

The study established that knowledge management for performance to be altered dependended majorly on operating environment significantly. This was also emphasized by the findings that the individual effects of both management of knowledge as well as operating environment alter performance significantly. The hypothesis therefore is not accepted at the null level and a confirmation is given that environment at the operating level significantly changes how the effect of management of knowledge adds to performance specifically to pharmaceutical firms at retail level. The findings concur with Mashhadi and Rehman (2012) who revealed that operating environment significantly influences performance. Additionally, Mbithi et al., (2017) established that operating environment factors moderate the relationship between strategy and performance in varying degrees. Management decisions through proper knowledge management therefore depend on the operating environment to steer the firm's goals and objectives.

The findings obtained in this study concurred with the argument that the environment under which the firm operates has the ability to aid the firm to merge, to intensify, to reconfigure internal and external competencies and skills to address rapidly-changing environments for performance to be realized. Dynamic capabilities theory on the other hand explained how activities such as development of strategies and knowledge management are driven by discussions on how organizations are well managed in discontinuous and dynamic environments (Denrell & Powell, 2016; Hurd, 2019). The findings agree with the suggestions of the DCT especially on why some firms including retail pharmaceutical firms within a certain dynamic environments such as Nairobi County and market niches differ in performance with some being more successful in building competitive edge than others.

The study findings as well as the theory indicate that dynamic capabilities approach presents knowledge management as a fundamental strategic initiative which guarantees firms competitive edge and performance. It is claimed that knowledge management provides the necessary skills and competencies to managers in creation, retention, transferring and usage of firm's tacit and explicit knowledge and also formulates best combination of strategies (Batko, 2017; McLean, 2020). Empirically this theory tries to show how dynamic capabilities are facilitated by management of knowledge in a quest to create competitive strategies to link theoretically these constructs and performance. The findings has shown how the theory led to understanding on how knowledge management, operating environment and competitive strategies can converge to provide a theoretical account of the overlaps and how these constructs can be complimented to provide a theoretical link and the overall firm performance results.

5.4 Knowledge Management, Competitive Strategies and Performance

The third key aspect evaluated the effect that arises when management of knowledge is subjected to performance while controlling competitive strategies as an intervener. The findings established that firms minimized cost through use of appropriate technology as well as encouraged staff on cost reduction undertaking. The study indicated that the surveyed firms did costing for all of their products and ensured efficiency on operation. The strategy of cost enables firms cushion themselves against higher costs associated to production, offering prices that are attractive as well as being able to get anticipated profits.

The strategy of cost gives a firm a leeway to produce goods of unique features at the lowest cost possible which are then sold to customers at the prices lower than those offered by the competitors thus gaining the competitive edge and the market leadership. This will therefore give firms profits at higher margins due to enhanced sales volume resulting to higher performance levels. Furthermore differentiation is undertaken by those firms that need more energy to producing or engaging in unique services and products thus resulting to loyalty of customers for the unique offered products. The tailored products to customers enables them to get the need right thus resulting to profits higher to significantly boost performance.

The findings concur with study by Hsu (2012) which used descriptive statistics and regression to analyze and measure how firms use management of knowledge together with competitive strategy and adoption of e business on top executives' performance within 1000 firms in Taiwan. They established that it is significant for firms to identify a strategy with a greater capability of knowledge management for performance to be realized. Other studies (Leitner & Guldenberg, 2010; Tee, Oon, Kuek & Chua, 2012) established that strategies pursued by firms have a direct and strong influence on how knowledge management influences firm performance.

The findings showed that when competitive strategies are controlled knowledge management is statistically significant. The hypothesis that there is no significant intervening effect of competitive strategies on the relationship between knowledge management and performance of retail pharmaceutical firms in Nairobi County was rejected. The findings concurred with empirical studies which further suggested that knowledge management, competitive strategies and performance. Byukusenge and Munene (2017) study using a cross-sectional survey design assessed the intervening effect of innovation as a proxy of competitive strategies on the relationship between knowledge management and business performance of small and medium enterprises from Rwanda and found that innovation fully intervenes the relationship.The findings also support the Resource Based View theory on utilization of resources and competences which are considered significant. It is agreed that strategic advantage of a firm revolves on combination of different skills and more capabilities (Barney, 1991).

Irangani, Liu, and Sanjeewa (2019) assert that the theory highlights the importance of resources in forecasting success. All businesses that want to perform better than their competitors must develop internal assets and processes. The theory conceptualized the analysis that organizational performance is boosted and achieved when organizations use differentiated resources that they own and configure the same to enable the firm attain a competitive advantage position (Dhir, 2019). The empirical findings have readily confirmed this theory which in this case enables firms in particular retail pharmaceutical companies to put in place resources that are unique and non-imitable for them to gain competitiveness and performance in the long run.

The findings established that firms minimized cost through use of appropriate technology as well as encouraged staff on cost reduction undertaking. The study indicated that the surveyed firms did costing for all of their products and ensured efficiency on operation. Thus, from both the theory and empirical findings gives a further understanding on how knowledge management coupled with the operating environment and competitive strategies leads to achievement of firm's goals, objectives and overall performance through a firm combining necessary resources and apply them in the right proportion in different functional areas.

5.5 Knowledge Management, Operating Environment, Competitive Strategies and Performance

This particular objective's hypothesis sought to determine how knowledge management, the operating environment, and competitive strategies affect a firm's success. The hypothesis was expressed as H04: Knowledge management, operating environment, and competitive tactics do not significantly affect the performance of retail pharmaceutical enterprises in Nairobi County.

The significant results were established at the joint level as well as at the individual level with performance being explained by 75.1% of all the variables. The analysis of variance imdicated that there was a joint significant effect implying rejection of null hypothesis. The results support the claims made by (Kongpichayanond, 2009; Mitchell & Boyle, 2010) who claimed that elements such as competitive tactics within a certain operational environment can help to shape the decision of how knowledge is managed inside a given firm. Performance will be inevitable if a business adopts the finest management of knowledge capabilities. Additionally, Kariuki et al. (2011) demonstrated in their arguments that static operating environment conditions result in static strategy, and dynamic operating environment conditions result in dynamic strategy.

Furthermore, the implementation of competitive tactics might result in resource coordination and cooperation through reconfiguration, integration, co-evolution, and combination in a specific pattern. By effectively managing knowledge and the tactics in place to strengthen competitive strategies, market trends enable swift responses. A company can use better integrated information and plans to surpass rivals and reap the rewards by adhering to the operating environmental tenets.

The findings of joint significance confirmed the industrial organization economics theory as suggested by Bain (1951). From the findings, jointly, knowledge management, operating environment as well as competitive strategies significantly influenced firm's performance. Whereas the theory assumes that in any industry, it is the operating environment that will dictate the application of the necessary strategies, it also depends on the laid down goals and objectives of the firm, in order to achieve the desired level of performance (Dhir, 2019; Davlyatova & Abdullaeva, 2019). It is agreed that the environment to which a firm operates gives a firm an option of strategies to engage in solving a certain problem and therefore management should scan the industry keenly before any decision is made.

The findings obtained concurs with the suggestion of the theory in shedding light in the current in the sense that performance of the firms cannot be realized without first looking at the operating environment (Celtekligil & Adıgüzel, 2019). The operating environment according to the theory dictates which strategies should be picked and in what combination for a certain level of performance to be realized. A well-developed KM capability will be needed in order to comprehend the operating environment and enable the owners or managers to develop the best combination of strategies that are competitive in the market to foster superior performance, according to the findings attained and the theory's proposition regarding firm performance perspective.

5.6 Chapter Summary

Following analytical checks made to confirm the study's goals and developed hypotheses, this chapter provided and discussed the study's findings. The findings demonstrated statistical significance between the important variables at 0.05 level of significance. As the chapter came to a close, it was determined that the majority of the study's conclusions were in line with those of earlier investigations by comparing them to existing theoretical and empirical studies. The findings, conclusion, research implications, study limitations, and suggested areas for additional research are all summarized in the next chapter.

CHAPTER SIX

SUMMARY, CONCLUSION AND RECOMMENDATIONS

6.1 Introduction

The study's objective was to determine the effects of the operational environment and competitive tactics on the correlation between knowledge management and the performance of retail pharmaceutical firms in Nairobi City County. The independent variable was knowledge management, the moderating variable was operating environment, and the intervening variable was competitive strategies. Furthermore, the performance of Kenyan retail pharmaceutical companies was chosen as the dependent variable.

The chapter presents findings in a summary way coupled with conclusions and also recommendations in the form of practice, policy as well as methodology and theory. The limitations are further given and also areas of further concern stipulated. Contribution related to knowledge body also in discussion thus giving a leeway forward on how the study was deemed necessary within and without the sample considered and related firms in question.

The conclusions of the study based on findings and the implication for theory, practice, policy is well presented and justified for present and future theoretical, managerial and policy considerations. The chapter concludes with a discussion of the contribution this research has made to the body of knowledge, a presentation of the study's shortcomings, recommendations for topics for additional research, and a list of limitations. The summary and subsequent conclusions, implications and suggestions for further study are discussed in the subsequent sub-headings herein.

6.2 Summary of Findings

The operational environment, competitive strategies, and performance of retail pharmaceutical companies in Nairobi City County were the main topics of this thesis. Hypothesis were developed and tested on four specific objectives.

The initial goal was to figure out how knowledge management affects the performance of Nairobi County's retail pharmaceutical companies. Following the development of a hypothesis, the goal of the study was to see if there was a significant relationship between knowledge management and the performance of retail pharmaceutical enterprises in Nairobi County. We utilized a simple linear regression model. The null hypothesis was rejected based on the outcomes of the study.

The second goal of the study was to determine how operating environment affected the relationship between knowledge management and performance. On the basis of this objective, a hypothesis was created and put to the test, according to which the operational environment has no appreciable moderating influence on the relationship between knowledge management and performance of retail pharmaceutical companies in Nairobi County. Baron and Kenny (1986) employed a stepwise strategy to test their hypothesis. The findings showed that operating environment modifies the relationship between knowledge management and company performance, rejecting the null hypothesis.

The third goal was to ascertain how competing strategies affected the link between knowledge management and performance. This was accomplished by developing and evaluating the hypothesis that contends that competitive strategies have little or no influence on the relationship between knowledge management and the success of retail pharmaceutical companies in Nairobi County. The Baron & Kenny (1986) method was also applied to test the claim. The null hypothesis was rejected as a result of the data, which showed that competitive strategies significantly affect the relationship between knowledge management and performance.

The fourth goal of the study was to determine how knowledge management, the operating environment, and competitive strategies interact to affect performance. A claim that the combined impact of the operational environment, competitive tactics, and knowledge management on the performance of retail pharmaceutical enterprises in Nairobi City County is not substantial was put out and tested. Multiple regression analysis was used to evaluate the hypothesis. The null hypothesis was thus rejected because the research data demonstrated that the combined influence of knowledge management, operating environment, and competitive strategies on performance was stronger than their individual effects.

6.3 Conclusion

The overall study's goal was to ascertain how the operational environment and competitive strategies affected the relationship between knowledge management and productivity of retail pharmaceutical companies in Nairobi City County. A conceptual framework developed by the study was employed to investigate this link. Employees of retail pharmaceutical companies in Nairobi City County were surveyed for data. The model testing was aided by the data. According to the results, there is a statistically significant correlation between knowledge management and the success of retail pharmaceutical companies in Nairobi City County. According to their findings, a firm's performance was significantly impacted by knowledge management characteristics such as information acquisition, storage, sharing, and application.

Knowledge management processes are important because they help a company improve its business performance by providing up-to-date knowledge and information. To have a greater impact on the organization's success, knowledge must be used to aid the firm's processes. As a result, learned information can be transformed from a potential skill to a realized and dynamic competence that impacts organizational performance directly through knowledge application. Furthermore, knowledge acquisition is accomplished by valuing employee attitudes and opinions, incorporating a well-developed plan of finance reporting system, being market oriented by actively and purposefully acquiring clients and industry information, having a keen eye and being sensitive to information about market change dynamics, and obtaining information from market surveys. All of these factors play a role in positive firm performance.

Furthermore, sharing of knowledge behavior has enabled learning among employees and assisted them in solving problems that are similar to those faced by others in the past, allowing feedback to clients because individuals are in a position to achieve and experience harmonious results that are greater than those achieved by a single individual through knowledge sharing.

Sharing of knowledge is considered an essential part of an organization’s learning activities, which leads to market improvements in market sensing innovative activities. This enhances greater efficiency in operationalities’ study as well concluded that knowledge management practices in general influences organization performance in various ways including, knowledgeable employees, better decision making in the organization, improved service offering to client, reduced operational costs, improved organizational competitiveness. This is mainly so since there is increased awareness of information that is important to achieving the organization’s mission. Organizations have the ability of the firm to create knowledge as a crucial aspect to fostering performance.

Upon testing the effect of operating environment on the correlation between knowledge management and performance of retail pharmaceutical firms in the City of Nairobi County, the study deduced that operating environment dimensions has significant influence on the relationship between management of knowledge and performance. The findings found that Price played a key role in attraction and retention of customers' hence affordable pricing on goods and services attract customers hence boosting a firm performance. Better and more effective price strategy was therefore thought to continuously enable a firm acquire and retain new customers to improve its performance and hence it was evident that good pricing of commodities for customers played a great role in organizational performance. Further on customer orientation, the findings established a positive impact of customer orientation on firm performance. Firms which focus on customer orientation attributes strive to meet needs and wants of customers hence are able to respond rapidly to customers' feedbacks hence satisfying their wishes and needs to realize better performance. In this case customers play a key role towards a firm's performance.

Further, the findings established that innovative technologies greatly influences firm performance, through saving time and money, expanding capabilities as well as providing a platform of greater compliance. The results further indicated that the surveyed firms encountered threat of substitute's products and that customers were sensitive to substitute prices as well as had high propensity to substitutes. Through substitutes there's minimal return value rate or profits which places ceilings on the prices that accompany can profitably charge.

The starting point for developing a strategy is to understand the environment it operates from. Previous studies revealed the most salient aspects of the competitive environment and the crucial constraints to overall performance. The industry is at a constant change that poses great threats and opportunities. An open system that is competitive and always changing is where firms operate in. Management decisions through proper knowledge management therefore depend on the operating environment to steer the firm's goals and objectives. The study also established that competitive strategies intervened the relationship between knowledge management and performance of pharmaceutical firms in Nairobi City County. Firms minimized cost through use of appropriate technology as well as encouraged staff on cost reduction undertaking. Through a cost leadership strategy firms try to achieve the lowest cost possible in their production activities, offering of good prices, and obtaining and maximizing revenues. An integrated set of decisions taken to producing goods or services which have differentiated features that are presented to clients at the lowest cost possible as in comparison to competitors or at minimal cost into achieving gigantic revenue production is what is termed as cost leadership strategy and hence cost leadership influenced firm performance.

Additionally, firms posed unique and differentiated strategy to allow them focusing on efforts of provision of unique products and services. Due to the uniqueness of the product or service, with this strategy high customer loyalty is achieved. Through product uniqueness, customer fulfillment is achieved which involves customizing the product or service towards the customer need and hence firms are able to generate good profit and hence improved firm performance. It is appropriate for companies to identify a working strategy with an immense muscle of knowledge management for performance to be realized. Other studies (Leitner & Guldenberg, 2010; Tee, Oon, Kuek & Chua, 2012) also confirmed that strategies used by firms affirmatively have a direct and strong influence on how knowledge management influences firm performance.

6.4 Implications of the Study

The study was informed by the Dynamic Capabilities Theory (DCT) and further supported by the knowledge Based Theory, Resource Based View and the industrial organization economics theory. The aim of the study was to determine the impact of operating-environment, and competitive strategies on the relationship between knowledge management and performance of retail pharmaceutical firms in Nairobi City County; to establish the influence of knowledge management on performance of retail pharmaceutical firms in Nairobi County; to establish the effect of operating environment on the relationship between knowledge management and performance; to determine the effect of competitive strategies on the relationship between knowledge management and performance and to establish the joint effect of knowledge management, operating environment and competitive strategies on performance. The findings have several implications on strategic management theory, policy, practice and methodology as discussed below.

6.4.1 Theoretical Implications

From the findings, knowledge acquisition, storage, sharing and application were associated with increased performance of retail pharmaceutical firms. The empirical findings backed the knowledge-based theory, which states that enterprises are diverse organizations packed with information, and that the value of that knowledge can only be realized if the organization can facilitate exchange and application in the appropriate functional units. According to the notion, a corporation is a knowledge system with employees as knowledge holders who must be coordinated in order to create value for the company.

Recent literature alludes that firms are expected to create and transform knowledge to competitive advantage which is very important in ensuring the firms advantage is enhanced due to difficulty in imitation of some sort of knowledge (Tavana, Hajipour & Oveisi, 2020). The firm's main performance on this theory depends on its muscles of capitalizing, defend and applying knowledge that it births and shares.

In the second objective, the findings obtained in this study concurred with the proposition of dynamic capabilities theory which explain on how activities such as development of strategies and knowledge management are driven by discussions on how organizations are well managed in discontinuous and dynamic environments. The findings agree with the suggestions of the DCT on why some firms including retail pharmaceutical firms within a certain dynamic environments such as Nairobi County differ in performance with some being more successful in building competitive edge compared to others. It is thus clear that the environment under which the firm operates has the ability to aid the firm to merge, to intensify, as well as reconfigure its internal and external competencies and skills to address rapidly-changing environments for performance to be realized.

Knowledge management is suggested by the dynamic capabilities approach as a key strategic endeavor that ensures businesses' success and competitive advantage (Batko, 2017). Information management is said to give managers the abilities they need for producing, retaining, sharing, and using a company's tacit and explicit knowledge as well as creating the greatest possible combination of strategies (McLean, 2020).

Empirically this theory tries to show how dynamic capabilities are facilitated by management of knowledge in a quest to create competitive strategies to link theoretically these constructs and performance. The findings have shown how the theory led to understanding nexus between knowledge management, operating environment and competitive strategies with regard to their convergence in provision of a theoretical account of the overlaps and how these constructs can be complimented to provide a theoretical link and the overall firm performance results.

In the third objective, empirical findings also support the proposition of Resource Based View theory which alludes that strategic advantage of a firm revolves on combination of different skills and more capabilities (Barney 1991). According to the theory, resources are key to predicting performance. It is important and necessary for all firms that desire to outperform others to create internal processes and assets (Dhir, 2019). The empirical findings have readily supported this theory with regards to firms (in particular retail pharmaceutical companies) putting in place resources that are unique and non-imitable for them to gain competitiveness and performance in the long run. Therefore, from both the theory and empirical findings, a further understanding on how knowledge management coupled with the operating environment and competitive strategies is enhanced leading to achievement of firm's goals, objectives and aggregate performance. This is reaffirmed via a firm combining necessary resources and apply them in the right proportion in different functional areas.

In the fourth objective, the findings of joint significance concurred with the industrial organization economics theory. From the findings, jointly, knowledge management, operating environment as well as competitive strategies significantly influenced firm's performance. Whereas the theory assumes that in any industry, Davlyatova and Abdullaeva (2019) the operating environment will dictate the application of the necessary strategies depending on the laid down goals and objectives of the firm, in order to achieve the desired level of performance. It is agreed that the environment to which a firm operates gives a firm an option of strategies to engage in solving a certain problem and therefore management should scan the industry keenly before any decision is made. The findings obtained concurs with the suggestion of the theory in shedding light in the current in the sense that performance of the firms cannot be realized without first looking at the operating environment. The operating environment according to the theory dictates which strategies should be picked and in what combination for a certain level of performance to be realized. A well-developed KM capability will be needed in order to comprehend the operating environment and enable the owners or managers to develop the best combination of strategies that are competitive in the market to foster superior performance, according to the findings attained and the theory's proposition regarding firm performance perspective.

Thus, this study contributes to the confirmation of the claims made by the Knowledge Based Theory, Dynamic Capabilities Theory (DCT), Resource Based View, and Industrial Organization Economics Theory in the context of retail pharmaceutical firms in Nairobi City County by examining the impact of operating environment and competitive strategies on the relationship between knowledge management and performance of retail pharmaceutical firms in Nairobi county.

6.4.2 Implications on Policy

The study looked at how knowledge management affects retail pharmaceutical firm performance in Nairobi City County. Between knowledge management and performance, the study looked at the moderating effect of the operational environment and the intervening effect of competitive strategies. The findings will help policymakers such as the Ministry of Health and Pharmacy, as well as the Poisons Board, draft regulations that will make knowledge management easier in their businesses. Processes for producing new information from existing knowledge, as well as gaining knowledge about competitors in their sector, are critical for businesses.

Pharmaceutical companies require processes for transforming competitive intelligence into actionable plans of action and methods for converting knowledge into the design of new products/services. These techniques for applying experience-based knowledge are required by businesses. Finally, organizations must secure their knowledge in order to achieve high levels of performance. Firms must also ensure and assure the security of their knowledge.

The study portrayed statistically significant joint effect of knowledge management, operating environment and competitive strategies when compared with the individual effect on performance. This shows that operating environment and competitive strategies ought to be taken into consideration by managers and stakeholders who make decisions to ensure appropriate knowledge management processes is implemented. The overall findings demonstrate that for retail pharmaceutical enterprises to achieve healthy performance, management's knowledge management initiatives must be in line with the operational environment and rivalry strategies.

6.4.3 Implications for Practice

The study reports that each of the tested variables had an effect on performance either individually or jointly. As discussed in the study, operating environment moderates the relationship between firm performance and knowledge management. An operating environment dictates the application of the necessary strategies, depending on the laid down goals and objectives of the firm, in order to achieve the desired performance. In order to develop a knowledge management capability and come up with the best possible combination of strategies that are competitive in the market to foster superior performance, owners and managers of retail pharmaceutical firms need to understand the environment in which their companies are operating.

Managers are given the abilities they need by knowledge management to create, retain, transmit, use, and combine the best tactics for tacit and explicit knowledge inside their organizations. Therefore, in order for their companies to thrive in the industry, managers and owners of retail pharmaceutical firms should adopt the correct knowledge tactics. Owners or managers can accomplish this by assessing the information they possess and comparing it to that of other participants in the relevant industry in order to close the gap that currently exists between them. In addition, an information system being part of the knowledge management system (KMS) factors gives immense support in organizational competencies. All -inclusive, for an organization to get viable advantage against its competitors knowledge management and its application offers this support.

Knowledge management practices were found to influence organization performance as; more information awareness of is paramount in mission achievement of the organization. The organizations are better placed to meet competition from other organizations in tendering for services and managers are more knowledgeable. The organizations are delivering a higher quality of service to their clients, there is increased awareness of information that is critical to achieving the organization's mission and learning by individuals has improved. Overall, the organization is running more smoothly, and managers are making better judgments; employees are more skilled; teamwork has improved; and employees are more knowledgeable. In addition, the proportion of operating costs, relative to income, has been reduced and staff has gained more experience; staff is making better decisions; knowledge of individuals has become knowledge available to the whole organization; staff is more innovative and managers are more innovative; operational processes have improved; operating systems have improved.

To enhance understanding of knowledge management on perception of staff in performance of retail pharmaceutical firm, management should undertake in house trainings on knowledge management among management and staff, entrench good practices of knowledge management in organizations to strengthen information sharing among staff. This would enable application of staff knowledge in organization so as to better manage and apply organizations' tangible and intangible knowledge assets, especially the professional knowledge, experiences and competencies of staff to improve firm performance.

The study further established that competitive strategies intervened the correlation between knowledge management and performance and hence the study considered it very significant for firms to getting and implementing a strategy with capability muscles of knowledge management for performance to be realized. Some of the strategies that can be adopted are cost leadership and differentiation. This can be done by owners and managers apply appropriate technology in their firms as well as encouraging staff on cost reduction undertaking. Firms following a cost leadership strategy try to obtain the lowest costs in their production, offer good prices, and obtain profits. Additionally, firms can adopt differentiation strategy to enable them to bring out and providing differentiated product. Due to product/service differentiation, this strategy provides high customer loyalty. Further, product uniqueness fulfils the need of the customer which involves tailor making the product/service geared towards customer preference thus firms are able to generate greater revenue in there improving performance.

6.5 Recommendations of the Study

The significance of retail pharmaceutical firms for a health population is well recognized. The sector has been deemed to play a crucial role in keeping the population healthy and creating jobs for skilled, unskilled or semi-skilled workers. Given the findings, several recommendations are made. First, the findings suggest that the day to day performance of firms especially in retail pharmaceutical firms relies much on how information resulting from knowledge management flows between functional areas. The processes within the firm must therefore be supported by knowledge in its form of acquisition and utilization for firms' capabilities to be achieved. This is through enhancing attitudes of employees, improving systems of financial reporting, focusing on active customers and enabling the flow of information pertaining the market and industry thus resulting to high performance.

The study also suggests that since knowledge acquisition provides a tactical advantage that empowers individuals both psychologically and practically. The advantages of knowledge should be clearly articulated, including the ability to access it more quickly than rivals, reduce duplication, find solutions to problems more quickly, enhance customer service, and promote creativity.

The findings further further recommends facilitating learning among employees and give a room to study and improve problems solving. This gives quick response as far as customer's issues are concerned since sharing knowledge can bring ideas together as opposed to the singular ideas possessed by one individual. The learning of an organization therefore revolves around knowledge shared and thus it is an integral part to an organization to enhance innovativeness and market sensing to greater operational efficiency.

For organizational capabilities to be improved, the study recommends enhanced shared knowledge across the functional units to give greater output and minimal costs and also maximizing the potential to grow. The study further recommends that knowledge shared to be made available to people at the right time in form of information so that the skills to be enhanced leading to the value to the customer. The study further recommends that information should be well stored and preserved in the firms for easy retrieval and for future use. Protection of knowledge is important to the firm to enable it access safe knowledge especially if only authorized people are allowed to use it. This will lead to effective controlling knowledge towards proper firms functioning.

For better performance and competitive advantage of firms, the study recommends that the best Knowledge management processes should be implemented that enable firms to create and acquire knowledge and to apply, share and preserve knowledge. Further since businesses are diverse entities full of information, and the value of that knowledge can only be realized if the firm can facilitate sharing and use in the desired functional units. Knowledge acquisition, storage, sharing, and application should be well monitores to improve performance in retail pharmaceutical companies.

The study further recommends that firms should focus on customer orientation attributes in order to meet needs and wants of customers. This can be achieved through responding rapidly to customers' feedbacks hence satisfying their wishes and needs to realize better performance. In this case customers play a key role towards a firm's performance.

The study also recommends that government should play a key role in regulating entry to a market. This is because an easy entry market will result to unattractiveness of the firms already in the market since other firms will bring unhealthy competition affecting pricing levels as well as the overall market operation as a result of more supply to the market.

Further the study recommends that management should scan the operating environment to suit operational goals since the environment under which the firm operates has the ability to aid the firm to merge, to intensify, to reconfigure internal and external competencies and skills to address rapidly-changing environments for performance to be realized.

The survey also suggests that businesses should employ the right technology to cut costs and educate staff about the importance of doing so. Costing for all of their items and ensuring operational efficiency can help with this. In order to comprehend the operational environment and help owners or managers design the best possible combination of strategies that are competitive in the market to nurture better performance, the study concludes by recommending a well-developed knowledge management capabilities framework. These tactics may include cost-cutting measures, a market-specific focus, and product differentiation based on consumer needs.

6.6 Limitations of the Study

Among the key challenges faced in the course of the study, some respondents seemed to withhold important information that aids to the achievement of the study objective, bringing constraint in the confidentiality of the study. It was necessary therefore for the researcher to explain to the respondents in depth about what this research meant and its purpose being for education purpose only. It was also necessary for the researcher to present introductory letter from the University for the purpose of proving no ill intentions is intended just for education reasons.

Another disadvantage was that the study only looked at retail pharmaceutical companies, not wholesale companies in Kenya. The information sought was only obtained through a questionnaire, and only one respondent was targeted on a voluntary basis, thus the respondents were not obligated to provide the information, resulting in delays that lowered the response rate. The research variables had to be captured, which was another restriction. It focused mostly on qualitative (subjective) features and was limited in quantitative aspects, which most respondents were hesitant to fill out, but this had little bearing on the study's findings.

6.7 Suggestions for Further Studies

The study was limited to retail pharmaceutical firms in Nairobi County. Further research should be extended to retail pharmaceutical firms in other counties of Kenya and also extend research to other SMEs in other industries. Further the study was based on Balanced Score Card (BSC) and therefore did not exhaust all indicators of firm performance in the retail pharmaceutical firms. Use other firm performance measures such as business longevity and owner satisfaction

REFERENCES

Aaker, A., Kumar, V.D., & George, S. (2001). *Marketing research,* John Wiley and Sons, Inc, New York.

Abbasi, H., Malmir, A., & Geramipoor, F. (2020). Explaining the Effect of Competitive Intelligence on the Promotion of Packaging and Brand Position with the Mediating Role of Organizational Performance.

Adetola, O. J., Aghazadeh, S., & Abdullahi, M. (2021). Perceived environmental concern, knowledge, and intention to visit green hotels: do perceived consumption values matter?. *Pakistan Journal of Commerce and Social Sciences (PJCSS)*, *15*(2), 240-264.

Aghaei, N., Ziaee, A. & Shahrbanian, S. (2012). Relationship between learning organization and organizational commitment among employees of western provinces of Iran. *European Journal of Sports and Exercise Science,* 1(3), 59-69.

Ahmad, F., Mohamad, O. & Ibrahim, H. I. (2013). Knowledge acquisition among engineers in MNCS. *Independent Journal of Management and Production*, 4(1), 19-35.

Al Mamun, A., Hayat, N., Fazal, S. A., Salameh, A. A., Zainol, N. R., & Makhbul, Z. K. M. (2022). The Mediating Effect of Innovation in Between Strategic Orientation and Enterprise Performance: Evidence From Malaysian Manufacturing Small-to-Medium-Sized Enterprises. *Frontiers in Psychology*, *13*.

Albright, K. S. (2004). Environmental scanning: Radar for success. *Information Management Journal*, 38(3), 38-45

Ali, M. A., Hussin, N., Abed, I. A., Nikkeh, N. S., & Mohammed, M. A. (2020). Dynamic Capabilities and Innovation Performance: Systematic Literature Review. *Technol. Rep. Kansai Univ*, *62*, 5989-6000.

Almalki, S. (2016). Integrating Quantitative and Qualitative Data in Mixed Methods Research. *Journal of Education and Learning*, *5*(3), 288-296.

AlMehairi, Y. J. S. (2019). The Role of Socialization Factors and Social Capital in Newcomer Socialization Outcomes in UAE Organizations.

Ambula, R. (2015). *Learning organization, knowledge management, employee outcomes and performance of large manufacturing firms in Kenya.* Unpublished PhD Thesis, University of Nairobi

Amodu, A.A., Okafor, L. C. & Joseph, T. S. (2014). Knowledge management and organization performance in Kogi State University: *Standard Global Journal of Business Management*, 1(1), 6-12

Ansoff, H.I., & Sullivan, P. A. et al. (1993). Empirical Proof of a Paradigmatic Theory of Strategic Success Behaviors of Environment Serving Organizations. *International Review of Strategic Management, 4*, 173-202.

Ansoff, I. & McDonnell, E. (1990). *Implementing strategic management.* New York: Prentice Hall.

Aslam, J., Saleem, A., Khan, N. T., & Kim, Y. B. (2021). Journal of Innovation & Knowledge.

Atiku, S. O. (2020). Knowledge Management for the Circular Economy. *Handbook of Research on Entrepreneurship Development and Opportunities in Circular Economy*, 520-537.

Awino, A. Z., Muchemi, A. W. & Ogutu, M. (2011). Diversity in the top management teams and effects of corporate performance. *Business Administration and Management,* 1(13), 82-92.

Babaee Farsani, M., Moradi, M., & Fathollahi Chaloshtori, S. (2022). Analysis of the relationship between knowledge-based leadership, quality of innovation, customer knowledge management and performance of small and medium enterprises operating in the food industry of Chaharmahal and Bakhtiari province. *Sciences and Techniques of Information Management*.

Bagnoli, C., & Giachetti, C. (2015). Aligning knowledge strategy and competitive strategy in small firms. *Journal of Business Economics and Management*, *16*(3), 571-598.

Barney, J. B. (1991) Firm resources and sustained competitive advantage. Journal of Management, 17, 99–120

Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: *Journal of Personality and Social Psychology,* 51, 1173–1182

Bates, I., John, C., Bruno, A., Fu, P., & Aliabadi, S. (2016). An analysis of the global pharmacy workforce capacity. *Human resources for health*, *14*(1), 1-7.

Batko, K. (2017). Relation between dynamic analytical capabilities and competitive advantage: theoretical approach. *Ekonomia i Prawo. Economics and Law*, *16*(3), 259-273.

Bennet, R. & Gabriel, H. (1999). Organisational factor and knowledge management within large marketing departments: an empirical study, Journal *of Knowledge management*, 3(3) 212-225

Brickley, J., Smith, C. W. & Zimmermann, J. L. (2002). *Journal of Applied Corporate Finance*, 13(2), 84-98

Byukusenge, E. & Munene, J. C. (2017). Knowledge management and business performance: Does innovation matter. *Congent Business and Management,* 4, 1-18.

Byukusenge, E., & Munene, J. C. (2017). Knowledge management and business performance: Does innovation matter? *Cogent Business & Management*, *4,* 1- 13.

Capestro, M., & Kinkel, S. (2020). Industry 4.0 and Knowledge Management: A Review of Empirical Studies. In *Knowledge Management and Industry 4.0* (pp. 19-52). Springer, Cham.

Çeltekligil, K., & Adıgüzel, Z. (2019). Investigation of the effects of organizational change and environment on company competitiveness.

Cepeda, G., & Vera, D. (2005). Knowledge management and firm performance: examining the mediating link of dynamic capabilities. In *4th International Meeting of the Iberoamerican Academy of Management, Lisbon, Portugal*.

Chabachib, M. (2020). Peer Review: Corporate Governance, Firm Performance and Capital Structure: Evidence Form Indonesia.

Chang, T. C., & Chuang, S. H. (2011). Performance implications of knowledge management processes: *Expert Systems with Applications*, *38*(5), 6170-6178.

Chen, F. (2020). *Cooperative Control of Leader-follower Multi-agent Systems under Transient Constraints* (Doctoral dissertation, KTH Royal Institute of Technology).

Cheng Ling, T. & Nasurdin, A. M. (2010) Knowledge management effectiveness and technological innovation: An empirical study in the Malaysian Manufacturing Industry, *Journal of Mobile Technologies, Knowledge and Society,* 2010, 1-13.

Cheruiyot, C. K., Jagongo, A. & Owino, E. O. (2012). Institutionalization of knowledge management in manufacturing enterprises in Kenya: A case of selected enterprises. *International Journal of Business and Social Science,* 3(10), 127-138.

Chib, K. S., & Sehgal, G. (2019). A Conceptual Framework for Measuring Organisational Performance Through Knowledge Managements SECI Model: A Mediating Role of Innovation. *International Journal of Knowledge Management and Practices*, *7*(1), 55.

Cho, T. & Korte, R. (2014). Managing knowledge performance; testing the components of a knowledge management system on organizational performance, *Asia Pacific Education Review,* 15(2), 313-327

Cooper, D.R. & Schindler, P. S. (2006). *Business research methods.* New Delhi: McGraw Hill.

Curado, C. (2008). Perceptions of knowledge management and intellectual capital in the banking industry, *Journal of Knowledge Management,* 12(3), 141-155

Darroch, J. & McNaughton, R. (2002). Examining the link between knowledge management practices and types of innovation. *Journal of Intellectual Capital*, 3(3), 210-222.

Daud, S., & Yusoff, W. F. W. (2010). Knowledge management and firm performance in SMEs: The role of social capital as a mediating variable. *Asian Academy of Management Journal*, *15*(2).

Dávila, G. A., Andreeva, T., & Varvakis, G. (2019). Knowledge Management in Brazil: What Governance Mechanisms are Needed to Boost Innovation? *Management and Organization Review*.

Davlyatova, G. M., & Abdullaeva, C. X. (2019). Systemic principles and regularities of commercial enterprise as a socio-economic system. *Экономика и бизнес: теория и практика*, (6-1).

Dekoulou, P. & Trivellas, P. (2015). Measuring the impact of learning organization on job satisfaction and individual performance in Greek advertising sector. *Social and Behavioral Sciences*. 17 (3), 367-375.

Denrell, J., & Powell, T. C. (2016). Dynamic capability as a theory of competitive advantage: contributions and scope conditions.

Dess, G.G., & Davis, P.S., (1984). Porter's (1980) generic strategies as determinants of strategic group membership and organizational performance. *Academy of Management Journal.* 27 (3), 467–488

Dhir, S. (2019). The changing nature of work, leadership, and organizational culture in future ready organizations.

Dhir, S. (2019). The changing nature of work, leadership, and organizational culture in future ready organizations.

Durst, S., & Edvardsson, I. R. (2012). Knowledge management in SMEs: A literature review. Journal of Knowledge Management, 16 (6), 879–903.

Eisenhardt, K. M., & Martin, J. A. (2000). Dynamic capabilities: what are they? *Strategic management journal*, *21*(10-11), 1105-1121.

Eresia-Eke, C. E., & Makore, S. (2017). Knowledge acquisition and organisational performance in project-focused companies. *Journal of Contemporary Management*, *14*(1), 788-811.

Fugate, B. S., Stank. T. P & Mentzer, J. T. (2009). Linking Improved Knowledge Management to Operational and Organizational Performance. *Journal of Operations Management,* 27 (3), 247-269

Gaby, S. (2020). Reconfiguring Organizational Commitments: Boundary Crossing in Civic Groups. *VOLUNTAS: International Journal of Voluntary and Nonprofit Organizations*, 1-13.

Galbreath, J., Lucianetti, L., Thomas, B., & Tisch, D. (2020). Entrepreneurial orientation and firm performance in Italian firms: The moderating role of competitive strategy. *International Journal of Entrepreneurial Behavior & Research*.

Gholami, M. H., Asli, M. N., Nazari-Shirkouhi, S., & Noruzy, A. (2013). Investigating the influence of knowledge management practices on organizational performance: *Acta Polytechnica Hungarica,* 10 (2), 205–216

Gökmen, A., & Hamşioğlu, A. B. (2011). The effect of knowledge management, technological capability and innovation on the enterprise performance: A comprehensive empirical study of the Turkish textile sector. *Journal of Information & Knowledge Management*, *10*(01), 1-10.

Gold, A. H., Malhotra, A. & Segars, A.H. (2001), Knowledge management: an organizational capabilities perspective. *Journal of Management Information Systems*, 18 (1), 185-214.

Golmohammadi, E., Mohammadi, E., Tolabi, Z., & Khalil Nezhad, S. (2022). Designing a model for strategic agility with a dynamic capabilities approach in the banking industry (Case study: Active banks in Ilam province. *Commercial Strategies*.

Gopal, R. & Joy, P. (2011). Creation of Knowledge Management System. *Advances in Management* 4(11), 7-14

Govindarajan, V. (1989) Implementing competitive strategies at the business unit level: implications of matching managers to strategies, Strategic Management Journal, 10, (3), 251-269

Grant, R. M. (1991). The resource-based theory of competitive advantage: Implications for strategy formulation. *California Management Review*, 33(3), 114-135.

Grant, R. M. (2016). *Contemporary strategy analysis. Text and cases*, 9th Edition, John Wiley &Sons Ltd.

Gupta, V., & Chopra, M. (2020). Gauging the impact of knowledge management practices on organizational performance–a balanced scorecard perspective. *VINE Journal of Information and Knowledge Management Systems*.

Hahn, T., Howard-Grenville, J., Lyon, T., Russo, M. V., & Walls, J. L. (2021). Leadership forum on organizations and sustainability: taking stock, looking forward. *Organization & Environment*, *34*(1), 3-17.

Hair, J., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). Multivariate data analysis (7th ed.). Upper Saddle River, NJ: Pearson Education.

Halawi, L., Aronson, J., & McCarthy R. (2005). Resource - Based View of Knowledge Management for Competitive Advantage, *The Electronic Journal of Knowledge Management,* 3(2), 75-87

Hamad, Z. M. M. (2016). A structural equation model for analyzing the impact of environmental turbulence on non-financial performance.

Harjadi, D., Yuniawan, A., Abdurrahman, A., Dananjoyo, R., Filatrovi, E. W., & Arraniri, I. (2020). Product characteristics, market competitive strategies, and SMEs performance: Testing their relationships. *The Journal of Asian Finance, Economics and Business (JAFEB)*, *7*(10), 613-620.

Hartono, R., & Sheng, M. L. (2016). Knowledge sharing and firm performance: the role of social networking site and innovation capability. *Technology Analysis & Strategic Management*, *28*(3), 335-347.

Hayfa, Y., Abraddous, Abdullah, A. M, AL Sokkar, Blaqees, I. (2018). The Impact of Knowledge Management on Organization Performance, *International Journal of Advanced Computer Science and Applications*, 9(4), 204-208

Hazeri, A., Makkizadeh, F., Soheili, F., & Zare Zardeini, Z. (2022). Study of the Relationship between Social Influence, Productivity and Performance amongst Researchers in the Field of Knowledge Management from a Scientometric Perspective. *Sciences and Techniques of Information Management*.

Hemmati, M., & Hosseini, H. (2016). Effect of IT application on project performance focusing on the mediating role of organizational innovation, knowledge management and organizational capabilities. *Engineering, Technology & Applied Science Research*, *6*(6), 1221-1226.

Herbane, B. (2010). The evolution of business continuity management: a historical review of practices and drivers, *Business History*, 52(6), 978-1002

Hitt, M. A., Ireland, R. D., & Hoskisson, R. E. (2011) *Strategic Management: Competitiveness and Globalization.* Boulevard: South Western Cengage Learning.

Holsapple, C.W. & Joshi, K.D. (2000) An investigation of factors that influence the management of knowledge in organizations, *The Journal of Strategic Information Systems,* 9(2), 235-261.

Hoskisson, R. E., Eden L., Chung M. L. & Wright, M. (2000). Strategy in emerging economies. *The Academy of Management Journal,* 43(3), 249-267.

Hsu, S. H. (2012). Effects of competitive strategy, knowledge management and e-business adoption on performance. *The Journal of Human Resource and Adult Learning*, *8*(2), 42.

Hubbard, G. (2009). Measuring organisational performance: Beyond the triple bottom line, *Business Strategy and the Environment* 19, 177-191

Hurd, I. (2019). Legitimacy and contestation in global governance: Revisiting the folk theory of international institutions. *The Review of International Organizations*, *14*(4), 717-729.

Hutchinson, V. & Quintas, P. (2008). Do SME's do knowledge management? Or simply manage what they know? *International Small Business Journal*, 26(2), 131-154.

Ibrahim, N., & Mas'ud, A. (2016). Moderating role of entrepreneurial orientation on the relationship between entrepreneurial skills, environmental factors and entrepreneurial intention: A PLS approach. *Management Science Letters*, *6*(3), 225-236.

International pharmaceutical Federation (2017). Pharmacy at a glance. 2015-2017. https://www.fip.org/file/1348

Irangani, S., Liu, Z., & Sanjeewa, W. S. (2019). How a leader's status distance stimulates employee job performance. *International Journal of Research in Business and Social Science (2147-4478)*, *8*(6), 116-128.

Jakes, L. V. (2018). *Success strategies of small business owners* (Doctoral dissertation, Walden University).

Jamie, D. Collins, William J. Worthington, Pedro M. Reyes, Marisabel Romero, (2010). Knowledge management, supply chain technologies, and firm performance. *Management Research Review,* 33(10), 947-960.

Jegede, O., & Nieuwenhuizen, C. (2021). Effects of entrepreneurial orientation and external business environment on entrepreneurial intentions of STEM students in Nigeria. *Journal of Contemporary Management*, *18*(2), 42-66.

Jiri, D., Stanislar, T. & Petr, P (2013). Generic Strategies and organisational performance: evidence from Czech Business environment, *Mathematics and Computers in Contemporary Science*, 72-77.

Jouirou, N.& Kalika, M. (2004). Strategic alignment: a performance tool (an empirical tool for SMEs) *Proceedings of the Tenth Americas Conference on Information Systems,* New York, New York

Kalpande, S. D., Gupta, R. C., & Dandekar, M. D. (2010). A SWOT analysis of small and medium scale enterprises implementing total quality management. *International Journal of Business, Management and Social Science,1*(1), 59-64.

Kaplan, R. S. and Norton, D. P. (1996). Using the Balanced Scorecard as a Strategic Management System, *Harvard Business Review* (January-February):75-85.

Kaplan, R. S., & Norton, D. P. (2004). Measuring the strategic readiness of intangible assets. *Harvard Business Review*, *82*(2), 52-63.

Karim, K. S., Azam, S. F., & Tham, J. (2022). Online Delivery Service in Bangladesh: Measuring the Determinants of Knowledge Management Strategy and Organizational Performance. *AIUB Journal of Business and Economics*, *19*(1), 29-49.

Kariuki, P.M., Awino, Z. B., & Ogutu, M. (2011). Effect of Firm Level Factors, Firm Strategy, Business Environment on Firm Performance. *Business Environment Journal, 36 (4), 1-27.*

Kenya Vision 2030 (2007). *A globally competitive and prosperous Kenya.* Nairobi:Government Printer.

Keramati, A., & Palanichamy, Y. (2020). The Intervening Role of Readiness Factors on the Relationship between Business Intelligence and Analytics Usage and Firm Performance.

Kharabsheh, R., Magableh, I. & Sawadha, S. (2012). Knowledge management practices (KMPs) and its impact on organizational performance in pharmaceutical firms. *European Journal of Economics, Finance and Administrative Sciences*, 48,6-15

Kinyua, G. M. (2015). *Relationship between knowledge management and performance of commercial banks in Kenya.* Unpublished PhD Thesis, Kenyatta University, Nairobi

Kmieciak, R., & Michna, A. (2018). Knowledge management orientation, innovativeness, and competitive intensity: evidence from Polish SMEs. *Knowledge Management Research & Practice*, *16*(4), 559-572.

Kombo, H. K. (2015). *Knowledge strategy, organizational characteristics, innovation and performance of manufacturing firms in Kenya* (Doctoral dissertation, University of Nairobi).

Kongpichayanond, P. (2009). Knowledge management for sustained competitive advantage in mergers and acquisitions. *Advances in Developing Human Resources,* 11(3), 375-387.

Kothari, S. P., & Warner, J. B. (2007). Econometrics of event studies. In *Handbook of empirical corporate finance* (pp. 3-36). Elsevier.

Kuo, T. (2011). How to improve organizational performance through learning and knowledge. *International Journal of Manpower*, 32, 581-603.

Kurniawati, A., Wiratmadja, I. I., Sunaryo, I., & Samadhi, T. A. (2019, April). Relationship Among Knowledge Management, Innovation, and Performance: A Systematic Literature Review. In *2019 IEEE 6th International Conference on Industrial Engineering and Applications (ICIEA)* (pp. 700-704). IEEE.

Leal-Rodríguez, A, Leal-Millán, A, Roldán-Salgueiro, J, L and OrtegaGutiérrez, J. (2013). Knowledge management and the effectiveness of innovation outcomes: The role of cultural barriers. *The Electronic Journal of Knowledge Management*, 11(1), 62-71

Lee, B., & Cassell, C. (2013). Research methods and research practice: History, themes and topics. *International Journal of Management Reviews*, *15*(2), 123-131.

Leitner, K-H., & Guldenberg, S. (2010). Generic strategies and firm performance: A longitudinal study of Austrian SMEs. *Small Business Economics*, 33, 169-189

Liao, S. H. & Wu, C. C. (2009). The Relationship among Knowledge Management, Organizational Learning, and Organizational Performance. *International Journal of Business and Management*, 4(4), 64-76.

Lin, W. S., Hsu, J. W., & Yeh, M. Y. (2015). Developing the capability of marketing intelligence: A subjective dynamic capability study. *Benchmarking: An International Journal*, *22*(7), 1341-1359.

Liu, Y., & Abdalla, A. N. (2013). Evaluating the managerial behaviour of managing knowledge in Chinese SMEs. *Information Technology and Management,* 14(2), 159–165

Lu, Q., & Liang, L. (2017, October). The impact of knowledge management on enterprise innovation capability: the mediation effect of dynamic capability. In *2nd International Symposium on Business Corporation and Development in South-East and South Asia under B&R Initiative (ISBCD 2017)*. Atlantis Press.

Lytras, M., Pouloudi, A. & Poulymenakou, A. (2002). Knowledge management convergence - Expanding learning frontiers. *Journal of Knowledge Management*, 6(1), 40-51.

Machuki, V. N. & Aosa, E. (2011). The Influence of macro environment on the performance of publicly quoted companies in Kenya. *Business Administration and Management Journal,* 1(7), 205-2018

Mafabi, S., Munene, J., & Ntayi, J. (2012). Knowledge management and organizational resilience: Organizational innovation as a mediator in Uganda parastatals. *Journal of Strategy and Management*, 5, 57–80.

Mahoney, J. (2010). After KKV: The new methodology of qualitative research. *World Politics*, *62*(1), 120-147.

Malekakhlagh, I., & Ghaderi, F. (2022). Investigating the mediating role of management ambidextrous in the relationship between strategic intent and coopetition strategy with the moderator role of knowledge sharing. *Commercial Strategies*.

Marczyk, G., DeMatteo, D. & Festinger, D. (2005). *Essentials of research design and methodology*. New Jersey: John Wiley and Sons, Inc.

Mardani, A., Nikoosokhan, S., Moradi, M., & Doustar, M. (2018). The relationship between knowledge management and innovation performance. *The Journal of High Technology Management Research*, *29*(1), 12-26.

Mashhadi, A. H. & Rehman, Q. I. (2012). Effect of external environment on the performance of fast-food industry. International journal of management economics and social sciences, 1(1) 19-25

Matin, E, K. & Sabagh, P. (2015). Effects of Knowledge Management Capabilities on Organization Performance in Iranian Export Companies. *Mediterranean Journal of Social Sciences,* 6(2), 240-250

Mbithi, B., Muturi, W., & Rambo, C. (2017). Macro environment moderating effects on strategy and). Effects*: The Saudi Journal of Life Sciences*, 2(5), 197-209

McLean, E. V. (2020). Charles B. Roger. 2020. The Origins of Informality: Why the Legal Foundations of Global Governance are Shifting, and Why It Matters (New York: Oxford University Press).

Mehralian, G., Rajabzadeh, A., Reza Sadeh, M., & Reza Rasekh, H. (2012). Intellectual capital and corporate performance in Iranian pharmaceutical industry. *Journal of intellectual capital*, *13*(1), 138-158.

Meyer, M., & Zack, M. (1996). The design and implementation of information product, *Sloan Management Review*, 37(3), 43-59

Mills, A. M., & Smith, T. A. (2011). Knowledge management and organizational performance: A decomposed view. *Journal of Knowledge Management*, *15*(1), 156-171

Mishra, B. & Bhaskar, A, U. (2011). Knowledge Management Process in Two Learning Organizations. *Journal of Knowledge Management,* 15 (2), 344-359.

Mkalama, R. N. (2015) *Top management demographics, strategic decision making, macro environment and performance of Kenyan state corporations.* Unpublished PhD thesis, University of Nairobi

Moreno, E. Z., Becerril, V. M., & Alcalde, J. R. (2018). Tacit and explicit knowledge: comparative analysis of the prioritization of maternal health problems in Mexico. *Gaceta sanitaria*, *32*(3), 251-261.

Mu, J., Zhang, J. Z., & Gilliland, D. (2019). No silver bullet with AI: blending in firm culture and capabilities with AI marketing investment for enhancing firm performance. *Marketing Science Institute Working Paper*, 20-109.

Mugenda, A. & Mugenda, O. (2003). *Readings in research methods: Quantitative and qualitative approaches.* Nairobi: African Centre for Technology Studies.

Nawab, S., Nazir, T., Zahid, M. M., & Fawad, S. M. (2015). Knowledge management, innovation and organizational performance. *International Journal of Knowledge Engineering*, *1*(1), 43-48.

Nawaz, M. S., & Shaukat, S. (2014). Impact of knowledge management practices on firm performance: Testing the mediation role of innovation in the manufacturing sector of Pakistan. *Pakistan Journal of Commerce and Social Sciences (PJCSS)*, *8*(1), 99-111.

Ndwiga, C. M., Gichohi, P., & Nkaabu, C. (2019). Relationship between Knowledge Management and Innovative Work Behaviour among Commercial Banks in Meru County, Kenya. *Journal of Strategic Management*, *3*(2), 76-99.

Netessine, S. & R. Shumsky. (2001). *Revenue management games: horizontal and vertical competition.* Working Paper, University of Pennsylvania.

Nguyen, Q. and Neck, P. (2009), Knowledge management as dynamic capabilities: Does it work in emerging less developed countries? *Journal of Knowledge Management,* 3, (3), 505-520.

Nikabadi, M. S., Bagheri, S., & Mohammadi-Hoseini, S. A. (2016). Effects of knowledge management strategy and organizational learning capability on innovation-driven performance in an oil company. *Knowledge Management & E-Learning: An International Journal*, *8*(2), 334-355.

Nunnally, J. C. (1978). *Psychometric theory* (2nd ed.). New York, NY: McGraw Hill.

Obeso, M., Hernández-Linares, R., López-Fernández, M. C., & Serrano-Bedia, A. M. (2020). Knowledge management processes and organizational performance: the mediating role of organizational learning. *Journal of Knowledge Management*.

Ogolla, K., Bolo, A. Z. & Ogutu, M. (2011). Strategy, structure, environment and corporate performance: a conceptual overview. *Business Administration and Management,* 1(3), 101-103

Olaima, D, AL-ameryeen,. & Al-Makhadmah, I. M. (2015). The influence of knowledge management on organizational performance in service organizations in Jordan. *Information and Knowledge Management*, 5(12),42-48.

Omar, K. M. (2022). Environmental Turbulence's Effects on Entrepreneurial Orientation.

Ombaka, B. E. (2014) *Resources, external environment, innovation and performance of insurance companies In Kenya.* Unpublished PhD Thesis, University of Nairobi

Onwe, C. C., Ogbo, A., & Ameh, A. A. (2020). Entrepreneurial orientation and small firm performance: The moderating role of environmental hostility. *Entrepreneurial Business and Economics Review*, *8*(4), 67-84.

OuYang, Y. C. (2014). A cyclic model for knowledge management capability -a review study. *Arab Journal of Business Management Review*, *4*(4), 1-9.

Payal, R., Ahmed, S., & Debnath, R. M. (2019). Impact of knowledge management on organizational performance: An application of structural equation modeling. *VINE Journal of Information and Knowledge Management Systems*.

Pearce II, J.A., Robinson, R. B., & Mital, A. (2012) *Strategic management: Formulation, implementation and control,* 12th Edition. New Delhi: Tata McGraw Hill Education Private Ltd.

Pellegrini, M. M., Ciampi, F., Marzi, G., & Orlando, B. (2020). The relationship between knowledge management and leadership: mapping the field and providing future research avenues. *Journal of Knowledge Management*.

Pillania, R. K. (2006), Leveraging knowledge for sustainable competitiveness in SMEs. *International Journal of Globalisation and Small Business,* 1(4), 393-406.

POP Pharmacies observation post (2014). www.sanisphere.com

Porter, M. E. (1980). *Competitive strategy: Techniques for analyzing Industries and competitors*. New York: Free Press

Porter, M.E. (1985). *The competitive advantage.* New York: Free Press.

PPB Pharmacy and poisons board (2016). *www.pharmacyboardkenya.org*

Prieto, I. M. & Revilla, E. (2006). Learning capability and business performance: A non-financial and financial assessment. *The Learning Organization*, 13 (2), 166-185.

Queirós, A., Faria, D., & Almeida, F. (2017). Strengths and limitations of qualitative and quantitative research methods. *European Journal of Education Studies*, 3(9), 370.

Ramani Gopal C.S. & Joy P.A., 2011. "Creation of Knowledge Management System," Advances In Management, Advances in Management, vol. 4(11), November.

Rasula, J., Vuksic, V. B. & Stemberger, M. I. (2012). The Impact of knowledge management on organisation performance. *Economic and Business Review,* 14(2) 147-168.

Ravitch, S. M., & Riggan, J. M. (2012). *Reason and rigor: How conceptual frameworks guide research.* Thousand Oaks, CA: Sage.

Restrepo, O. H. (2021). The power of health economics and outcomes research (HEOR) in making decisions that matter. *Magna Scientia UCEVA*, *1*(1), 25-33.

Salina, D. & Wan Fadzilah, W. Y. (2010). Knowledge management and firm performance in SMEs: The role of social capital as a mediating variable. *Asian Academy of Management Journal*, 15(2), 135-155.

Salunke, S., Weerawardena, J., & McColl-Kennedy, J. R. (2019). The central role of knowledge integration capability in service innovation-based competitive strategy. *Industrial Marketing Management*, *76*, 144-156.

Saqib, M., & Zarine, R. (2018). An Empirical Investigation of Moderation between Knowledge Management and Organisational Performance. *International Journal of Entrepreneurship*, 22(1), 114-162.

Saqib, M., Udin, Z. M., & Baluch, N. (2017). The impact of knowledge management on organizational performance in today's economy. *South East Journal of Contemporary Business, Economics and Law*, *12*(3), 112-144.

Scherer, F.M. (2000). *The Pharmaceutical Industry: Handbook of Health Economics*, A.J. Culyer and J.P. Newhouse (eds.) Elsevier Science, B.V.

Sedighi, M., & Zand, F. (n.d). Knowledge management: Review of the Critical Success Factors and development of a conceptual classification model. In *2012 Tenth International Conference on ICT and Knowledge Engineering* (pp. 1-9). IEEE.

Sekaran, U. & Bougie, R. (2009) *Research methods for Business: A skill-building approach*. 5th Edition, John Wiley and Sons Inc., Hoboken.

Seleim, A. & Khalil, O. (2007). Knowledge management and organizational performance in the Egyptian software firms. *International Journal of Knowledge Management*, 3, (4), 37-66.

Shabaninejad, H., Mirsalehian, M. H., & Mehralian, G. (2014). Development of an integrated performance measurement (PM) model for pharmaceutical industry. *IJPR*, *13*(Suppl), 207.

Shahzad, M., Qu, Y., Zafar, A. U., Rehman, S. U., & Islam, T. (2020). Exploring the influence of knowledge management process on corporate sustainable performance through green innovation. *Journal of Knowledge Management*.

Shang, S. S., Yao, C. Y., & Liou, D. M. (2017). The effects of knowledge interaction for business innovation. *R&D Management*, *47*(3), 337-351.

Shujahat, M., Hussain, S., Javed, S., Malik, M. I., Thurasamy, R., & Ali, J. (2017). Strategic management model with lens of knowledge management and competitive intelligence: A review approach. *VINE Journal of Information and Knowledge Management Systems*, *47*(1), 55-93.

Shujahat, M., Sousa, M. J., Hussain, S., Nawaz, F., Wang, M., & Umer, M. (2019). Translating the impact of knowledge management processes into knowledge-based innovation: *Journal of Business Research*, *94*, 442-450.

Sidik, I. G. (2012). Conceptual framework of factors affecting SME development: Mediating factors on the relationship of entrepreneur traits and SME performance. *Procedia Economics and Finance,* 4 (2012), 373-383

Staunton, E. (2017). *An exploratory study of employees' perspectives on the value of onboarding programs* (Doctoral dissertation, Capella University).

Stern, N. H., Unsworth, S., Valero, A., Zenghelis, D., Rydge, J., & Robins, N. (2020). *Strategy, investment and policy for a strong and sustainable recovery: an action plan*. Centre for Economic Performance, London School of Economics and Political Science.

Sunarno, N., Susita, D., & Wolor, C. W. (2022). Effect of work environment and training on job satisfaction through career development mediation. *The International Journal of Social Sciences World (TIJOSSW)*, *4*(1), 193-203.

Taghipour, M., Barzegar, P., Mahboobi, M., & Mohammadi, S. (2020). Investigating the Relationship between Competitive Strategies and Corporates Performance (Case Study: Parsian Banks of Tehran). *Management*, *3*(4), 13-28.

Tavana, M., Hajipour, V., & Oveisi, S. (2020). IoT-based Enterprise Resource Planning: Challenges, Open Issues, Applications, Architecture, and Future Research Directions. *Internet of Things*, 100262.

Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic management journal*, *18*(7), 509-533.

Ting, I. W. K., Sui, H. J., Kweh, Q. L., & Nawanir, G. (2021). Knowledge management and firm innovative performance with the moderating role of transformational leadership. *Journal of Knowledge Management*.

Tsai, K. H., Huang, C. T., & Chen, Z. H. (2020). Understanding variation in the relationship between environmental management practices and firm performance across studies: A meta-analytic review. *Business Strategy and the Environment*, *29*(2), 547-565.

Tsoho, K., Musa, T. B., Aminu, M. I., & Jumare, B. (2021). Environmental Turbulence Moderating the Relationship between Strategic Orientation and Small and Medium Enterprise's Performance in Nigeria. *FUDMA JOURNAL OF MANAGEMENT SCIENCES*, *4*(1), 199-213.

Tubigi, M., & Alshawi, S. (2015). The impact of knowledge management processes on organisational performance: The case of the airline industry. *Journal of Enterprise Information Management*, *28*(2), 167-185.

Turner, J. R., Zimmerman, T. & Allen, J. (2012). Teams as a Sub-Process for Knowledge Management.*Journal of Knowledge Management*, 16(6), 963-977.

Uddin, M. A., Fan, L., & Das, A. K. (2016). The Impact of Transformational Leadership, Organizational Learning, and Knowledge Management on Organizational Innovation. *Innovation and Management*, 22(4), 145-182

Umar, H., & Arafah, W. (2020, September). The Effect of Market Orientation, Competitive Strategy on Firm Performance Through Support Government Policy as an Intervening Variable. In *International Conference on Management, Accounting, and Economy (ICMAE 2020)* (pp. 163-166). Atlantis Press.

Venkatraman, N. & Ramanujam, V. (1986). Measurement of business performance in strategy research. *Academy of Management Review*. 11, 801-814.

Wen, X., Wu, G., Kang, Q., Wang, L., & Zeng, J. (2020). A study on customer knowledge management, inbound open innovation and firm performance. *Human Systems Management*, (Preprint), 1-13.

Wright, P. M. & McMahan, G. C. (1992). Theoretical perspectives for strategic human resource management. *Journal of Management*, 18(3), 295-320.

Xue, C.T.S (2017). A literature Review on Knowledge Management in Organizations. *Research in Business and Management*, 4(1), 30-41

Yang, S., Ishtiaq, M., & Anwar, M. (2018). Enterprise risk management practices and firm performance, the mediating role of competitive advantage and the moderating role of financial literacy. *Journal of Risk and Financial Management*, *11*(3), 35.

Yasser, Q. R., Entebang, H. & Abu Mansor, S. A. (2011). Corporate governance and firm performance in Pakistan: The case of Karachi Stock Exchange (KSE)-30, *Journal of Economics and International Finance,* 3(8), 482-491.

Yazdani, S., Sadeghzarei, R., & Hoseini Abardeh, M. (2021). Explaining the Indicators of Academic Competitive Advantages of Medical Universities: A Qualitative Content Analysis. *Research in Medical Education*, *13*(3), 55-61.

Yinusa, O., & Salman, A. (2021). Employee Relation Practices and Organisational Performance in Nigeria. *Journal of Management and Social Sciences*, *10*(3).

Young, H. D. (2020). Knowledge Management, Innovations Systems, and Firm Performance.

Yozgat, U., & Güngörmez, D. (2015). The mediating role of social integration on the effect of proactive socialization tactics applied by newcomers on their organizational commitment. *Procedia-Social and Behavioural Sciences*, *207*, 462-471.

Zack, M. H. (1999). Developing a knowledge strategy. *California Management Review*, *41*(3), 125-145.

Zack, M., McKeen, J. & Singh, S. (2009). Knowledge management and organizational performance: an exploratory analysis. *Journal of Knowledge Management*, 13 (6), 392-409.

Zhu, H., Dai, Y., & Wan, F. (2022). Understanding Digital Capabilities and Their Impact on Firm Performance.

Zikmund, W. G., Babin, B. J., Carr, J. C., & Griffin, M. (2010). *Business research methods* (8th ed.). Mason, HO: Cengage Learning.

APPENDICES

Appendix I: Introductory Letter for Research

UNIVERSITY OF NAIROBI
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16th October, 2019

TO WHOM IT MAY CONCERN

INTRODUCTORY LETTER FOR RESEARCH
JESSEE KANGETHE MUKURIA - REGISTRATION NO.D80/P/8320/2002

The above named is a registered PhD candidate at the University of Nairobi, School of Business. He is conducting research on ***"How* Operating Environment and Competitive Strategies affect the Relationship between Knowledge Management and Performance of Retail Pharmaceutical Firms Listed in Nairobi County, Kenya.''.**

The purpose of this letter is to kindly request you to assist and facilitate the student with necessary data which forms an integral part of the thesis. The information and data required is needed for academic purposes only and will be treated in **Strict-Confidence.**

Your co-operation will be highly appreciated.

Prof. Mary Kinoti
Associate Dean, Graduate Business Studies
School Of Business

MK/jkm

Appendix II: Research Questionnaire

Dear Respondent,

This questionnaire is designed to collect data from retail pharmaceutical firms on the influence of Operating environment and Competitive strategies on the relationship between Knowledge management and firm performance. The data collected shall solely be used for academic research and will be treated with strict confidence. Your participation in facilitating the study is highly appreciated. I would therefore urge you to freely answer the questions as only the researcher will have access to the raw data and the development of the final report.

PART A: RESPONDENT DEMOGRAPHICS

1. Years in operation
   a. 0-1 [ ]
   b. 2-5 [ ]
   c. 6- 10 [ ]
   d. 11-15 [ ]
   e. 16-20 [ ]
   f. Over 20 [ ]

2. Scope of operation
   a. National (throughout Kenya) [ ]
   b. Regional (Counties) [ ]
   c. East Africa [ ]

3. Type of firm
   a) Limited company [ ]
   b) Partnership [ ]
   c) Sole proprietorship [ ]

4. Number of branches
   a) 1 [ ]
   b) 2-5 [ ]
   c) 6- 10 [ ]
   d) Over 10 [ ]
5. Number of employees
   1-5 [ ]
   6-10 [ ]
   11-15 [ ]
   16-20 [ ]
   21-30 [ ]
   31-40 [ ]
   41-50 [ ]
   Above 50 [ ]

PART B: KNOWLEDGE MANAGEMENT

Kindly indicate the extent to which you agree with each of the following statements concerning knowledge management in your firm. Use the keys provided to **TICK (√)** as appropriate. **Key:1**-Not at all; 2-To a less extent; 3- To a moderate extent; 4- To a large extent; **5**-To a very large extent

Knowledge management dimensions	Not at all	To a less extent	To a moderate extent	To a large extent	To a very large extent
Knowledge Acquisition					
i. Our firm has continuously acquired knowledge concerning our customers					
ii. Our firm has continuously acquired knowledge concerning different suppliers					
iii. Our firm uses feedback from customers					

and suppliers to improve on key functions					
iv. Our firm exchanges knowledge on products with suppliers and other retail firms.					
v. Our firm has ways of acquiring knowledge about new product/services within our industry					
vi. Our firm has ways of acquiring knowledge about competitors within retail industry					
vii. Our firm benchmarks performance with related retail firms					
viii. Our firm encourages employee learning for better practice					
Knowledge Storage					
ix. Information related to products is centrally stored for ease of access by all within the firm					
x. Our firm retains employees with unique operational information					
xi. In my firm, relevant information is well preserved for future use					
xii. Our firm record all information from discussions or meetings					
Knowledge Sharing					
xiii. Knowledge in our firm is shared among employees					
xiv. Management in our firm encourages employees to learn by doing and by watching					

xv.	Our firm makes knowledge accessible to those who need it					
xvi.	Knowledge is shared across sections/units in our firm					
xvii.	In our firm supervisors share knowledge with subordinates					
	Knowledge Application					
xviii.	Our firm uses stored knowledge to improve functional areas					
xix.	Our firm is able to locate and apply knowledge to changing competitive conditions					
xx.	Our firm matches sources of knowledge to problems and challenges					
xxi.	Our firm utilizes different sources and types of knowledge for decision making					
xxii.	Our firm uses knowledge to improve efficiency					
xxiii.	Our firm uses knowledge to adjust strategic direction					
xxiv.	Our firm uses knowledge to respond to customer needs and preferences					
xxv.	Our firm uses knowledge to solve new problems					

PART C: OPERATING ENVIRONMENT

1. Using the key 1 = Not at all; 2 = to small extent; 3 = to a moderate extent; 4 = to a large extent. Please use the key to tick (√) the extent to which the following factors affect operating environment in your company.

Key:

1-Not at all; **2**-Less extent; **3**- Moderate extent; **4**- Large extent; **5**-Very large extent

	Statements	**1**	**2**	**3**	**4**	**5**
	New entrants					
i.	Our firm has been largely affected by threat of new entrants					
ii.	The players in the retail pharmaceutical industry have imposed barriers to entry					
iii.	There are government regulations for entry in to the retail pharmaceutical industry					
iv.	Our firm enjoys cost advantages that hinders potential competitors entry to the industry					
v.	There is high initial capital investments required for new entrants					
vi.	Our firm enjoys favourable geographical location					
	Customers					
vii.	Customers are keen on prices of our products					
viii.	Our customers are concentrated within our reach					
ix.	Our firm minimizes cost through innovation					
x.	Our prices match our customer expectations					
xi.	Our customers have trust in our products and prices					
xii.	Our customers rate our prices as affordable					
xiii.	The income levels of our customers are taken seriously in product we sale					

	Suppliers					
xiv.	Our suppliers makes products available at the right time, in the right place and in the right quantity					
xv.	Our suppliers wider availability facilitates our customers' ability to find their favourite brand					
xvi.	The large distributed supplier agents play a central role in building new brands					
xvii.	Our firm has well established branches to ensure convenience and ease to our suppliers					
xviii.	Our suppliers networks and efficiency have enabled our customers to be flexible and to perceive our products convenient and reliable					
xix.	Our firm benefit from a well managed and effective supply network					
xx.	Our supplier networks have enhanced customer satisfaction					
	Competitors					
xxi.	Our firm faces rivalry among competitors in the industry					
xxii.	There are large number of competing firms in our market of reach					
xxiii.	There is frequent price cutting/price wars e.g. discounts in our industry					
xxiv.	There is power play among competitors over the market of reach					
xxv.	Our firm has entered strategic partnership with competitors to reduce unhealthy competition					
	Substitutes					
xxvi.	We have different brand identity in the industry					
xxvii.	We have differentiated our products to that of our competitors					
xxviii.	We engage in intense advertising for our products					

xxix.	Our customers have high propensity to substitutes					
xxx.	Our customers are sensitive to substitute prices					
xxxi.	There is presence of substitute products in the industry					
xxxii.	We have encountered threat of substitute products					

PART D: COMPETITIVE STRATEGIES

1. On the basis of the following statements regarding to the manifestations of competitive strategies in our firm, kindly indicate your agreement or disagreement where 1=strongly disagree 2= disagree 3=neither disagree nor agree 4=agree 5=strongly agree

Items	**1**	**2**	**3**	**4**	**5**
Differentiation					
i. Our firm understands well customers' needs on the market					
ii. Our firm has a way of keeping our customers always aware of our product attributes					
iii. Our firm always strives to lead in product/service delivery in our sector					
iv. Our firm encourages employees to be outstanding in service delivery than competitors					
v. Our firm offer products at the recommended prices					
vi. Our firm involves customers to enhance service delivery					
Focus					
vii. Our firm does not deviate from its core mandate					
viii. Our firm always understands its key market					
ix. The customers of the firm are well categorized for easy product and service delivery					
x. Our firm always strives to remain in its market					
xi. Our firm always reviews changes in the niche market					

Cost Leadership					
xii. Our management encourages staff on cost reduction undertakings					
xiii. Our firm emphasizes on efficiency during operation					
xiv. Our firm emphasizes on time management					
xv. Our firm minimizes cost through use of technology					
xvi. Our firm does costing of all products					
xvii. Our firm has optimum level of personnel					

PART E: FIRM PERFORMANCE

1. Please indicate the extent to which the following statements describe your firm's performance **TICK** (√**)** as appropriate using the key below.

Key:

1-Not at all; **2**-To a less extent; **3**- To a moderate extent; **4**- To a large extent; **5**-To a very large extent

Statement	1	2	3	4	5
Financial Perspective					
The finances in our firm are well managed					
Our firm pays its financial obligations on time					
Our firm finances are enough for operational activities and we rarely borrow from financial institutions					
Our firm maximizes on assets and minimizes liabilities					
Our firm's revenues are more than expenses incurred					
Our firm sets aside finances for hard times speculations					
Our firms profit margins have been increasing over the years					
Our firm gets supplies on credit from suppliers.					

Internal Processes					
The ability of our staff is well utilized to enhance performance					
The firms facilities are well utilized					
Our firm discourages employee absenteeism					
The administrative systems in our firm are of high quality to support the internal processes					
Our firms processes are benchmarked for improvement					
There is proper communication in our firm in tandem with the internal processes					
Customers focus					
Our firm solves customers complaints in time					
Our firm encourages employees to handle customers right					
Our firm informs customers of any changes that might affect them in good time					
Our firm gives customers good attention whenever they are transacting					
Our firm considers customers feedback to improve its services					
Our firm handles customers with debts professionally					
Our firm has customers' interests at heart					
Our customers are motivated to continue with our firm because of the variety of products that we offer them					
Even though prices are increased by our firm, our customers are not much bothered					
The time for serving our customers is satisfactory					
Our customers have always sought more products and services from our firm					
Our employees knows customers by their names					
Our customers are loyal to our firm					

Employee focus					
Our firm has created a good work environment conducive to support all operations.					
Our employees are satisfied with employment terms and conditions in our firm					
Our employees' complaints are handled in real time					
Our employees are satisfied with the firm's remunerations					
Our employees are satisfied with our firm's working environment					
Employees views are considered in decision making					
Our employees are highly motivated					
There is a good relationship among employees and management					
There is constant communication between employees and the management					
Employees are given the required work leave and offs when needed					
Learning and Growth					
Management has always ensured there is enough qualified and professional staff in the firm.					
Our firm has had good structures to support upward employee growth through merit.					
Our firm has had continuous learning on how to do things better.					
Our firm has highly charged motivated and loyal employees.					
Our firm has been very keen on employee health and safety.					
Our firm's employee productivity and staff development has improved.					

THANK YOU VERY MUCH FOR YOUR PARTICIPATION.

Appendix III: List of Retail Pharmaceutical Firms in Nairobi County, Kenya

NO	Name	Physical Address
1.	Monks Medicare Africa Pharmaceuticals Ltd	P.O.Box 260-00100 GPO, Nairobi
2.	Neptunus	P.O.Box 54967 00200, Nairobi
3.	Suncity Chemists	3rd Parklands Avenue, Parklands Mediplaza
4.	Wall Greens Chemist	Box 20532,, Nairobi
5.	Eastleigh Chemists	General Waruinge Street, P.O.Box 16296,, Nairobi
6.	Pharmak Pharmaceuticals Ltd	Industrial Area, Lusaka Rd, 3rd Flr, Metrix Hardware
7.	Krishna Chemists Ltd	Krishna Plaza 3rd Parklands Ave, Nairobi
8.	Pharmasell Ltd	Mombasa Rd, Vision Plaza, 1st Floor, Suite
9.	Healthcare Direct (K) Ltd	Mombasa Road, Alpha Centre, Unit 23/24, Nairobi
10.	Shifa Chem Ltd	Nairobi
11.	Sadiki Pharmacy	Nairobi
12.	Goldmed	Nairobi
13.	Simoniz Plaza Chemist	Nairobi
14.	African Cotton industries Ltd	Nairobi
15.	Flambert Holdings Ltd	Nairobi
16.	ClinWin Research Services	P O Box 3289 Nairobi 00200, Nairobi
17.	Almond Pharmacy	P.O Box 8687 - 00100 Nairobi, Nairobi
18.	Benson Pharmaceuticals Ltd	P.O. Box 2605-00100 GPO, Nairobi
19.	The Lycomott Chemist	P.O. Box: 10145-00400 Tom Mboya St, Nairobi
20.	Adcock Ingram East Africa Ltd	P.O. Box: 101674-00101 Jamia, Nairobi
21.	Late Night Chemists	P.O. Box: 103014-00100 Nairobi GPO, Nairobi
22.	Tuco Chemist	P.O. Box: 103454-00101 Jamia, Nairobi
23.	Power Chemist	P.O. Box: 1055-00217 Limuru, Nairobi
24.	Nature Chemist (K) Ltd	P.O. Box: 17256-00100 Nairobi GPO, Nairobi
25.	Bellisima Chemists	P.O. Box: 12326-00400 Tom Mboya St, Nairobi
26.	Elpochem Ltd	P.O. Box: 14167-00800 Westlands, Nairobi
27.	Chemist Beedan Pharmaceuticals Ltd	P.O. Box: 1433-00515 Buru Buru, Nairobi
28.	Connect Chemist	P.O. Box: 15097, 00509 Langata, Nairobi
29.	Surgik Chemist	P.O. Box: 16239-00610 Eastleigh, Nairobi
30.	Horseet Pharma	P.O. Box: 16253-00100 Nairobi GPO, Nairobi
31.	New Lemuma Pharmacy Company Ltd	P.O. Box: 16605-00602 Kabete, Nairobi

32.	Eastleigh Pharmaceuticals Ltd	P.O. Box: 167-00610 Eastleigh, Nairobi
33.	Julimer Internationale Ltd	P.O. Box: 16884-00100 Nairobi GPO, Nairobi
34.	Ngemwa Chemist	P.O. Box: 182-00610 Eastleigh, Nairobi
35.	Togdeer Pharmaceutical Ltd	P.O. Box: 18397-00100 Nairobi GPO, Nairobi
36.	Mimosa Pharmacy Ltd - Junction	P.O. Box: 1852-00621 Village Market, Nairobi
37.	Simbi chemist	P.O. Box: 1564-00100 Nairobi GPO, Nairobi
38.	Radias chemist	P.O. Box: 18947-00100 Nairobi GPO, Nairobi
39.	Dent-Pharm Chemist	P.O. Box: 19325, 00202 Kenyatta Hospital, Nairobi
40.	Simrose Investments Ltd	P.O. Box: 21899, 00400 Tom Mboya St, Nairobi
41.	Allmato Chemist	P.O. Box: 220-00625 Kangemi, Nairobi
42.	Faw Pharmacy	P.O. Box: 22522-00400 Tom Mboya St, Nairobi
43.	Sealine Pharmacy	P.O. Box: 243-00519 Mlolongo, Nairobi
44.	Le Grande Speciality Pharmacy	P.O. Box: 25358-00100 Nairobi GPO, Nairobi
45.	Ndalani Chemist	P.O. Box: 2544-00200 City Square, Nairobi
46.	Juna Pharmaceutical Ltd	P.O. Box: 26110-00514 Valley Arcade, Nairobi
47.	Zuripharma Pharmaceuticals Ltd	P.O. Box: 263-00511 Ongata Rongai, Nairobi
48.	Jawamed Pharmaceuticals	P.O. Box: 26679-00100 Nairobi GPO, Nairobi
49.	Happy Justin Pharmacy	P.O. Box: 28712-00100 Nairobi GPO, Nairobi
50.	Damco Pharmacier Ltd	P.O. Box: 27718-00506 Nyayo Stadium, Nairobi
51.	Rafiki Chemist	P.O. Box: 28276-00100 Nairobi GPO, Nairobi
52.	Ruth Pharm Ltd	P.O. Box: 21278-00100 Nairobi GPO, Nairobi
53.	Mekam Chemist	P.O. Box: 2898-00100 Nairobi GPO, Nairobi
54.	Dischem Pharmacies	P.O. Box: 29019-00100 Nairobi GPO, Nairobi
55.	Elite Medical Services	P.O. Box: 29230-00625 Kangemi, Nairobi
56.	Bakpharm Ltd	P.O. Box: 32672, 00600 Ngara Rd, Nairobi
57.	Eddies Chemist (1999) Ltd	P.O. Box: 32877, 00600 Ngara Rd, Nairobi
58.	Peak Pharm Ltd	P.O. Box: 3481-, Nairobi
59.	Star Biotech Chemist Ltd	P.O. Box: 38392-40123 Mega City, Nairobi
60.	Med World Pharmaceuticals Ltd	P.O. Box: 39105-00623 Parklands, Nairobi
61.	Eltons Pharmacy (UHMC) Ltd	P.O. Box: 41197, 00100 Nairobi GPO, Nairobi
62.	HIC Pharmaceuticals	P.O. Box: 43494, 00100 Nairobi GPO, Nairobi
63.	Frama Hardware & Tools	P.O. Box: 45339-00100 Nairobi GPO, Nairobi
64.	Eros Chemist Ltd	P.O. Box: 46676, Nairobi

65.	Pink Pharmaceutical Ltd	P.O. Box: 47056-00100 Nairobi GPO, Nairobi
66.	Chemist Raphar Pharmacy	P.O. Box: 471-00610 Eastleigh, Nairobi
67.	Translab Medical Centre	P.O. Box: 473-00517 Uhuru Gardens, Nairobi
68.	Rudra Pharmacy Ltd	P.O. Box: 48333-00100 Nairobi GPO, Nairobi
69.	Bethsaida Chemist Ltd	P.O. Box: 48833-00100 Nairobi GPO, Nairobi
70.	Jassin pharmaceuticals	P.O. Box: 49582, 00100 Nairobi GPO, Nairobi
71.	IPA Chemist LTD	P.O. Box: 49784, 00100 Nairobi GPO, Nairobi
72.	Elma Pharma Ltd	P.O. Box: 50506-00200 City Square, Nairobi
73.	Jampharm Chemists	P.O. Box: 515-00618 Ruaraka, Nairobi
74.	Acacia Apotheke Two	P.O. Box: 52078, City Square, Nairobi
75.	Medzen Chemist	P.O. Box: 524-00515 Buru Buru, Nairobi
76.	Goldmed Pharmacy Ltd	P.O. Box: 55294-00200 City Square, Nairobi
77.	Royal Medipharm Ltd	P.O. Box: 56168-00200 City Square, Nairobi
78.	RX Ben-Ammi Pharmacies Ltd	P.O. Box: 5629-00506 Nyayo Stadium, Nairobi
79.	Frepat Chemist	P.O. Box: 56508-00200 City Square, Nairobi
80.	Plaza Pharmaceuticals Ltd	P.O. Box: 58031, 00200 City Square, Nairobi
81.	Masten Pharmaceuticals Ltd	P.O. Box: 59319-00200 City Square, Nairobi
82.	Dapco Pharmaceuticals	P.O. Box: 596-00100 Nairobi GPO, Nairobi
83.	Afya Chemical & Pharmaceuticals Ltd	P.O. Box: 59851, 00506 Nyayo Stadium, Nairobi
84.	Inkamed Pharmaceutical Ltd	P.O. Box: 60113-00200 City Square, Nairobi
85.	Biotech Pharma Ltd	P.O. Box: 616-00606 Sarit Centre, Nairobi
86.	Tritech Cyber Ltd	P.O. Box: 6358-00200 City Square, Nairobi
87.	Philmar Pharmacy	P.O. Box: 64971, 00200 City Square, Nairobi
88.	Rasmi Pharmaceuticals	P.O. Box: 67-00610 Eastleigh, Nairobi
89.	Darol Pharmaceuticals Ltd	P.O. Box: 67687, 00200 City Square, Nairobi
90.	Hikmas Pharmacy Ltd	P.O. Box: 5698-00610 Eastleigh, Nairobi
91.	Triwam Pharmaceutical Ltd	P.O. Box: 6824-00100 Nairobi GPO, Nairobi
92.	Togas chemist	P.O. Box: 2322-00100 Nairobi GPO, Nairobi
93.	Business Frontiers Ltd	P.O. Box: 69754, 00400 Tom Mboya St, Nairobi
94.	Dejan Pharmacy	P.O. Box: 733-90100 , Nairobi
95.	Bhavesh Chemists	P.O. Box: 75498-00200 City Square, Nairobi
96.	Rosebell Pharmacy	P.O. Box: 768913-00622 Juja Rd, Nairobi
97.	Bibi Pharmaceuticals (k) Ltd	P.O. Box: 78193-00507 Viwandani, Nairobi
98.	Life Belt Pharmacy	P.O. Box: 78370-, Nairobi
99.	Mantisa Chemist	P.O. Box: 8144-00100 Nairobi GPO, Nairobi
100.	Jojemi Chemicals	P.O. Box: 953-00600 Ngara Rd, Nairobi
101.	Gucha Chemist	P.O. Box: 9559-00300 Ronald Ngala, Nairobi

102.	Alfajiri Pharmaceuticals Limited	P.O. Box: 9284-00300 Ronald Ngala, Nairobi
103.	Pharmart Chemist	P.O.Box 1022, 00606, Nairobi
104.	Mul-T-Chem Agencies Ltd	P.O.Box 13426-00100 GPO, Nairobi
105.	Westons Pharmacy Ltd	P.O.Box 1043, 00606, Nairobi
106.	Westons Chemists Ltd	P.O.Box 2343-00606 Sarit Centre, Nairobi
107.	Jojo Pharmacy Ltd	P.O.Box 10542, 00100, Nairobi
108.	Luthuli Pharmacy Ltd	P.O.Box 29542-00100 GPO, Nairobi
109.	Press Point Pharmaceutical	P.O.Box 10674,00400, Nairobi
110.	Virdi Pharmacy Ltd	P.O.Box 10768-00400 Tom Mboya St, Nairobi
111.	Ravan Chemist	P.O.Box 109, 00518, Nairobi
112.	Pharmatrade Pharmacy Ltd	P.O.Box 10976-00400 Tom Mboya St, Nairobi
113.	Alfa Pharmacy	P.O.Box 11100 00100, Nairobi
114.	Umoja Pharmaceuticals Ltd	P.O.Box 12126, 00400, Nairobi
115.	Transken	P.O.Box 13123, 00400, Nairobi
116.	Tulip Pharmacy	P.O.Box 11340,00400, Nairobi
117.	Nester Pharmacy	P.O.Box 11368, 00300, Nairobi
118.	My Chemist	P.O.Box 11358, 00300, Nairobi
119.	Saniaga Chemist	P.O.Box 14268, 00300, Nairobi
120.	Roni Pharmacy	P.O.Box 11377, 00300, Nairobi
121.	Rosax (Africa) Ltd	P.O.Box 11854, 00300, Nairobi
122.	Radiant Hosp Pharmacy	P.O.Box 11222, 00300, Nairobi
123.	Nelma Chemist	P.O.Box 11987, 00300, Nairobi
124.	Nilsons Pharmacy	P.O.Box 11587, 00300, Nairobi
125.	Pie Chemist	P.O.Box 11754, 00300, Nairobi
126.	Omaera Pharmaceuticals	P.O.Box 11197, 00300, Nairobi
127.	Reigh Chemist	P.O.Box 11974, 00300, Nairobi
128.	Priority Chemist	P.O.Box 11387, 00300, Nairobi
129.	Nairobi East Hosp	P.O.Box 11672, 00300, Nairobi
130.	S.G.R.R	P.O.Box 11197, 00300, Nairobi
131.	Orion Pharmacy Ltd	P.O.Box 11525-00400 Tom Mboya St, Nairobi
132.	Gateway Chemist	P.O.Box 121, 00519, Nairobi
133.	Elycem Chemist	P.O.Box 1201, 00519, Nairobi
134.	Edmark Pharmacy	P.O.Box 1211, 00519, Nairobi
135.	Roma Medicare	P.O.Box 12164-00100, Nairobi
136.	Medivet Chemists	P.O.Box 12174, Nairobi
137.	Transwide Pharmaceuticals Ltd	P.O.Box 12211-00200 City Square, Nairobi
138.	Status Chemists	P.O.Box 12329, 00400, Nairobi

139.	Host Pharmacy	P.O.Box 12444-00400 Tom Mboya St, Nairobi
140.	Ayany Chemist	P.O.Box 12361 00100, Nairobi
141.	La Bonvie Pharmacie Ltd	P.O.Box 12378-00100 GPO, Nairobi
142.	Nickpharm Pharmaceuticals Ltd	P.O.Box 12404-, Nairobi
143.	Bactlab Ltd	P.O.Box 12676, Nairobi
144.	Eastleigh Pharmacy	P.O.Box 12576, Nairobi
145.	Ariquest Ltd	P.O.Box 12876, Nairobi
146.	Juko Pharmacy	P.O.Box 12832 00100, Nairobi
147.	Nairobi Drugstore Pharmacy	P.O.Box 12877, Nairobi
148.	Elegant Remedies	P.O.BOX 13562, Nairobi
149.	Livercorde Chemist	P.O.Box 1381 00100, Nairobi
150.	A A A Pharmaceuticals Ltd	P.O.Box 1394-00606 Sarit Centre, Nairobi
151.	Mosal Pharmacy Ltd	P.O.Box 14156 00100, Nairobi
152.	KIPS Pharmacy	P.O.BOX 14167, Nairobi
153.	Krishna Pharmacy	P.O.BOX 14197, Nairobi
154.	Ladan Hosp Pharmacy	P.O.BOX 14144, Nairobi
155.	Jacaranda Pharmacy	P.O.Box 1431 00400, Nairobi
156.	Holly Wood Pharmacy	P.O.Box 1441 00400, Nairobi
157.	Jencons Africa Ltd	P.O.Box 1461 00400, Nairobi
158.	Vinage Chemists	P.O.Box 12917, 00100, Nairobi
159.	Shah Chemists Ltd	P.O.Box 14987-00800 Westlands, Nairobi
160.	Donholm Pharmaceuticals Ltd	P.O.Box 10619 00100, Nairobi
161.	Dawaline Pharmaceuticals Ltd	P.O.Box 13002,, Nairobi
162.	Faw Pharmaceutical Ltd	P.O.Box 1102, 00606, Nairobi
163.	South Rift Chemists	P.O.Box 1503, 00200, Nairobi
164.	Akiba Pharmacy Ltd	P.O.Box 12472-00100 GPO, Nairobi
165.	Ratna Chemists	P.O.Box 19632, Nairobi
166.	Shamchem Pharmaceuticals	P.O.Box 17239, 00610, Nairobi
167.	Geel Pharmacy	P.O.Box 16239-00100 GPO, Nairobi
168.	Puriza Chemists Ltd	P.O.Box 17916-00620 Mobil Plaza, Nairobi
169.	Pantel Chemicals	P.O.BOX 17506, Nairobi
170.	Royal Drug Mart Ltd	P.O.Box 19646, 00500 Enterprise Rd, Nairobi
171.	Scorpion Pharmacy Ltd	P.O.Box 19776 00300, Nairobi
172.	Sunview Chemist	P.O.Box 11776 00300, Nairobi
173.	Accord Healthcare (Kenya) Ltd	P.O.Box 10181,00100, Nairobi

174.	Amahoro Chemist	P.O.Box 19121,00100, Nairobi
175.	Accra Chemist	P.O.Box 18131,00100, Nairobi
176.	Airtech	P.O.Box 18161,00100, Nairobi
177.	Uchumi Pharmaceuticals Ltd	P.O.BOX 11448, Nairobi
178.	ABCON Pharmaceuticals Ltd	P.O.BOX 13511, Nairobi
179.	Dannes Chemist	P.O.Box 18964, 00500, Nairobi
180.	Dentpharm Chemists	P.O.Box 19325 00202, Nairobi
181.	Ansa Chemist	P.O.Box 14328, Nairobi
182.	Solai Medical Supplies Ltd	P.O.Box 19445-00202 Kenyatta N. Hospital, Nairobi
183.	Prulen Chemist	P.O.Box 12692, 00202, Nairobi
184.	Mariwan Pharmacy	P.O.Box 1972 00100, Nairobi
185.	Pharmatis Laboratories Limited	P.O.Box 13750-00200 City Square, Nairobi
186.	Ridge Pharmaceuticals	P.O.Box 19794-00202 Kenyatta N.
187.	Lynx Pharmacy Ltd	P.O.Box 10819-00100 GPO, Nairobi
188.	Fedha Pharmacy (2002) Ltd	P.O.Box 19850-00100 GPO, Nairobi
189.	Country Bound Pharmacy	P.O.Box 16953-00202 Kenyatta N. Hospital, Nairobi
190.	Ideal Medical	P.O.Box 1015 00505, Nairobi
191.	Gedmed Pharmacy	P.O.Box 1915 00505, Nairobi
192.	Hychem Chemist	P.O.Box 19850-00100 GPO, Nairobi
193.	Jama Hosp Pharmacy	P.O.Box 2905 00505, Nairobi
194.	Gurunanak Pharmacy	P.O.Box 201 00505, Nairobi
195.	Githurai Chemist and Cosmetics	P.O.Box 2015 00505, Nairobi
196.	Greenfields Pharmaceuticals	P.O.Box 115 00505, Nairobi
197.	Jericho Pharmaceuticals	P.O.Box 2034 00505, Nairobi
198.	Hildoh Chem	P.O.Box 2019 00505, Nairobi
199.	Blessing Pharmacy	P.O.Box 20676,, Nairobi
200.	Kenmart Pharmacy	P.O.Box 20838, Nairobi
201.	Healthway Chemists	P.O.Box 20853,, Nairobi
202.	Flame Pharmacy Ltd	P.O.Box 21926,00202, Nairobi
203.	Sportsview Chemists	P.O.Box 2094, 00100, Nairobi
204.	Edwan Pharmacy Ltd	P.O.Box 21984-00202 Kenyatta N. Hospital, Nairobi
205.	Belea chemist	P.O.Box 21011 00505, Nairobi
206.	Brick Pharmacy Ltd	P.O.Box 115 00505, Nairobi

207.	Kisao Chemists Ltd	P.O.Box 201,, Nairobi
208.	Adams Arcade Brick Pharmacy Ltd	P.O.Box 2348-00505 Ngong Rd, Nairobi
209.	Rock Fields Pharmacy	P.O.Box 2197, 00202, Nairobi
210.	Natros Pharmacy Ltd	P.O.Box 21679 00505, Nairobi
211.	Ngong Road Chemists Ltd.	P.O.Box 254, 00505, Nairobi
212.	Fendercare Chemists	P.O.Box 220 00625, Nairobi
213.	Benmed Pharmaceuticals Ltd	P.O.Box 22128-00400 Tom Mboya St, Nairobi
214.	Kenak Pharmacy	P.O.Box 22144 00100, Nairobi
215.	Nelly Pharmaceuticals	P.O.Box 12245 00400, Nairobi
216.	Porters Pharmacy	P.O.Box 249-00202 Kenyatta N. Hospital, Nairobi
217.	Wade Pharmacy	P.O.Box 2249-00202 Kenyatta N. Hospital, Nairobi
218.	Zenamed Pharmaceuticals Ltd	P.O.Box 2349-00202 Kenyatta N. Hospital, Nairobi
219.	Stage Pharmacy	P.O.Box 2445, 00200, Nairobi
220.	Medipharm (E. A.) Ltd	P.O.Box 2469 00200, Nairobi
221.	Medi Pharm (K) Chemists	P.O.Box 1469 00200, Nairobi
222.	Rescue Pharmacy	P.O.Box 2544, 00200, Nairobi
223.	All Pharm Pharmaceuticals Ltd	P.O.Box 2560, 01000, Nairobi
224.	Githunguri Dawa House	P.O.Box 2576, 00202, Nairobi
225.	Kays Chemist	P.O.Box 260-00100 GPO, Nairobi
226.	Marias Pharmacy	P.O.Box 1160-00100 GPO, Nairobi
227.	Lifecare Pharmacy	P.O.Box 1177-00100 GPO, Nairobi
228.	Nezum Pharmacy	P.O.Box 2601-00100 GPO, Nairobi
229.	Kite Chemist	P.O.Box 2603-00100 GPO, Nairobi
230.	Medanta Pharmacy	P.O.Box 2106-00100 GPO, Nairobi
231.	Lenana Pharmacy	P.O.Box 2707-00100 GPO, Nairobi
232.	Max Pharmaceuticals	P.O.Box 2610-00100 GPO, Nairobi
233.	Kenyatta Market Chemist	P.O.Box 2630-00100 GPO, Nairobi
234.	Moran Chemist	P.O.Box 2699-00100 GPO, Nairobi
235.	Meteross Pharmacy	P.O.Box 111-00100 GPO, Nairobi
236.	M P Shah Pharmacy	P.O.Box 2225-00100 GPO, Nairobi
237.	Nairobi Hosp Pharmacy	P.O.Box 2697-00100 GPO, Nairobi
238.	Medus chemist	P.O.Box 9154-00100 GPO, Nairobi
239.	Lifesprings Pharmacy	P.O.Box 671-00100 GPO, Nairobi
240.	Mediheal Pharmacy	P.O.Box 671-00100 GPO, Nairobi
241.	Sotik Chemists Ltd	P.O.Box 10751-00204 Athi River, Nairobi

242.	Rehi Ventures Pharmaceuticals Ltd	P.O.BOX 26257, Nairobi
243.	South “B” Chemists Ltd	P.O.Box 26294,, Nairobi
244.	Sam Tech Diagnostics	P.O.Box 26391, Nairobi
245.	Simba Pharmaceuticals Ltd	P.O.Box 21391, Nairobi
246.	Sayana Chemist	P.O.Box 26393, Nairobi
247.	Shamco Industries Limited	P.O.Box 16399, Nairobi
248.	Rozeco Chemical Industries	P.O.Box 6391, Nairobi
249.	Benuna Chemists Ltd	P.O.Box 26546-00504 Mchumbi Rd, Nairobi
250.	Cloriti Pharmaceutical (EA) Ltd	P.O.Box 1753, 00202, Nairobi
251.	Southlands Pharmaceuticals Ltd	P.O.Box 685-00506 Nyayo Stadium, Nairobi
252.	Mumbi House Pharmaceuticals Ltd	P.O.Box 7702-00506 Nyayo Stadium, Nairobi
253.	Beryl Pharmacy	P.O.Box 780, Nairobi
254.	Eastleigh Pharma	P.O.Box 7807, Nairobi
255.	Benmed	P.O.Box 278, Nairobi
256.	Belf pharmacy	P.O.Box 21107, Nairobi
257.	Bilova Pharma	P.O.Box 26407, Nairobi
258.	Bripamu Chemist	P.O.Box 29707, Nairobi
259.	Diagnostic Chemist	P.O.Box 24907,, Nairobi
260.	Bujagali Pharmacy	P.O.Box 2130-00200 City Square, Nairobi
261.	Wamupharm Chemist	P.O.Box 27718, 00200, Nairobi
262.	Joycechem	P.O.Box 28791, 00100, Nairobi
263.	Wanzaro Chemist Ltd	P.O.Box 28804-00200 City Square, Nairobi
264.	Rafu Pharmaceuticals ltd	P.O.Box 28902 00200, Nairobi
265.	Neopharm Essentials Ltd	P.O.Box 1118 00200, Nairobi
266.	Oceanview Pharmaceuticals Ltd	P.O.Box 2898 00200, Nairobi
267.	Pamoma C & G Supplies	P.O.Box 28184 00200, Nairobi
268.	Park Drive Chemist	P.O.Box 2751 00200, Nairobi
269.	Stanmak Chemists	P.O.Box 29248,, Nairobi
270.	Toprank Chemists	P.O.Box 2930, 00200, Nairobi
271.	Naimed Pharmacy	P.O.Box 21114 00518, Nairobi
272.	Jakaro Chemists Ltd	P.O.Box 3023, 00506, Nairobi
273.	Aga Khan University Hospital	P.O.Box 2270-00100 GPO, Nairobi
274.	Gakira Pharmaceuticals Ltd	P.O.Box 3304-10202 Kangema, Nairobi

275.	Kemia Inter. Pharmaceuticals Ltd	P.O.BOX 11067, Nairobi
276.	Erine Chemist	P.O.Box 22503 00100, Nairobi
277.	Familycare Medical Centre & Pharmacy	P.O.Box 581 00100, Nairobi
278.	Precious Chemists	P.O.Box 56628 00100, Nairobi
279.	Kumi Pharmaceuticals Ltd	P.O.Box 30107-00600 Ngara Rd, Nairobi
280.	Woodstreet Dispensing Pharmacy	P.O.Box 3312, 00200, Nairobi
281.	Dispensing Chemists	P.O.Box 31120, Nairobi
282.	Kavakava Pharmacy	P.O.Box 11256-01000 Thika, Nairobi
283.	Amking Chemist	P.O.Box 9789 00100, Nairobi
284.	Magadi Road Chemist	P.O.Box 61881-00205 Magadi, Nairobi
285.	South “C” Pharmaceuticals	P.O.Box 3213, 00506, Nairobi
286.	Tomes Pharma ltd	P.O.Box 32224, Nairobi
287.	Texas Chemist	P.O.Box 3232, Nairobi
288.	St Francis Hosp Pharmacy	P.O.Box 32334, Nairobi
289.	Star Chemist	P.O.Box 2324, Nairobi
290.	Sunprine Pharmacy	P.O.Box 62328, Nairobi
291.	Swama Ltd	P.O.Box 32311, Nairobi
292.	Thekas chemist	P.O.Box 32316, Nairobi
293.	Orshe Pharmacy Ltd	P.O.Box 32505-00100 GPO, Nairobi
294.	Muthithi Pharmaceuticals Ltd	P.O.Box 3253 00300, Nairobi
295.	Zimmer Chemist	P.O.Box 31121, Nairobi
296.	K-Pharm Pharmacy	P.O.Box 3279, 00100, Nairobi
297.	Luc Pharmacy	P.O.Box 3005,00100, Nairobi
298.	Rewapher Medical Stores Pharmaceuticals Ltd	P.O.Box 32907-00600 Ngara Rd, Nairobi
299.	Raydol Chemists	P.O.Box 32970, 00606, Nairobi
300.	Midlane Pharmacy	P.O.Box 3300, 00100 Nairobi GPO, Nairobi
301.	Exodus Chemist & Healthcare	P.O.Box 33030 00600, Nairobi
302.	Crescent Medical Aid Kenya	P.O.Box 33041, Nairobi
303.	Ibero Drug Stores Ltd	P.O.Box 33105, Nairobi
304.	Corner Pharmacy ltd	P.O.Box 3328-00506, Nairobi
305.	Shiriji Chemists Ltd	P.O.Box 33555-00600 Ngara Rd, Nairobi
306.	Daca Chemists	P.O.Box 13717 00600, Nairobi
307.	Daywell Chemists	P.O.Box 3423 00600, Nairobi

308.	Lome Pharmacy	P.O.Box 14536 00100, Nairobi
309.	Vidonge Pharmaceuticals	P.O.Box 34920-00100 GPO, Nairobi
310.	Vantage Point Enterprises Ltd	P.O.Box 35115-00200 City Square, Nairobi
311.	Jupiter Pharmacy Ltd	P.O.Box 15514-00200 City Square, Nairobi
312.	Janjay Chemists	P.O.Box 15015-00200 City Square, Nairobi
313.	Flame Tree Pharmacy Ltd	P.O.Box 38287-00623 Parklands, Nairobi
314.	Oakley's Pharmacy Ltd	P.O.Box 300500-00623 Parklands, Nairobi
315.	Prime Pharmacy (K) Ltd	P.O.Box 38684-00623 Parklands, Nairobi
316.	Pamstech Pharmaceuticals	P.O.Box 18805 00606, Nairobi
317.	Craftsman Pharmaceuticals Ltd	P.O.BOX 38906, Nairobi
318.	Marge Reality Ltd	P.O.Box 3900-00100 GPO, Nairobi
319.	Bubanks	P.O.BOX 19307, Nairobi
320.	Leo Pharma Ltd	P.O.Box 31559-00623 Parklands, Nairobi
321.	A B C Pharmacy Ltd	P.O.Box 40093-00100 GPO, Nairobi
322.	Hazina Pharmacy Ltd	P.O.Box 1337, Nairobi
323.	Mombasa Medical Stores (K) Ltd	P.O.Box 10428-00100 GPO, Nairobi
324.	Jacaranda Chemists	P.O.Box 40468-00100 GPO, Nairobi
325.	Alpha Chemist	P.O.Box 30495,, Nairobi
326.	Lymocott Chemist	P.O.Box 40515 60100, Nairobi
327.	Flavour Chem Pharmaceuticals Ltd	P.O.BOX 50561, Nairobi
328.	Prior Chemist	P.O.Box 4066-00506 Nyayo Stadium, Nairobi
329.	Kachra Jivraj Pharmaceuticals Ltd	P.O.BOX 40883-00100 GPO, Nairobi
330.	Phoenix Pharmacy Ltd	P.O.Box 4142-00506 Nyayo Stadium, Nairobi
331.	Emem Enterprises	P.O.BOX 41485, Nairobi
332.	Lady Myra Chemists Ltd	P.O.Box 41510-00100 GPO, Nairobi
333.	Slopes Chemist	P.O.Box 41642, 00200, Nairobi
334.	Panjay Pharmacy	P.O.Box 1172 00100, Nairobi
335.	Catalyst Chemicals Pharmaceuticals Ltd	P.O.BOX 31724, Nairobi
336.	Tarisa Chemists Ltd	P.O.Box 41806-00100 GPO, Nairobi
337.	Neonise Pharmacy	P.O.Box 41842-00100 Nairobi GPO, Nairobi
338.	Bells Pharmacy Ltd	P.O.Box 42468 00200, Nairobi
339.	See Bound Pharmacy	P.O.Box 42541-00100 GPO, Nairobi
340.	Kings Health Ltd	P.O.Box 42551, Nairobi
341.	Rosegate Pharmacy	P.O.Box 42960-00100 GPO, Nairobi
342.	Dalama Chemists	P.O.Box 4316 00600, Nairobi

343.	Sears Chemists Ltd	P.O.Box 43218-00100 GPO, Nairobi
344.	Portal Pharmacy Ltd	P.O.Box 44029-00100 GPO, Nairobi
345.	Jireh Laboratory Supplies	P.O.Box 44300-00100 GPO, Nairobi
346.	Kam Pharmacy Ltd Pharmaceuticals Ltd	P.O.Box 11300-00100 GPO, Nairobi
347.	New Steta	P.O.Box 40301-00100 GPO, Nairobi
348.	MensMax Supplements	P.O.Box 44101-00100 GPO, Nairobi
349.	Mother &Child	P.O.Box 14300-00100 GPO, Nairobi
350.	Lens Pharmacy	P.O.Box 25320-00100 GPO, Nairobi
351.	Nairobi South Hosp	P.O.Box 44310-00100 GPO, Nairobi
352.	Neema Hosp Pharmacy	P.O.Box 40311-00100 GPO, Nairobi
353.	Krishna Chemist	P.O.Box 47834-00100 GPO, Nairobi
354.	Kasaika Investments Ltd	P.O.Box 16837-00100 GPO, Nairobi
355.	Risen Chemists	P.O.Box 45507-00200 City Square, Nairobi
356.	Apomed Products	P.O.Box 46012, Nairobi
357.	Mamet Pharmacy	P.O.Box 463, 60202, Nairobi
358.	Anpi Pharmacy	P.O.Box 46517, Nairobi
359.	Monami Pharmaceutical Ltd	P.O.Box 46867 00100, Nairobi
360.	Medi-Chem Pharmacy Ltd	P.O.Box 16067-00100 GPO, Nairobi
361.	Raj Pharmacy	P.O.Box 46885-00100 GPO, Nairobi
362.	Pharmat	P.O.Box 36913-00100 GPO, Nairobi
363.	Penta Pharma	P.O.Box 26912-00100 GPO, Nairobi
364.	Plain View Hosp Pharmacy	P.O.Box 42917-00100 GPO, Nairobi
365.	Orimi chemis	P.O.Box 40903-00100 GPO, Nairobi
366.	Palma	P.O.Box 86615-00100 GPO, Nairobi
367.	Orchid Pharmacy Ltd	P.O.Box 40013-00100 GPO, Nairobi
368.	Rangechem Pharma	P.O.Box 4000-00100 GPO, Nairobi
369.	Njimia Pharma	P.O.Box 97413-00100 GPO, Nairobi
370.	Qunloon kenya ltd	P.O.Box 4907-00100 GPO, Nairobi
371.	Pharmachoice	P.O.Box 32917-00100 GPO, Nairobi
372.	Lyntons Pharmacy Ltd	P.O.Box 22970-00200 City Square, Nairobi
373.	Late Night Chemists (Neonise)	P.O.Box 473, 00517, Nairobi
374.	Medina Chemicals Pharmaceuticals Ltd	P.O.BOX 47146, Nairobi
375.	Chemraw Pharmaceuticals Ltd	P.O.BOX 47058, Nairobi
376.	Pan Pharmaceuticals Ltd	P.O.Box 17393-00100 GPO, Nairobi
377.	Archevanell General Supplies Kenya Ltd	P.O.Box 47490, 00100, Nairobi

378.	Brand Chemist	P.O.Box 17430, 00100, Nairobi
379.	Agakhan Hosp Pharmacy	P.O.Box 40400, 00100, Nairobi
380.	Alpine Medical & Laboratory Supplies	P.O.Box 80190, 00100, Nairobi
381.	Ace Pharmaceuticals Ltd	P.O.Box 190, 00100, Nairobi
382.	Assis Pharmacy	P.O.Box 8780, 00100, Nairobi
383.	Ansell Pharmaceuticals Ltd	P.O.Box 1150, 00100, Nairobi
384.	Beacon Of Hope	P.O.Box 4741, 00100, Nairobi
385.	Batian Pharmacy	P.O.Box 47222, 00100, Nairobi
386.	Quantum Chemicals	P.O.BOX 3845, Nairobi
387.	Abbey Pharmacy	P.O.Box 1574, Nairobi
388.	Bureau Pharmaceutical Ltd	P.O.Box 470671-00100 GPO, Nairobi
389.	Pesca Pharmacy Ltd	P.O.Box 47809, 00100, Nairobi
390.	Celestial Chemists	P.O.Box 18428, 00100 Nairobi GPO, Nairobi
391.	Orbit Chemical Industries	P.O.BOX 8870, Nairobi
392.	Anchem Chemist	P.O.Box 910 00100, Nairobi
393.	Martian Pharmacy Ltd	P.O.Box 4916-00506 Nyayo Stadium, Nairobi
394.	Kent Pharmaceuticals Ltd	P.O.Box 4003-00202 Kenyatta N. Hospital, Nairobi
395.	Canaan Pharmaceuticals	P.O.Box 4220 00100, Nairobi
396.	Decase Chemicals Pharmaceuticals Ltd	P.O.BOX 9470, Nairobi
397.	Jaga Pharmacy Ltd	P.O.Box 49620-00100 GPO, Nairobi
398.	Jonaid Pharmaceuticals	P.O.Box 4919 00100, Nairobi
399.	Kings Chemists Ltd	P.O.Box 19347-00100 GPO, Nairobi
400.	Osho Chemical Industries Pharmaceuticals Ltd	P.O.BOX 19916, Nairobi
401.	Nairobi Medical Stores	P.O.Box 49997 00100, Nairobi
402.	Continental Chemists Ltd	P.O.Box 10013 00200, Nairobi
403.	Northern Pharmacy	P.O.Box 10179-00200 City Square, Nairobi
404.	Piochem chemist	P.O.Box 10169-00200 City Square, Nairobi
405.	Aria's Pharmaceuticals	P.O.Box 40795, 00200, Nairobi
406.	Chema Chemist	P.O.Box 41129, Nairobi
407.	Ashcott Ltd	P.O.Box 41130, Nairobi
408.	Gelsup Laboratory Equipment Supply	P.O.Box 51459, Nairobi
409.	Family Medical Supplies Limited	P.O.Box 1119, Nairobi
410.	Canaan pharmacy	P.O.Box 51105, Nairobi
411.	Benpharm Chemist	P.O.Box 56529, Nairobi

412.	Benchman Chemist	P.O.Box 51180, Nairobi
413.	Fiolabchem Company Ltd	P.O.Box 23164, Nairobi
414.	Kemat Pharmacy	P.O.Box 27304, 00100, Nairobi
415.	Caroga Pharma Kenya Ltd	P.O.Box 51533 00200, Nairobi
416.	Salama Pharmaceuticals	P.O.Box 6651-00200 City Square, Nairobi
417.	Thorn Tree Chemists	P.O.Box 11651 00200 City Square, Nairobi
418.	Rings Eastleigh Chemist	P.O.Box 1927-00200 City Square, Nairobi
419.	Chemist Dove Pharmaceuticals Ltd	P.O.Box 52123, 00200 City Square, Nairobi
420.	Kahegi Pharmaceuticals Ltd	P.O.Box 12123-00200 City Square, Nairobi
421.	Dove Chemist	P.O.Box 2317-00200 City Square, Nairobi
422.	Kikabo Chemicals Pharmaceuticals Ltd	P.O.BOX 52331, Nairobi
423.	Zenith Chemists	P.O.Box 524-00400 Tom Mboya St, Nairobi
424.	Elmart Pharmacy	P.O.Box 1257-00200 City Square, Nairobi
425.	Githurai Chemist	P.O.Box 2529-00200 City Square, Nairobi
426.	Empire Pharmacy	P.O.Box 1278-00200 City Square, Nairobi
427.	Drug Hill	P.O.Box 52629-00200 City Square, Nairobi
428.	British Pharma	P.O.Box 5187-00200 City Square, Nairobi
429.	Delight Pharma	P.O.Box 51795-00200 City Square, Nairobi
430.	Alliance Hosp	P.O.Box 1258-00200 City Square, Nairobi
431.	Fatima	P.O.Box 50056-00200 City Square, Nairobi
432.	Eldo Hosp	P.O.Box 52037-00200 City Square, Nairobi
433.	Dockcare	P.O.Box 1021-00200 City Square, Nairobi
434.	Githurai Medical & Pharmaceuticals Supplies Ltd	P.O.Box 21135-00200 City Square, Nairobi
435.	Betroy Pharmaceuticals	P.O.Box 2197-00200 City Square, Nairobi
436.	Haltons	P.O.Box 5005-00200 City Square, Nairobi
437.	Diadems	P.O.Box 20028-00200 City Square, Nairobi
438.	Garlands	P.O.Box 1352-00200 City Square, Nairobi
439.	Care Hosp Pharmacy	P.O.Box 3221-00200 City Square, Nairobi
440.	Comet Healthcare Ltd	P.O.Box 115422-00200 City Square, Nairobi
441.	Arrow Chemists Ltd	P.O.Box 5034-00200 City Square, Nairobi
442.	Genelab Supplies Ltd (Subsidiary of Limatec (K) Ltd)	P.O.Box 92002-00200 City Square, Nairobi
443.	Astrazeneca	P.O.Box 1102-00200 City Square, Nairobi
444.	City Link Pharma	P.O.Box 70537-00200 City Square, Nairobi
445.	Dawa Plus	P.O.Box 50325-00200 City Square, Nairobii

446.	Maripharm Pharmaceuticals Ltd	P.O.Box 62651-00200 City Square, Nairobi
447.	Esaki Healthcare Agencies	P.O.Box 52741 00200, Nairobi
448.	Ongata Pharmacy	P.O.Box 53945, 00200, Nairobi
449.	Newmark Pharmaceuticals Ltd	P.O.Box 3960-00200 City Square, Nairobi
450.	Maendeleo Medicare Pharmacy	P.O.Box 4127-00200 City Square, Nairobi
451.	Troy Medical Supplies Ltd	P.O.Box 1207-00200 City Square, Nairobi
452.	J & J Ong'are Pharmaceuticals	P.O.Box 10090-00200 City Square, Nairobi
453.	South B Hosp	P.O.Box 14373, 00300, Nairobi
454.	Stans Chemists Ltd	P.O.Box 54300, 00300, Nairobi
455.	Gopitech Pharmaceuticals Ltd	P.O.Box 40421, Nairobi
456.	Zodiac Pharmacy	P.O.Box 4118-00200 City Square, Nairobi
457.	Nika Pharma	P.O.Box 18617 00200, Nairobi
458.	Nivani Chemist	P.O.Box 1170 00200, Nairobi
459.	Nor Drugs Store Ltd	P.O.Box 1060 00200, Nairobi
460.	North chemist	P.O.Box 1607 00200, Nairobi
461.	Ranaki Pharmacy Ltd	P.O.Box 5110 00200, Nairobi
462.	City Square Pharmacy Ltd	P.O.Box 1082, 00200, Nairobi
463.	Athusi Pharmacy	P.O.Box 50082, 00200, Nairobi
464.	Awale 1pharmacy	P.O.Box 55202, 00200, Nairobi
465.	Kahana Pharmaeuticals	P.O.Box 51632 00200, Nairobi
466.	Jambo Medical Stores	P.O.Box 1022-00200 City Square, Nairobi
467.	Health Point Chemists	P.O.Box 6822, Nairobi
468.	Minx Ltd the' Pharmacy	P.O.Box 1527, 00517, Nairobi
469.	EQUIPHARM CHEMIST	P.O.Box 25116, 00200 City Square, Nairobi
470.	Phineyard Pharmacy	P.O.Box 25412, 00100, Nairobi
471.	Nilsas	P.O.Box 16013, 00100, Nairobi
472.	Pacco Design Wear	P.O.Box 35411, 00100, Nairobi
473.	Ponprim Chemist	P.O.Box 2971, 00100, Nairobi
474.	Quick Pharmacy	P.O.Box 52792, 00100, Nairobi
475.	Njimiat Pharma	P.O.Box 1612, 00100, Nairobi
476.	New chemist	P.O.Box 29702, 00100, Nairobi
477.	Afya Centre Pharmacy Ltd	P.O.Box 15202, Nairobi
478.	Damar Pharmacy	P.O.Box 1956 00100, Nairobi
479.	Vam Health Services (K) Ltd	P.O.Box 2795-00200 City Square, Nairobi

480.	Stev Pharm	P.O.Box 50025, 00200, Nairobi
481.	Solvex Agencies	P.O.Box 16015, 00200, Nairobi
482.	Eunomax Chemists	P.O.Box 56834, Nairobi
483.	Tropical Chemists Ltd	P.O.Box 57001,, Nairobi
484.	Auka Chemists	P.O.Box 1070-00200 City Square, Nairobi
485.	Theluji Pharmacy Ltd	P.O.Box 10281-90403 Kamuwongo, Nairobi
486.	Generations Dispensing Chemists	P.O.Box 18234, 00100, Nairobi
487.	CHEMICAL & SOLVANT Pharmaceuticals Ltd	P.O.BOX 58348, Nairobi
488.	Racecourse Pharmacy Ltd	P.O.Box 18489, Nairobi
489.	South 'C' Pharmaceuticals	P.O.Box 58830-00200 City Square, Nairobi
490.	Ortho Pharmacy	P.O.Box 59237, 00200, Nairobi
491.	Preschem Pharmacy Ltd	P.O.Box 19281-00200 City Square, Nairobi
492.	Tower Chemists	P.O.Box 9331-00200 City Square, Nairobi
493.	Avenue Pharmacy Ltd	P.O.Box 1938-00200 City Square, Nairobi
494.	Wescot Pharmaceuticals Ltd	P.O.Box 1944-00100 GPO, Nairobi
495.	SHAYONA	P.O.Box 10734-00200 City Square, Nairobi
496.	Pamal Healthcare Ltd	P.O.Box 19764-00200 City Square, Nairobi
497.	Sal Healthcare Ltd	P.O.Box 50754-00200 City Square, Nairobi
498.	Geromed Pharmaceutical Ltd	P.O.Box 771-00200 City Square, Nairobi
499.	Wellmed Pharmaceuticals Ltd	P.O.Box 1630-00200 City Square, Nairobi
500.	D.K. Gachanja Sam Chemists	P.O.Box 6011, Nairobi
501.	Sam Chemicals Ltd	P.O.Box 1102-00200 City Square, Nairobi
502.	Get Well Soon Chemist	P.O.Box 38459 00100, Nairobi
503.	Belladonna Pharmacy Ltd	P.O.Box 6012-00621 Village Market, Nairobi
504.	Meds Pharmaceuticals Ltd	P.O.Box 50130, 00200, Nairobi
505.	Limi Pharmacy	P.O.Box 5031, 00200, Nairobi
506.	Dan Pharmacie Ltd	P.O.Box 1526-00200 City Square, Nairobi
507.	Liki Pharmacy Ltd	P.O.Box 11682-00200 City Square, Nairobi
508.	Market view chemist	P.O.Box 1069-00200 City Square, Nairobi
509.	Leans Pharmaceuticals (K) Ltd	P.O.Box 6074, Nairobi
510.	Prinska Chemist	P.O.Box 10811, 00100, Nairobi
511.	Pharmaplus Pharmacy	P.O.Box 150849, 00100, Nairobi
512.	Opamo Pharmacy	P.O.Box 60800, 00100, Nairobi

513.	Pentapharm Pharmaceuticals Ltd	P.O.Box 11864 00200, Nairobi
514.	Shield Pharmaceuticals Ltd	P.O.Box 60879-00200 City Square , Nairobi
515.	Slopes Dispensing Chemists	P.O.Box 60110, 00200, Nairobi
516.	Pharma Vision Pharmaceuticals Ltd	P.O.Box 6111-00606 Sarit Centre, Nairobi
517.	Annunciation Pharmacy Ltd	P.O.Box 60068 00200, Nairobi
518.	Bipharm Pharmaceuticals	P.O.Box 2061, Nairobi
519.	Lens Pharmacy Ltd	P.O.Box 2097-00100 GPO, Nairobi
520.	Applegene Pharmacy	P.O.Box 2118-00100 GPO, Nairobi
521.	Vine Care Chemist	P.O.Box 20175, 00200, Nairobi
522.	Juja Road Chemists	P.O.Box 1097 00600, Nairobi
523.	Acacia Pharmacy	P.O.Box 1405 00200, Nairobi
524.	Maghreb Pharmacy Ltd	P.O.Box 1532-00200 City Square, Nairobi
525.	Rose Hill Pharmacy	P.O.Box 1705, 00200, Nairobi
526.	Rose Hill Pharmacy	P.O.Box 1085, 00200, Nairobi
527.	RUMORTH CHEMICALS	P.O.BOX 61710, Nairobi
528.	Gita Pharmacy	P.O.Box 61732-00200 City Square, Nairobi
529.	Sunmed Pharmacy	P.O.Box 61815-00200 City Square, Nairobi
530.	Neighbours Pharmacy	P.O.Box 12313 00200, Nairobi
531.	Mansion Chemists Ltd	P.O.Box 12748 00200, Nairobi
532.	Kangawa Chemist	P.O.Box 83035 00200, Nairobi
533.	Dove Pharmacy Ltd	P.O.Box 63084-00200 City Square, Nairobi
534.	Globalmed Pharmarceuticals	P.O.Box 3575-00619 Muthaiga, Nairobi
535.	Highridge Pharmacy	P.O.Box 3746 00619, Nairobi
536.	Hakati Chemist	P.O.Box 6116 00619, Nairobi
537.	Bel-ea Pharmacy Ltd	P.O.Box 19397-00200 City Square, Nairobi
538.	Muthaara Chemists Ltd	P.O.Box 64003-00100 GPO, Nairobi
539.	Soan Pharmacy	P.O.Box 14077-00100 GPO, Nairobi
540.	Pangani Chemist Ltd	P.O.Box 24136-00100 GPO, Nairobi
541.	Jeys Pharmacy Ltd	P.O.Box 14339-00100 GPO, Nairobi
542.	Sirs Pharmacy Ltd	P.O.Box 24613-00200 City Square, Nairobi
543.	Medipaint Pharmaceutical Ltd	P.O.Box 1629 00607, Nairobi
544.	Asterisk Ltd	P.O.Box 15724 00607, Nairobi
545.	Citizen Pharmaceuticals Ltd	P.O.Box 25720 00607, Nairobi
546.	Kiambu Drug House Ltd	P.O.Box 1580, 00900, Nairobi
547.	Ron Pharmacy Ltd	P.O.Box 16166-00800 Westlands, Nairobi
548.	Bilova Chemist	P.O.Box 60097 00800, Nairobi

549.	Apec Pharmacy Ltd	P.O.Box 12865-00800 Westlands, Nairobi
550.	Nature Pharmacy Ltd	P.O.Box 15621-00622 Juja Rd, Nairobi
551.	Neematallah Pharmacy	P.O.Box 16225-00508 Yaya Towers, Nairobi
552.	Kanchumarthy	P.O.Box 16541, 00800 Westlands, Nairobi
553.	Nairobi South Pharmacy Ltd	P.O.Box 66710-00800 Westlands, Nairobi
554.	Satelite Pharmaceuticals	P.O.Box 60734-00800 Westlands, Nairobi
555.	Basano Pharmaceuticals Ltd	P.O.Box 60749-00800 Westlands, Nairobi
556.	Abacus Pharma (Africa) Ltd	P.O.Box 61829-00800 Westlands, Nairobi
557.	Antochem Pharmacy	P.O.Box 60015 00200, Nairobi
558.	Betamax Chemists Ltd	P.O.Box 60010, Nairobi
559.	Pemut Pharmacy	P.O.BOX 17093, Nairobi
560.	Lemuma Pharmacy Ltd	P.O.Box 1091-00200 City Square, Nairobi
561.	LIFED CHEMIST	P.O.Box 60092-00200 City Square, Nairobi
562.	Kware Pharmacy	P.O.Box 61112, 00200, Nairobi
563.	Caxma Pharmaceuticals Ltd	P.O.Box 1248 00200, Nairobi
564.	Skims Pharmacy	P.O.Box 1572, 00100, Nairobi
565.	New Unijexm 2000 Pharmacy	P.O.Box 15236-00200 City Square, Nairobi
566.	Chadan Enterprises Ltd	P.O.Box 19425, Nairobi
567.	Westlands Medical Stores Ltd	P.O.Box 67542-00200 City Square, Nairobi
568.	Donholm PolePole Pharmacy	P.O.Box 60687-00200 City Square, Nairobi
569.	Sunnland Pharmaceuticals	P.O.Box 6073-00200 City Square, Nairobi
570.	Green Cross Clinic & Chemists	P.O.Box 6792 00100, Nairobi
571.	Halal Medical	P.O.Box 6700 00100, Nairobi
572.	Health Life Pharmaceuticals Ltd	P.O.Box 6792 00100, Nairobi
573.	Healthlife Chemists Ltd	P.O.Box 6800-00100 GPO, Nairobi
574.	Medchum Pharmaceuticals Ltd	P.O.Box 60021-00200 City Square, Nairobi
575.	Danchem Pharmacy Ltd	P.O.Box 61055-00200 City Square, Nairobi
576.	Easton Pharmaceuticals Ltd	P.O.Box 68279-00200 City Square, Nairobi
577.	Armicon Pharmaceuticals Ltd	P.O.Box 60012-00200 City Square, Nairobi
578.	Bafumi Chemist	P.O.Box 6067-00200 City Square, Nairobi
579.	Mina Pharmacy	P.O.Box 61050-00622 Juja Rd, Nairobi
580.	Kaweru Chemists	P.O.Box 60179-00622 Juja Rd, Nairobi

581.	Wilmma Pharmaceutical	P.O.Box 58149-00622 Juja Rd, Nairobi
582.	Wima Chemists Ltd	P.O.Box 18471, 00600, Nairobi
583.	Njimia Pharmacy	P.O.BOX 18512, Nairobi
584.	Archem Pharmacy Ltd	P.O.Box 58700-00208 Ngong Hills, Nairobi
585.	Petterson Pharmaceuticals Ltd	P.O.Box 49118-00100 GPO, Nairobi
586.	Sapan Chemists Ltd	P.O.Box 49400,, Nairobi
587.	Sapau Chemists Ltd	P.O.Box 19400,Nairobi
588.	Med-Lefri (K) Ltd	P.O.Box 29410, Nairobi
589.	Malibu Pharmacy	P.O.Box 69652-00400 Tom Mboya St, Nairobi
590.	Metropolitan Chemists Ltd	P.O.Box 39879-00400 Tom Mboya St, Nairobi
591.	Nilson Pharmaceuticals Ltd	P.O.Box 70400 00400, Nairobi
592.	Travotech Agencies	P.O.Box 70446, 00200, Nairobi
593.	Transam	P.O.Box 16409, 00400, Nairobi
594.	Welus chemuist	P.O.Box 70102, 00400, Nairobi
595.	Troq chemist	P.O.Box 80419, 00400, Nairobi
596.	Ursy Chemist Ltd	P.O.Box 30410, 00400, Nairobi
597.	Yogi Chemist	P.O.Box 30469, 00400, Nairobi
598.	Teachers Pharmacy Ltd	P.O.Box 72898,00400, Nairobi
599.	Healthlink Ltd	P.O.Box 71190-00400 Tom Mboya St, Nairobi
600.	Cedar Pharma Care Ltd	P.O.Box 70841 00400, Nairobi
601.	Liberty Pharmacy	P.O.Box 72487-00400 Tom Mboya St, Nairobi
602.	Ram Pharmaceuticals Ltd	P.O.Box 10945-00400 Tom Mboya St, Nairobi
603.	Phila Chemists	P.O.Box 7102 00200, Nairobi
604.	Kipande Pharmacy	P.O.Box 7111-00100 Nairobi GPO, Nairobi
605.	Al-Abkar Chemists	P.O.Box 71211-00622 Juja Rd, Nairobi
606.	VICLIP PHARMACY	P.O.Box 1112, 00100 Nairobi GPO, Nairobi
607.	Basra Chemists	P.O.Box 7122, Nairobi
608.	Mecca Drug Store	P.O.Box 71223 00100, Nairobi
609.	S.K. Chemist	P.O.Box 12588, 00200, Nairobi
610.	Macmed Pharmacy	P.O.Box 12926, Nairobi
611.	Trinity Pharma Limited	P.O.Box 15125-00200 City Square, Nairobi
612.	Savanna Pharmacy	P.O.Box 19125-00200 City Square, Nairobi
613.	Transchem Pharmaceuticals Ltd.	P.O.Box 72249-00200 City Square, Nairobi
614.	Southland Chemist	P.O.Box 6716-00200 City Square, Nairobi
615.	Ultralab & East Africa Ltd	P.O.Box 1684-00200 City Square, Nairobi
616.	Suken International LTD	P.O.Box 28476-00200 City Square, Nairobi
617.	Supus chemist	P.O.Box 12328-00200 City Square, Nairobi

618.	Salihiya	P.O.Box 52120-00200 City Square, Nairobi
619.	Veteran Pharma	P.O.Box 12556-00200 City Square, Nairobi
620.	REALE HOSP PHARMACY	P.O.Box 32120-00200 City Square, Nairobi
621.	Rajin Pharmacy	P.O.Box 32129-00200 City Square, Nairobi
622.	Sonachem	P.O.Box 1754-00200 City Square, Nairobi
623.	Woodvale Pharmacy	P.O.Box 11297-00200 City Square, Nairobi
624.	Westlands Medical Centre Pharmacy	P.O.Box 12128-00200 City Square, Nairobi
625.	Racmes Pharmacy Ltd	P.O.Box 52128-00200 City Square, Nairobi
626.	Shas Pharmacy	P.O.Box 12125-00200 City Square, Nairobi
627.	St Patricks Kayole	P.O.Box 72179-00200 City Square, Nairobi
628.	Siloa Hosp Pharmacy	P.O.Box 12126-00200 City Square, Nairobi
629.	Sage Pharmacy	P.O.Box 60087-00200 City Square, Nairobi
630.	Sky Phama	P.O.Box 4228-00200 City Square, Nairobi
631.	Sugik Pharma	P.O.Box 3097-00200 City Square, Nairobi
632.	Sonal Holdings (K) Ltd	P.O.Box 1976-00200 City Square, Nairobi
633.	Rup Pharm Ltd.	P.O.Box 25486-00200 City Square, Nairobi
634.	Tebas chemist	P.O.Box 15421-00200 City Square, Nairobi
635.	Suncky Pharmacy	P.O.Box 20526-00200 City Square, Nairobi
636.	Zanaki chemist	P.O.Box 10020-00200 City Square, Nairobi
637.	Trismed Supplies	P.O.Box 20026-00200 City Square, Nairobi
638.	Roi Scientific Ltd	P.O.Box 7287-00200 City Square, Nairobi
639.	Satya Pharmacy	P.O.Box 108-00200 City Square, Nairobi
640.	Susamed Chemist	P.O.Box 1228-00200 City Square, Nairobi
641.	Uhmcpharmacy	P.O.Box 70006-00200 City Square, Nairobi
642.	Sears	P.O.Box 7406-00200 City Square, Nairobi
643.	Odex Chemicals Pharmaceuticals Ltd	P.O.BOX 20391, Nairobi
644.	Suncity Pharmaceuticals Ltd	P.O.Box 2414-00100 GPO, Nairobi
645.	Montel Pharmacy Ltd	P.O.Box 12039-00200 City Square, Nairobi
646.	DIC Pharmaceuticals Ltd	P.O.BOX 32974, Nairobi
647.	Golf Course Pharmacy Ltd	P.O.Box 3876 00100, Nairobi
648.	Hekima Pharmacy Ltd	P.O.Box 3071-00200 City Square, Nairobi
649.	Sumo Pharmacy Ltd	P.O.Box 999-00200 City Square, Nairobi
650.	Jogoo Road Chemists	P.O.Box 4152, Nairobi
651.	Kam Pharmacy	P.O.Box 2522, Nairobi
652.	Nelson Awori Pharmacy	P.O.Box 14410, 00200, Nairobi
653.	New Status	P.O.Box 4410, 00200, Nairobi

654.	Ngong Hills Medical Stores Ltd	P.O.Box 74150, 00200, Nairobi
655.	Nila Pharmacy	P.O.Box 4110, 00200, Nairobi
656.	Sonachem Pharmaceuticals	P.O.Box 33472-00200 City Square, Nairobi
657.	Karen Chemists Ltd	P.O.Box 41573-00200 City Square, Nairobi
658.	Kheybar Pharmaceutical Ltd	P.O.Box 2466, 00300, Nairobi
659.	Karuri Stores	P.O.Box 346, 00300, Nairobi
660.	Kahawa Wedani Pharmacy	P.O.Box 6566, 00300, Nairobi
661.	Kiserian Pharmacy	P.O.Box 7006, 00300, Nairobi
662.	Triyog Pharmacy	P.O.Box 15214-00600 Ngara Rd, Nairobi
663.	Shalom Chemists	P.O.Box 1649, 00200, Nairobi
664.	Lifemed Chemists	P.O.Box 50835, 00200, Nairobi
665.	Forcus Chemists	P.O.Box 6102, 00200, Nairobi
666.	Yaya Chemists Ltd	P.O.Box 6140-00202 Kenyatta N. Hospital, Nairobi
667.	Highfields Pharmaceuticals Ltd	P.O.Box 70430, Nairobi
668.	Hamsadam Dispensing Chemist	P.O.Box 71439, Nairobi
669.	Pharmaceutica (1985) Ltd	P.O.Box 1481-00508 Yaya Towers, Nairobi
670.	Brixstone Chemists Ltd	P.O.Box 6609, Nairobi
671.	Jawamed	P.O.Box 61632, Nairobi
672.	Inkamed Pharmacy	P.O.Box 1632, Nairobi
673.	Hopepharm Chemists	P.O.Box 1652, Nairobi
674.	Trichem Pharmaceuticals Ltd	P.O.Box 6361-00508 Yaya Towers, Nairobi
675.	SOILEX CHEMICALS Pharmaceuticals Ltd	P.O.Box 175, Nairobi
676.	CHEMID KENYA Pharmaceuticals Ltd	P.O.Box 183, Nairobi
677.	Cart Pharmacy	P.O.Box 3831 00400, Nairobi
678.	Wood Street Chemists	P.O.Box 1800, Nairobi
679.	Afromed Health Care Pharmacy	P.O.Box 1065-00400 Tom Mboya St, Nairobi
680.	Pinechem Kenya Pharmaceuticals Ltd	P.O.Box 10463, Nairobi
681.	Nosim Chemist	P.O.Box 147, 00100, Nairobi
682.	Apple Pharmaceuticals Ltd	P.O.Box 9677, Nairobi
683.	Jimcare Diagnostic Suppliers	P.O.Box 9079-00200 City Square, Nairobi
684.	Kava Kava Pharmacy	P.O.Box 7900-00200 City Square, Nairobi
685.	KNH Pharmacy	P.O.Box 1079-00200 City Square, Nairobi

686.	Kesante Chemists	P.O.Box 1037-00200 City Square, Nairobi
687.	Joslab Supplies Ltd	P.O.Box 9700-00200 City Square, Nairobi
688.	Isakim Pharmacy	P.O.Box 7771-00200 City Square, Nairobi
689.	Haripharm	P.O.Box 7911-00200 City Square, Nairobi
690.	Narwa Chemist	P.O.Box 7009 00500, Nairobi
691.	Nequt Pharmacy	P.O.Box 7215 00500, Nairobi
692.	Clecinta Wainaina Chemist	P.O.Box 8311 00508, Nairobi
693.	Awale 2 Pharmacy	P.O.Box 1393 00508, Nairobi
694.	Al-Hakim Pharmacy	P.O.Box 1407,, Nairobi
695.	Mutual Dispensing Chemist	P.O.Box 1456, 00100, Nairobi
696.	Hope Pharm	P.O.Box 845, 00100, Nairobi
697.	Janeva Pharmacy	P.O.Box 4815, 00100, Nairobi
698.	Hikmas Chemist	P.O.Box 1813, 00100, Nairobi
699.	Hartlane Pharmacy	P.O.Box 1485, 00100, Nairobi
700.	Rence Pharmacy Ltd	P.O.Box 1245-00300 Ronald Ngala, Nairobi
701.	Mfangano Pharmaceuticals Ltd	P.O.Box 30581-00300 Ronald Ngala, Nairobi
702.	Tulila Pharmacy	P.O.Box 8611,, Nairobi
703.	Joecare Chemists	P.O.Box 87, 00517, Nairobi
704.	Chemmatt Pharmacy	P.O.Box 20439-80100 Mombasa, Nairobi
705.	Roma Pharmacy	P.O.Box 1880-00100 GPO, Nairobi
706.	Ndalu Kenya Ltd	P.O.Box 66, 00300, Nairobi
707.	Pona Chemists	P.O.Box 171-00600 Ngara Rd, Nairobi
708.	Green Pharmacy	P.O.Box 9124 00200, Nairobi
709.	Three Agencies Pharmaceuticals Ltd	P.O.Box 4145,, Nairobi
710.	Superdrug Pharmacy	P.O.Box 5133, 00600, Nairobi
711.	Temple Stores Pharmaceuticals	P.O.Box 1551-00300 Ronald Ngala, Nairobi
712.	Flam Pharmacy	P.O.Box 1624-00300 Ronald Ngala, Nairobi
713.	Midland Chemist	P.O.Box 8318 00100, Nairobi
714.	Kelina Pharmaceuticals	P.O.Box 1733 00100, Nairobi
715.	Darka Chemist	P.O.Box Private Bag, Nairobi
716.	Baraka Chemists Ltd	P.O.Box, 14616-00620 Mobil Plaza, Nairobi
717.	Olive Chemists	P.O.Box, 17033-00200 City Square, Nairobi
718.	Riverlyne Pharmaceuticals	P.O.Box, 8642-00622 Juja Rd, Nairobi
719.	SEN	P.O.Box, 2244-00400 Tom Mboya St, Nairobi
720.	Global Merchants Ltd	Pate Road, Off Lunga Lunga Road, Industrial Area

Source: PPB (2016)

Appendix IV: Sample Frame

NO	Name	Physical address
1.	Monks Medicare Africa Pharmaceuticals Ltd	P.O.Box 260-00100 GPO, Nairobi
2.	Wall Greens Chemist	Box 20532,, Nairobi
3.	Pharmasell Ltd	Mombasa Rd, Vision Plaza, 1st Floor, Suite
4.	ClinWin Research Services	P O Box 3289 Nairobi 00200, Nairobi
5.	Adcock Ingram East Africa Ltd	P.O. Box: 101674-00101 Jamia, Nairobi
6.	Nature Chemist (K) Ltd	P.O.Box 15621-00622 Juja Rd, Nairobi
7.	Mimosa Pharmacy Ltd - Junction	P.O. Box: 1852-00621 Village Market, Nairobi
8.	Simrose Investments Ltd	P.O. Box: 21899, 00400 Tom Mboya St, Nairobi
9.	Le Grande Speciality Pharmacy	P.O. Box: 25358-00100 Nairobi GPO, Nairobi
10.	Jawamed Pharmaceuticals	P.O.Box 61632, Nairobi
11.	Ruth Pharm Ltd	P.O. Box: 21278-00100 Nairobi GPO, Nairobi
12.	Bakpharm Ltd	P.O. Box: 32672, 00600 Ngara Rd, Nairobi
13.	Med World Pharmaceuticals Ltd	P.O. Box: 39105-00623 Parklands, Nairobi
14.	Eros Chemist Ltd	P.O. Box: 46676, Nairobi
15.	Rudra Pharmacy Ltd	P.O. Box: 48333-00100 Nairobi GPO, Nairobi
16.	Plaza Pharmaceuticals Ltd	P.O. Box: 58031, 00200 City Square, Nairobi
17.	Inkamed Pharmaceutical Ltd	P.O.Box 1632, Nairobi
18.	Rasmi Pharmaceuticals	P.O. Box: 67-00610 Eastleigh, Nairobi
19.	Togas chemist	P.O. Box: 2322-00100 Nairobi GPO, Nairobi
20.	Rosebell Pharmacy	P.O. Box: 768913-00622 Juja Rd, Nairobi
21.	Jojemi Chemicals	P.O. Box: 953-00600 Ngara Rd, Nairobi
22.	Mul-T-Chem Agencies Ltd	P.O.Box 13426-00100 GPO, Nairobi
23.	Luthuli Pharmacy Ltd	P.O.Box 29542-00100 GPO, Nairobi
24.	Pharmatrade Pharmacy Ltd	P.O.Box 10976-00400 Tom Mboya St, Nairobi
25.	Tulip Pharmacy	P.O.Box 11340,00400, Nairobi
26.	Roni Pharmacy	P.O.Box 11377, 00300, Nairobi
27.	Priority Chemist	P.O.Box 11387, 00300, Nairobi
28.	Gateway Chemist	P.O.Box 121, 00519, Nairobi
29.	Eastleigh Pharmacy	P.O.Box 7807, Nairobi
30.	KIPS Pharmacy	P.O.Box 14167, Nairobi
31.	Holly Wood Pharmacy	P.O.Box 1441 00400, Nairobi
32.	Akiba Pharmacy Ltd	P.O.Box 12472-00100 GPO, Nairobi
33.	Puriza Chemists Ltd	P.O.Box 17916-00620 Mobil Plaza, Nairobi

34.	Mariwan Pharmacy	P.O.Box 1972 00100, Nairobi
35.	Fedha Pharmacy (2002) Ltd	P.O.Box 19850-00100 GPO, Nairobi
36.	Hychem Chemist	P.O.Box 2015 00505, Nairobi
37.	Greenfields Pharmaceuticals	P.O.Box 115 00505, Nairobi
38.	Kenmart Pharmacy	P.O.Box 20838, Nairobi
39.	Edwan Pharmacy Ltd	P.O.Box 21984-00202 Kenyatta N. Hospital, Nairobi
40.	Adams Arcade Brick Pharmacy Ltd	P.O.Box 21001-00505 Ngong Rd, Nairobi
41.	Medipharm (E. A.) Ltd	P.O.Box 2469 00200, Nairobi
42.	Githunguri Dawa House	P.O.Box 2576, 00202, Nairobi
43.	Nezum Pharmacy	P.O.Box 2601-00100 GPO, Nairobi
44.	Max Pharmaceuticals	P.O.Box 2610-00100 GPO, Nairobi
45.	M P Shah Pharmacy	P.O.Box 2225-00100 GPO, Nairobi
46.	Mediheal Pharmacy	P.O.Box 671-00100 GPO, Nairobi
47.	Sam Tech Diagnostics	P.O.Box 26391, Nairobi
48.	Rozeco Chemical Industries	P.O.Box 6391, Nairobi
49.	Mumbi House Pharmaceuticals Ltd	P.O.Box 7702-00506 Nyayo Stadium, Nairobi
50.	Bujagali Pharmacy	P.O.Box 2130-00200 City Square, Nairobi
51.	Jakaro Chemists Ltd	P.O.Box 3023, 00506, Nairobi
52.	Erine Chemist	P.O.Box 22503 00100, Nairobi
53.	Woodstreet Dispensing Pharmacy	P.O.Box 3112, 00200, Nairobi
54.	Magadi Road Chemist	P.O.Box 61881-00205 Magadi, Nairobi
55.	St Francis Hosp Pharmacy	P.O.Box 32324, Nairobi
56.	Thekas chemist	P.O.Box 32316, Nairobi
57.	K-Pharm Pharmacy	P.O.Box 3279, 00100, Nairobi
58.	Midlane Pharmacy	P.O.Box 3300, 00100 Nairobi GPO, Nairobi
59.	Corner Pharmacy ltd	P.O.Box 3328-00506, Nairobi
60.	Leo Pharma Ltd	P.O.Box 39559-00623 Parklands, Nairobi
61.	Jacaranda Chemists	P.O.Box 40468-00100 GPO, Nairobi
62.	Prior Chemist	P.O.Box 4066-00506 Nyayo Stadium, Nairobi
63.	Lady Myra Chemists Ltd	P.O.Box 41510-00100 GPO, Nairobi
64.	Tarisa Chemists Ltd	P.O.Box 41806-00100 GPO, Nairobi
65.	Kings Health Ltd	P.O.Box 42551, Nairobi
66.	Portal Pharmacy Ltd	P.O.Box 44029-00100 GPO, Nairobi
67.	Apomed Products	P.O.Box 46012, Nairobi
68.	Rangechem Pharma	P.O.Box 4000-00100 GPO, Nairobi
69.	Lyntons Pharmacy Ltd	P.O.Box 22970-00200 City Square, Nairobi
70.	Pan Pharmaceuticals Ltd	P.O.Box 17393-00100 GPO, Nairobi
71.	Alpine Medical & Laboratory	P.O.Box 80190, 00100, Nairobi

	Supplies	
72.	Beacon Of Hope	P.O.Box 4741, 00100, Nairobi
73.	Bureau Pharmaceutical Ltd	P.O.Box 470671-00100 GPO, Nairobi
74.	Decase Chemicals Pharmaceuticals Ltd	P.O.BOX 9470, Nairobi
75.	Gelsup Laboratory Equipment Supply	P.O.Box 51459, Nairobi
76.	Kahegi Pharmaceuticals Ltd	P.O.Box 12123-00200 City Square, Nairobi
77.	British Pharma	P.O.Box 5187-00200 City Square, Nairobi
78.	Eldo Hosp	P.O.Box 52037-00200 City Square, Nairobi
79.	Haltons	P.O.Box 5005-00200 City Square, Nairobi
80.	Comet Healthcare Ltd	P.O.Box 115422-00200 City Square, Nairobi
81.	J & J Ong'are Pharmaceuticals	P.O.Box 10090-00200 City Square, Nairobi
82.	Zodiac Pharmacy	P.O.Box 4118-00200 City Square, Nairobi
83.	North chemist	P.O.Box 1607 00200, Nairobi
84.	Pacco Design Wear	P.O.Box 35411, 00100, Nairobi
85.	New chemist	P.O.Box 29702, 00100, Nairobi
86.	Stev Pharm	P.O.Box 50025, 00200, Nairobi
87.	Sal Healthcare Ltd	P.O.Box 50754-00200 City Square, Nairobi
88.	D.K. Gachanja Sam Chemists	P.O.Box 6011, Nairobi
89.	Meds Pharmaceuticals Ltd	P.O.Box 50130, 00200, Nairobi
90.	Market view chemist	P.O.Box 1069-00200 City Square, Nairobi
91.	Opamo Pharmacy	P.O.Box 60800, 00100, Nairobi
92.	Pharma Vision Pharmaceuticals Ltd	P.O.Box 6111-00606 Sarit Centre, Nairobi
93.	Applegene Pharmacy	P.O.Box 2118-00100 GPO, Nairobi
94.	Maghreb Pharmacy Ltd	P.O.Box 1532-00200 City Square, Nairobi
95.	Hakati Chemist	P.O.Box 6116 00619, Nairobi
96.	Kanchumarthy	P.O.Box 16541, 00800 Westlands, Nairobi
97.	Abacus Pharma (Africa) Ltd	P.O.Box 61829-00800 Westlands, Nairobi
98.	Lemuma Pharmacy Ltd	P.O.Box 1091-00200 City Square, Nairobi
99.	Skims Pharmacy	P.O.Box 1572, 00100, Nairobi
100.	Health Life Pharmaceuticals Ltd	P.O.Box 6792 00100, Nairobi
101.	Easton Pharmaceuticals Ltd	P.O.Box 68279-00200 City Square, Nairobi
102.	Kaweru Chemists	P.O.Box 60179-00622 Juja Rd, Nairobi
103.	Archem Pharmacy Ltd	P.O.Box 58700-00208 Ngong Hills, Nairobi
104.	Ursy Chemist Ltd	P.O.Box 30410, 00400, Nairobi
105.	Savanna Pharmacy	P.O.Box 19125-00200 City Square, Nairobi
106.	Suken International LTD	P.O.Box 28476-00200 City Square, Nairobi
107.	Sonal Holdings (K) Ltd	P.O.Box 1976-00200 City Square, Nairobi
108.	Suncity Pharmaceuticals Ltd	P.O.Box 2414-00100 GPO, Nairobi
109.	Hekima Pharmacy Ltd	P.O.Box 3071-00200 City Square, Nairobi

110.	Nelson Awori Pharmacy	P.O.Box 14410, 00200, Nairobi
111.	Kahawa Wedani Pharmacy	P.O.Box 6566, 00300, Nairobi
112.	Pinechem Kenya Pharmaceuticals Ltd	P.O.Box 10463, Nairobi
113.	Isakim Pharmacy	P.O.Box 7771-00200 City Square, Nairobi
114.	Hope Pharm	P.O.Box 845, 00100, Nairobi
115.	Rence Pharmacy Ltd	P.O.Box 1245-00300 Ronald Ngala, Nairobi
116.	Global Merchants Ltd	Pate Road, Off Lunga Lunga Road, Industrial Area

Source: PPB (2016).

Appendix V: Research License from NACOSTI

THE SCIENCE, TECHNOLOGY AND INNOVATION ACT, 2013

The Grant of Research Licenses is guided by the Science, Technology and Innovation (Research Licensing) Regulations, 2014.

CONDITIONS

1. The License is valid for the proposed research, location and specified period.
2. The License and any rights thereunder are non-transferable.
3. The Licensee shall inform the County Governor before commencement of the research.
4. Excavation, filming and collection of specimens are subject to further necessary clearance from relevant Government Agencies.
5. The License does not give authority to transfer research materials.
6. NACOSTI may monitor and evaluate the licensed research project.
7. The Licensee shall submit one hard copy and upload a soft copy of their final report within one year of completion of the research.
8. NACOSTI reserves the right to modify the conditions of the License including cancellation without prior notice.

National Commission for Science, Technology and Innovation
P.O. Box 30623 - 00100, Nairobi, Kenya
TEL: 020 400 7000, 0713 788787, 0735 404245
Email: dg@nacosti.go.ke, registry@nacosti.go.ke
Website: www.nacosti.go.ke

REPUBLIC OF KENYA

National Commission for Science, Technology and Innovation

RESEARCH LICENSE

Serial No.A 25638

CONDITIONS: see back page

THIS IS TO CERTIFY THAT:
MR. JESSE KANGETHE MUKURIA
of UNIVERSITY OF NAIROBI, 22427-100
NAIROBI, has ben permitted to conduct research in Nairobi County

on the topic: THE EFFECT OF OPERATING ENVIRONMENT AND COMPETITIVE STRATEGIES ON THE RELATIONSHIP BETWEEN KNOWLEDGE MANAGEMENT AND PERFORMANCE OF RETAIL PHARMACEUTICAL FIRMS IN NAIROBI CITY COUNTY

for the period ending:
24th October, 2020.

Applicant's Signature

Permit No : NACOSTI/P/19/37854/31183
Date Of Issue : 27th October, 2019.
Fee Recieved :Ksh 2000

DY Director General
National Commission for Science, Technology & Innovation

Appendix VI: Research Authorization from Ministry of Education

Republic of Kenya
MINISTRY OF EDUCATION
STATE DEPARTMENT OF EARLY LEARNING & BASIC EDUCATION

Telegrams: "SCHOOLING", Nairobi
Telephone: Nairobi 020 2402699
Email: ...

When replying please quote

REGIONAL DIRECTOR OF EDUCATION
NAIROBI REGION
NYAYO HOUSE
P.O. Box ... - 00100
NAIROBI

Ref: RCE/NRB/GEN/1/VOL. 1

DATE: 23rd October, 2019

Jesse Kangethe Mukuria
University of Nairobi
P O Box 30197-00100
NAIROBI

RE: RESEARCH AUTHORIZATION

We are in receipt of a letter from the National Commission for Science, Technology and Innovation regarding research authorization in Nairobi County on **"The Effect of Operating Environment and Competitive Strategies on the Relationship Between Knowledge Management and Performance of Retail Pharmaceutical Firms in Nairobi City County**

This office has no objection and authority is hereby granted for a period ending **24th Oct, 2020** as indicated in the request letter.

Kindly inform the Sub County Director of Education of the Sub County you intend to visit.

REGIONAL DIRECTOR OF EDUCATION
NAIROBI
23 OCT 2019
MINISTRY OF EDUCATION
P.O. Box 74679, NAIROBI

KINOTI KIOGORA
FOR: REGIONAL DIRECTOR OF EDUCATION
NAIROBI

C.C
Director General/CEO
National Commission for Science, Technology and Innovation
NAIROBI

Appendix VII: Turnitin Originality Report

KNOWLEDGE MANAGEMENT, OPERATING ENVIRONMENT, COMPETITIVE STRATEGIES AND PERFORMANCE OF RETAIL PHARMACEUTICAL FIRMS IN NAIROBI COUNTY, KENYA

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