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# Effects of operational management practices on the performance of health insurance companies in Kenya

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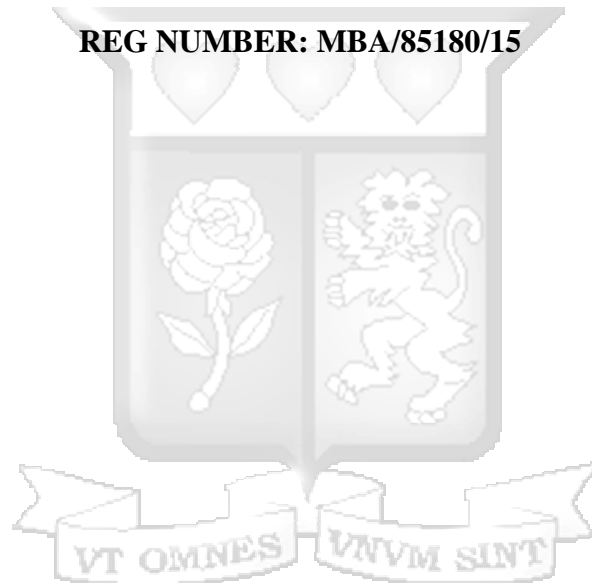
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**EFFECTS OF OPERATIONAL MANAGEMENT PRACTICES ON THE  
PERFORMANCE OF HEALTH INSURANCE COMPANIES IN KENYA**

**JACKIE DALIZU MWENDWA**

**REG NUMBER: MBA/85180/15**



**Submitted in partial fulfillment of the requirements for the Degree of**

**Master of Business Administration at Strathmore University**

**Business School**

**Nairobi, Kenya**

**April, 2018**

## STUDENT'S DECLARATION

I hereby declare that the content in this thesis is my own except the references from other sources, which have been duly cited. This thesis has not been submitted for the assessment of a master's degree elsewhere. This thesis has not yet been cleared and accepted by Strathmore Business School for the award of MBA degree.

**Name:** Jackie Dalizu Mwendwa

**Signature:**.....

**Date:** 16/04/2018

This thesis has been presented for examination with my approval as the assigned supervisor.



Dr. Joseph Onyango

Senior Lecturer

Strathmore University Business School

**Signature:** 

**Date:** 16/04/2018

## ACKNOWLEDGEMENT

It is with deepest sense of gratitude to the Almighty God, who gave me strength and good health, to complete this thesis successfully.

First I would like to dedicate my sincere gratitude to my supervisor Dr. Joseph Onyango, who has shown me what dedication, commitment, and promptness in academics. Despite his busy schedule, Dr. Onyango availed himself whenever I needed guidance or feedback with my research. He mentored, offered valuable advice & insightful criticism, and guided me to completion of this thesis. A very humble, intelligent, and knowledgeable professor who shows leadership in his service. From deep down my heart, I thank you Dr. Onyango.

I would also like to thank the MBA faculty and administrative team at Strathmore Business School for their dedication and commitment to equip me with the foundation and knowledge of MBA to be able to complete this degree successfully.

Last but not least, I would like to thank my family and friends for encouraging me and supporting me mentally and emotionally to complete this degree. Thank you all for your continued support.

## **DEDICATION**

I would like to dedicate this thesis to my mother, who taught me that the best investment one can ever make is getting education and educating others. Quoting her words, “I did not go to school not because I was not smart, but because my father did not believe in girl education. Things are different now. Go and accomplish everything you set your mind to do”.



## ABSTRACT

The main objective of the study was to examine the effects of operational management practices on the performance of health insurance companies in Kenya. The study was guided by the following specific objectives: To establish the effects of process and capacity design on the performance of health insurance companies in Kenya; To determine the effects of layout design on the performance of health insurance companies in Kenya; To examine the effects of service design on the performance of health insurance companies in Kenya and; To establish the effects of quality management on the performance of health insurance companies in Kenya. Descriptive research design was chosen for the study since it was appropriate for the review of the research questions. This study only focused on five health insurance companies which included: AAR, Jubilee, UAP, Heritage, and Resolution insurance companies. These insurance companies focus mainly on providing health insurance services. The population for the study comprised of employees working in various departments in the health insurance firms such as audit, claims, underwriting, operations, sales & marketing, legal, accounting & finance, customer service, and human resources departments. The study used purposive sampling technique to sample 130 respondents. Primary data was collected using self-administered questionnaires while secondary data was sourced from the websites of the Insurance Regulatory Authority such as AKI insurance websites, the Capital Markets Authority addressing overall performance of insurance companies in Kenya. The data was coded into SPSS 22 for subsequent data analysis through descriptive statistics and inferential statistics. The findings of the study revealed that process and capacity design, layout design, service design and quality management aids in diminishing times for new item's improvement and commercialization, and also ensures flexibility of organization in adapting to different operational capacity thereby in overall improvement in the performance of the firms.

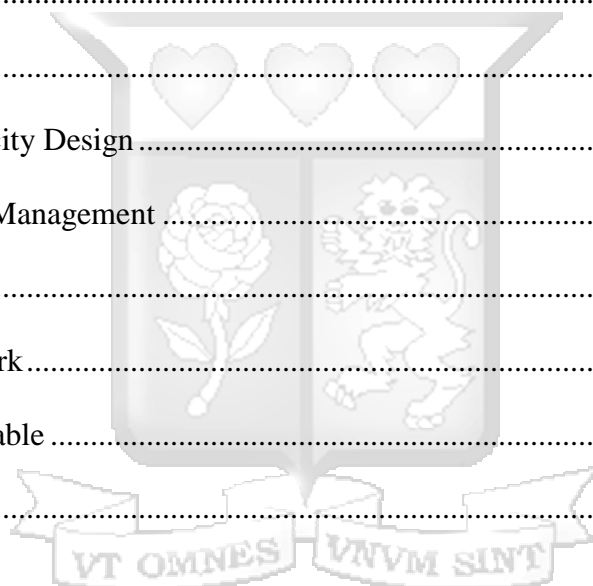


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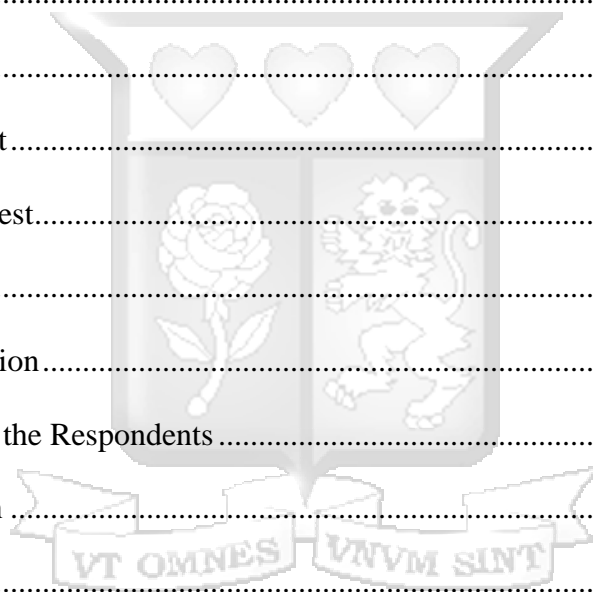
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## ABBREVIATIONS

**AAR:** Africa Air Response

**AKI:** Association of Kenya Insurers

**ANOVA:** Analysis of Variance

**APA:** Apollo Pan Africa

**CRM:** Customer Relationship Management

**GDP:** Gross Domestic Product

**FSA:** Financial Services Authority

**HIF:** Health Insurance Fund

**ICT:** Information and Communication Technology

**IFRS:** International Financial Reporting Standards

**IRA:** Insurance Regulatory Authority

**KPMG:** Klynveld Peat Marwick Goerdeler

**OLS:** Ordinary Least Squares

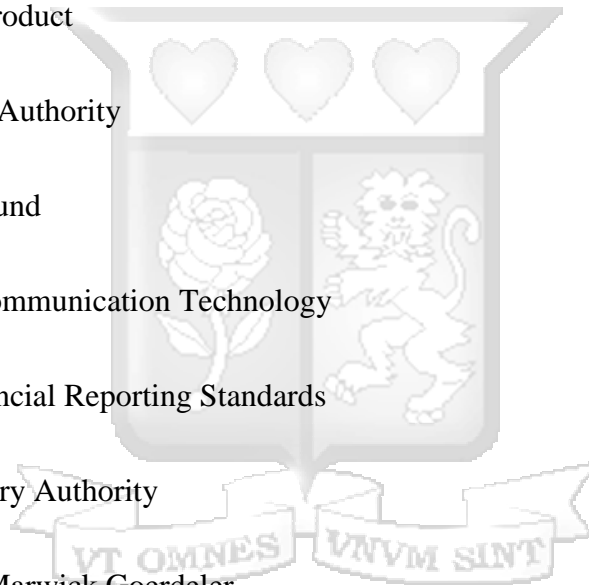
**OM:** Operations management

**SOP:** Standard Operating Procedures

**SPSS:** Statistical Package for Social Studies

**UNIDO:** United Nations Industrial Development Organization

**VIFs:** Variance Inflation Factors



# CHAPTER ONE

## INTRODUCTION

### 1.1 Background to the Study

Kenya represents East Africa's best developed insurance market and the region's financial focal point. It is the market leader in the region with 3% insurance penetration and a highly competitive market comprising of approximately 51 companies (Appendix IV). According to KPMG (2016), in 2015/16 the insurance industry had gross premiums of \$1.75 billion with general insurance business forming the bulk of it. Kenya's insurance regulatory system is also the most mature in the region e.g. in risk Based Supervision and a framework that is being replicated in other regional countries. In the recent past the country has had major regulatory changes. There have been major changes in IFRS, FSA and conduct risks and solvency II (KPMG Advisory Services Limited, 2016).

The changing business environment has necessitated companies to change their operations strategies. The Japanese came up with lean management that incorporates continuous improvement in the operations production processes and supply chains (Peng *et al.*, 2011). They have been able to produce their products with an aim of zero defects, efficiency in production processes, minimal stock and automation (Pham and Thomas, 2008).

Studies have shown that operations management and operational performance are linked. Chaves *et al.* (2013) studied the operations management aspect of lean internal practices in manufacturing firms located in Ireland where they established that this has an effect on the operational performance elements of quality, delivery, flexibility, and cost. Feng, Li, Sun, and Wang (2013) in his study of Chinese manufacturing companies found that internal business activities like the operations management aspect of supply chain affect business operational performance. Operations

Management plays a role of enabling the achievement of company goals through efficient acquisition and use of resources (Bayraktar, Jothishankar, Tatoglu, & Wu, 2007).

### **1.1.2 Operational Management Practices and Performance of Health Insurance Companies**

Organizational performance can be identified as an organization's degree of realizing set goals and objectives based on different organizational parameters (Bray and Konsynski, 2015). Notably, measurement and determination of organizational performance vary from one field to another. Additionally, a universal and precise definition of organizational performance has not been distinctly identified (Raula, Vuksic, and Stemberger, 2012). However, different scholars have defined the concept in various ways. Despite the varying definitions across the board, a common factor is the fact that performance is identified as a measure of an organization's accomplishment as a dependent variable of multiple organizational factors.

Operational management practices refer to every procedure or methodological solution which is carried out on the shop floor and which is meant to improve the efficiency of production and logistic processes (Battistoni, Bonacelli, Callodon, 2013). Gupta and Marquez (2005), assert that, for an organization to be operationally successful, it must increase its productivity and minimize its costs. The adoption of Total Quality Management (TQM) has been shown to be positively associated with the improvement of general performance (Psomas & Jaca, 2016), with a higher operation efficiency and with better financial results (Akgün, Ince, Imamoglu, Keskin, & Kocoglu, 2014). Such a positive association increases in the service sector, when managers use a reward system actually based on OM process outcomes (Owino, 2012).

Onyango (2013) in his study of the OM practices applied by pharmaceutical companies in Kenya, noted that the adoption of OM practices in the pharmaceutical sector is in the infancy stage but its importance is appreciated due to the efficiency it fosters in the firm processes. Macharia

(2013) studied the effect of enterprise resource planning systems on management accounting practices in health management NGOs and found that ERP system's implementations have a weak positive effect on management accounting practices in NGOs operating in Kenya.

## **1.2 Statement of the Problem**

Operations Management is the function of managing the operating core of an organization. These are activities associated with creation, production, distribution and the flow of the organization's goods and services (Chase, Aquilano, & Jacobs, 2007). Nowadays, companies need to operate in highly dynamic environments where key resources are scarce and where uncertainty in business opportunities is common. The market imposes high efficiency standards and firms that fail to meet them are quickly marginalized. In such a scenario, a careful optimization of internal resources is a must for every firm which wants to maintain a competitive edge. This has to be accompanied by the continuous improvement of internal processes and routines (Zhang, Linderman, & Schroeder, 2012).

In the recent past the average loss in the medical insurance segment has been around 6%; however, despite this loss some health insurance companies have tried to come up with ways of enhancing their performance through means such as hiring doctors to head their medical divisions (Kimani, Ettarh, Kyobutungi, Mberu, & Muindi, 2012). However, despite the growth in GDP locally and the subsequent rise in the income levels of individuals, the insurance industry has not been able to leverage on this economic growth locally (Gitau, 2013). Further, contrasted with other financial sector industries such as banking and real estate firms, the health insurance industry has been growing at a relatively lower rate as compared to the others. This is a clear indication there is a mismatch between the strategies designed by these insurance companies and how these strategies are followed up to ensure positive performance of the firms. It has also been es-

tablished that most people in Kenya are looking for higher value in health insurance coverage yet, they are hesitant to pay more in premiums. This has resulted to some insurance companies paying more in claims while they receive less in premiums. As a result, these insurance companies have been making losses increasingly, while just a few companies have been profitable perhaps due to their unique operations and management practices.

Appropriate operational management practices are essential to companies providing health insurance products not only to enhance the extent to which business strategy can be implemented, but also to ensure that the operations of the company is a source of competitive advantage. The efficiency of an operation management practice is measured by the performance of operations and five aspects which include cost, quality, speed, dependability and flexibility (Slack et al., 2004). Health insurance companies in Kenya have not realized their full potential since the operational management practices have not been effectively formulated and implemented by the firms. Additionally, the insurance companies have not linked operational management strategies' broad policy goals to individual management actions.

Several studies have been undertaken on operational management practices and organizational performance, Cho and Pucik (2005) for instance examined the association between quality management, innovation, growth and profitability. The research findings showed that enhanced quality management practices enhances profitability within the pharmaceutical firms. Sila (2007) on his side established that practicing total quality management within health insurance firms enhanced the efficiency of the firm and ultimately the financial profitability. In a study on Malaysian Insurance firms Loo-See and Leap-Han (2013), concluded that some insurance firms outperform others due to the adoption of best human resource management practices which enhance the competitiveness of the firm hence better performance.

In a study by Mutuma (2011) to identify the challenges facing the implementation of information systems in hospital management, he noted that there is a lack of inclusivity and proper organizational structures to support the execution. Chepkurui (2011) studied the impact of human capital planning practices on performance of faith-based hospitals and found out that there is a general disconnection between the environment, management, human resource personnel and the execution of the health centres strategic initiatives. Wamwati (2007) did a study on the critical success in the insurance industry in Kenya; however, this study was too broad and failed to look critically at the management practices and their influence on performance. Karanja (2008) did a study on the innovation strategies adopted by insurance companies in Kenya; however, this study only served to inform us but failed to establish the relation between innovation and performance.

None of the studies above focused on the relationship between operational management practices and the performance of health insurance companies in Kenya. This research study therefore seeks to establish the relationship between operational management practices and performance of health insurance companies in Kenya.

### **1.3 Research Objectives**

The main objective of the study is to examine the effects of operational management practices on the performance of health insurance companies in Kenya

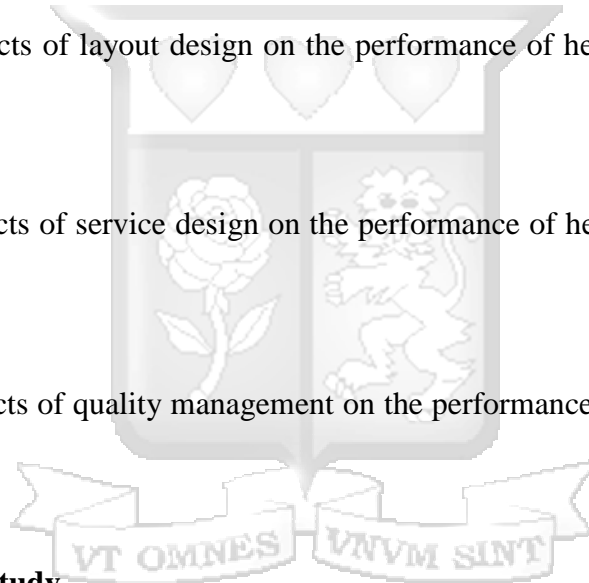
#### **1.3.1 Specific Objectives**

1. To establish the effects of process and capacity design on the performance of health insurance companies in Kenya
2. To determine the effects of layout design on the performance of health insurance companies in Kenya

3. To examine the effects of service design on the performance of health insurance companies in Kenya
4. To establish the effects of quality management on the performance of health insurance companies in Kenya

#### **1.4 Research Questions**

1. What are the effects of process and capacity design on the performance of health insurance companies in Kenya?
2. What are the effects of layout design on the performance of health insurance companies in Kenya?
3. What are the effects of service design on the performance of health insurance companies in Kenya?
4. What are the effects of quality management on the performance of health insurance companies in Kenya?



#### **1.5 Significance of the Study**

The study will be of importance to the insurance industry through offering better insights on the best operational management practices that are required to ensure better performance through measures such as effective cost management, effective systems, and a strong and functional structures. The study findings will also help the companies to design better operational management evaluation practices during career development and performance appraisals, to avoid performance pitfalls. The study findings will help the government through regulatory bodies such as PharmAccess, Health Insurance Fund (HIF), and the Insurance Regulatory Authority (IRA) regulator, to design policies and any incentive support programs in line with the best practices that

can help propel the performance of the insurance industry in Kenya. The policies to be formulated can help to avoid bottlenecks in strategy formulation. The study findings will be an anchor to future studies on operational management practices, as well as open up gaps in research on evolving operational management practices and performance in various industries in Kenya, that can be filled in future studies by different academicians.

### **1.6 Scope of the Study**

According to Kenyan Healthcare Report (2016), even though the Kenyan private healthcare insurance sector has grown over the last twenty years, the sector is still quite small. The report indicates that in 2010 the number of people with a private insurance cover was about 600,000.

The report also indicates that currently approximately 1.5 million lives in Kenya are covered via private healthcare insurance. The largest health insurance being Jubilee with an estimated market share of 26%, followed by AAR Insurance at 17% and UAP with 14%. In total there are about 15-20 companies that offer a health insurance cover, but for most of these companies the health cover is a by-product and not their main insurance activity.

Kenya has a small health insurance population on which most private healthcare providers rely for their schemes. The penetration of the private health insurance in Kenya is about 2% of the total population. It ranks 2nd highest, after South Africa, in terms of healthcare costs. This challenge drives up the costs of healthcare. Therefore, private healthcare insurers need to increase the prices of an insurance cover. Another challenge is that private insurance companies are all targeting the same clients, being the working class who receives a health cover as an added benefit to their work contract. The insurance companies compete on price, service quality, provider network and services covered. The biggest challenge as pointed out by Kenya Healthcare Sector report (2016), is how to increase coverage to the 46% poor and among them 20% indigent.

The scope of the study will be limited contextually to the operational management practices and the performance of selected health insurance companies in Kenya: AAR, Jubilee, UAP, Resolution, and Heritage insurance companies. These are among the few insurance companies in Kenya that focus mainly on health insurance services.



## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

This chapter details the theoretical underpinnings of the research and gives a review of the relevant empirical literature of the research from other previous studies. The chapter also contains the conceptual framework which details the relationship that exists between company management practices (independent variable): Process & Quality Design, Layout Design, Service Design, and Quality Management; and Performance of listed insurance companies (dependent variable) measured by their operational efficiency, business processes, and customer acquisition.

#### **2.2 Theoretical Framework**

Theories are formulated to explain, predict, and bring an understanding of a certain phenomena and assumptions. A theoretical framework is a structure that can hold or explain a certain theory of a research study (Abend, 2013). The three theoretical frameworks that will be discussed in this section in relation to this study include; Dynamic Capability theory, the Industrial Organization Structure theory, and Systems theory

##### **2.2.1 Dynamic Capabilities Theory**

In The Dynamic Capabilities Theory, a capability is a set of learned processes and activities that enable a company to produce a particular outcome. Ordinary capabilities are like best practices. They typically start in one or two companies and spread to the entire industry (Teece, 2014). Dynamic capabilities, unlike ordinary capabilities, are distinctive, that is, unique to each company and rooted in the company's history. They are captured not just in routines, but in business models that go back decades and that are difficult to imitate (Gratton, 2013). According to Wade and Hulland (2004), resources may take on many of the attributes of dynam-

ic capabilities, and thus may be particularly useful to firms operating in rapidly changing environments. Thus, even if resources do not directly lead the firm to a position of superior sustained competitive advantage, they may nonetheless be critical to the firm's longer-term competitiveness in unstable environments if they help it to develop, add, integrate, and release other key resources over time.

This theory is relevant to this study because it describes the process through which the pursuit of a strategy not only utilizes a firm's resources but also augments them through the creation of skills and knowledge that are the products of experience, which is essential in company performance.

### **2.2.2 The Industrial Organization Theory**

The industrial organization theory is about how a structure of a market has an influence on the strategy and decision making of an organization. The structure of a market and how a market is functioning is the concept behind the industrial organization theory (Tirole, 1988) rather than the conversion process, products and costs of an individual organization (Ramsey, 2001). Hence, the industrial organization theory is about, how a structure of a market has an influence on the strategy of an organization. It puts a focus on the market an organization operates in rather than the organization itself. It is reflected in the Structure-Conduct-Performance model (SCP), which claims that there is a causal link between the structure of a market in which an organization operates, the organization's conduct and in turn the organization's performance in terms of profitability (Ramsey, 2001). Therefore, in this study, the industrial organization theory focuses on the insurance industry, its market, and overall performance of health insurance companies. The central analytical aspect can be used to identify the OM practice choices, which health insurance

companies have in the industry (Porter, 1981, Teece, Pisano, & Shuen, 1997), which includes strategic management.

### **2.2.3 Systems Theory**

The Systems theory views the organization as an open system housed within the external environment. The external environment interacts with and affects the organization. The external environment is dynamic and unpredictable. How an organization performs depends on how well its strategies fit with the external environment. This strategic fit is dependent on both the organization's internal environment and its capability to adapt to the constant changes in the environment. Strategic management involves continuous scanning of the environment and making the relevant changes to ensure survival and sustainable growth by an organization. The organization's external environment includes factors that affect its performance but to which it has no control. Such external factors include; politics, economy, society, technology, customers, laws and regulations. Organizations can have control of their internal environment but not the external environment. The internal environment of an organization determines its strengths, opportunities, weaknesses and threats. The internal environmental factors include management, resources, culture, policies, and systems. To survive, an organization has to keep monitoring the changes in the external environment (Kast & Rosenzweig, 1972).

In relation to this study, this theory fits in analyzing what the selected insurance are doing strategically and in terms of their operational management, to remain profitable and competitive in the market. The ability of health insurance companies to anticipate and adapt to the changes in the external environment determines its survival and growth in an ever-changing external environment, and this is the essence of strategic management.

## **2.3 Operation Management Practices**

Operations management practices include: product and process design, supply network design, inventory planning and control, capacity planning and control, supply chain planning and control, enterprise resource planning (ERP), lean synchronization, project planning and control, quality management, layout, operations improvement, and risk management (Slack, Chambers, Johnston, 2010).

The Operations Management in any industry is affected by aspects of uncertainty and competition (Boyle, 2006). Operations management is composed of three levels: the strategic, systems and processes levels. The strategic level incorporates the operations strategies. A company has to come up with an operations strategy that will determine how they run their manufacturing processes. The importance of operations strategy is that it specifies how the organization will allocate the available resources to support production and infrastructure. According to Martín-Peña and Díaz-Garrido (2008), the operations strategy should contain operations policies and competitive priorities. Operations policies provide the set of actions to achieve the operations and business goals while competitive priorities provide the areas of focus to gain competitive advantage. The systems-level comprises a company's quality and supply chain. Management generates this and has to be in line with the operations management practices as this is a major point in achieving company objectives.

### **2.3.1 Process and Capacity Design**

Process and capacity design are the activity which shapes the physical form and purpose of both products and services and the processes that produce them (Slack et al., 2010) and determines the output levels in the short and long term. The overall purpose of process and capacity design is to meet the needs of customers through achieving appropriate levels of quality, speed, dependability, flexibility, and cost. Production systems design involves planning for the inputs, transfor-

mation activities as well as outputs of a production operation. Design plays a major role because they entail significant investment of funds and establish cost and productivity patterns that continue in future. The capacity of a production unit can be expressed in number of units of output per period. In some situations measuring capacity is more complicated when they manufacture multiple products. In such situations, the capacity is expressed as man hours or machine hours.

Capacity planning and control is the way operations organize the level of value-added activity which is attainable in normal working conditions for a sustained time period (Stevenson, 2014). According to UNIDO (2010), Kenyan domestic companies have low capacity utilization. It says most companies are running their production lines at a capacity of between 50-66 percent. Production costs per unit are therefore relatively higher, and this impacts negatively on their ability to be cost competitive which hampers the entire company performance.

### **2.3.2 Layout Design**

Facility layout improvement is the arrangement of machines, departments, workstations, storage areas, aisles, and common areas within the existing or proposed facility (Russell, 2007). Layout improvement decisions are integral in the firm since they require substantial investments of both money and effort, involve long-term commitments and have a significant impact on the cost and efficiency of short-term operations. Effective layouts minimize material handling costs, utilize space efficiently, utilize labor efficiently, eliminate bottlenecks, facilitate interaction and communication within the facility, reduce customer service time, eliminate redundant movement, facilitate entry and exit of people, materials, and products (Stevenson, 2014). It also incorporates safety and security measures, promotes product and service quality, encourages proper maintenance activities, and provides visual control activities ad increase capacity.

The location of the operation can also be strategically selected taking into consideration the supply side influences (labor, land, utility cost) and demand side influences such as image, convenience for customers. Heizer and Render (2013) describe forecasting as the use of quantitative and qualitative techniques to determine an approximate future performance, with the aim of helping managers makes decisions about resourcing the organization for the future. The layout of an operation is concerned with the physical location of its transforming resources (Slack et al., 2010), while capacity planning and control is the way operations organize the level of value-added activity which they can achieve under normal operating conditions over a period of time (Stevenson, 2014).

### **2.3.3 Service Design**

Employees are the primary aspect of any organizational system design (Stevenson, 2014). Operations management must have a policy for setting labor standards that ease the transition of skills, improvement of knowledge, skills, and abilities, build a balance of work and life quality in an effective cost target. For services, an extra area that operations management should touch is customer's relationship since they deal with them directly (Heizer, 2008).

In Taylor's system of scientific management, a job is a set of all tasks performed by a worker: tasks are a set of individual activities consisting of varying job motions (Russell, 2007). The 'Quality of Life' program was popularized by General Motors and tried by several other companies. These programs promoted good job design (Waters, 2002). They include horizontal job enlargement which gives an employee a variety of tasks making the job more interesting and making the employee feel that he has actually achieved something.

Job enrichment involves giving an employee control over their work and some supervisory responsibilities. Workers are also held individually responsible for quality and reliability, a func-

tion previously held by management. Job rotation enhances the skill level of workers providing them with a greater sense of self-worth. Finally, the company should promote interaction and communication among workers and between workers and management. Job design involves task analysis, worker analysis, and environmental analysis to improve worker productivity.

Hendrick & Moore (1985) state that inventory management is important as almost all operations keep some kind of inventory, most usually of materials but also of information and customers on queues. Inventory occurs in operations because the timing of supply and the timing of demand do not always match. Enterprise Resource Planning (ERP) is an enterprise-wide information system that integrates all the information from many functions that are needed for planning and controlling operations activities (Momoh, Roy, & Shehab, 2010). This integration around a common database allows for transparency and improved coordination.

#### **2.3.4 Quality Management**

There has been a 'quality revolution' brought about by improved processes that can make products with guaranteed high quality which gives producers a competitive advantage, customers demand high-quality products and will not accept anything less, and high quality reduces costs (Waters, 2002). The primary aspects for services firms in terms of quality management that a customer looks for in a service/product offering include performance, features, reliability, conformance, durability. Further, service quality involves the following dimensions; time and timeliness, completeness, courtesy, consistency, accessibility and convenience, accuracy and responsiveness (Slack et. al., 2010).

Quality management is a key concern of almost all organizations (Ebrahimpour and Cullen, 1993). Some organizations have a separate function devoted exclusively to the management of quality. High-quality goods and services are central to attain a competitive edge in the market

and foster better performance for a firm. Good quality reduces the costs of rework, waste, complaints and returns and, most importantly, generates satisfied customers and by extension improving competitiveness. Better quality further reduces the cost of losses in the service provision; minimal complaints are lodged with the firm and more important the firm is able to get well-satisfied customers.

All operations, no matter how well managed, are capable of improvement (Lassiter, 2007). Operations improvement is now seen as the prime responsibility of operations management. The broad approaches to managing improvement include Business Process Re-engineering (BPR), Six Sigma, Total Quality Management (TQM), and lean management. Continuous improvement aids an organization to achieve and maintain competitiveness in a continuously changing business environment (Vastag and Whybark, 1991).

#### **2.4 Operations Management Practices and Performance**

The measures of performance indicate how well the different competitive priorities in the implemented operations practices (Suarez et al., 2006). For firms providing services, effective performance measures related to operations practices need a shift from measures that focus on the efficiency of manufacturing to those capturing the critical success factors related to customer initiated demands (Abernethy and Lillis, 2005). Traditional financial accounting measures are short-term oriented and aggregate and therefore they usually are not capable to support operations strategic priorities (Govindarajan, 1988; Simons, 1987). Additionally, according to Kaplan (1983), operations assumptions of standardization and mass production in a stable environment inspire financial performance measures. However, environmental conditions of manufacturing industries differ from those found in service industries, which consider financial measures of operations performance less relevant (Brownell and Merchant, 1990). Previous research studies by

Feigenbaum and Karnani (1991), Jaikumar (1986) as well as Tombak and De Meyer (1988) have determined the strong influence of flexibility on performance, especially for non-financial measures. However, currently, service operations managers need relevant and specific feedback in order to take effective decisions in a changing environment (Chenhall, 1995). Non-financial measures contribute to enhance performance within these environments, as they deal with causes instead of effects. Hence, managers have an incentive to maximize performance on those activities on which their performance is measured (Hayes et al., 1988). As such, the dimensions of operations strategy need to be embedded in the performance measurement system in order to be enhanced (Sampson, 1996). This argument however does not intentionally deny the role of financial performance measures, service operations strategy but demonstrates the limitations of financial measures in the service industry context.

Wachira (2013) established that organizational performance is largely influenced by the implementation of quality operational management practices at 75.5%. The study was also able to identify specific quality management practices that were deemed to have an effect on operational performance. In another study Ogada (2012) revealed the importance manufacturing companies attach to operational management improvements. The operational management practice that was largely practiced was top management commitment indicating that top management is actively involved in operational management and is providing clear and consistent leadership. Rono (2013) found that the challenges to effective implementation of operations management can be managed well and through training of the operational management as well as implementing better information management systems.

## **2.5 Empirical Review**

According to Yabs (2010), the strategy implementation stage is often considered to be a most difficult stage of operation management. It requires personal discipline, commitment, and sacrifice. When implementing strategies, there is a need to cultivate the development of a strategy supportive culture, the creation of an effective organization structure, redirecting of market efforts and motivating individual into action. Strategy evaluation and control is the process in which corporate activities and performance can be compared with desired performance (FitzRoy, Hulbert, Ghobadian, & O'Shannassy, 2012).

Managers need to know when particular strategies being put in place are not efficient and thus managers at all levels use the clear, prompt, unbiased information for the people below the corporation's hierarchy to take corrective action and resolve problems. Strategy evaluation and control is vital to an organization's well-being as it can alert management to actual and potential problems accurately. It can also be useful in highlighting weaknesses in previously implemented strategic plans, and this stimulates the control of performance (Yabs, 2010).

### **2.5.1 Cost Control**

The objective of a business is the starting point of the alignment of any organization as this provides the direction and courses of action that the business will take. The primary objective of any business is to make a profit while its secondary objectives include but not limited to CSR initiatives, growth, and the going concern. However, as much as a firm may strive to maximize the profits the essential thing for survival is the firm's ability to adequately manage and control its costs (Hornigren et.al, 2009), they further affirm that a firm that is able to attain and maintain adequate costs supported by an elaborate cost structure has higher chances of meeting its profit levels hence good performance.

Shah, Mali and Malik (2011) observe that for a manager to be able to manage their costs effectively they should have the knowledge of classifying costs depending on those that are controllable and the non-controllable costs. They define controllable costs as those costs that subject to the influence of a responsible person within an organization they can be controlled while the non-controllable costs cannot be changed even with the influence of responsible heads. They further, posit that, if the firm can be able to align its structures in a way that costs can be traced back to the responsible person then it's possible to avoid incurring huge cost liabilities for the firm which will enhance the performance of the company. Thus, companies should ensure that if possible all the controllable costs are kept at a bare minimal for better company performance.

### **2.5.2 Process and Capacity Design**

Nicholls-Nixon (2005) argues that as businesses expand in terms of growth they experience changes with regard to the scope and operations that they have to undertake. The researcher posits that business owners who have larger companies will face more challenges in managing their information and establishing change within the company. She argues that to avoid these bottlenecks companies should enhance their resources and capabilities mostly through acquiring new staff members and setting up elaborate information management systems that will increase the efficiency and effectiveness within the company.

Key to better information management is the ability of the company to avoid problems within the company such as duplication of information, high information storage costs, loss of firm data and large time lags in making key firm decisions. However, if a company can integrate better communication channels, information storage and sharing systems and feedback mechanisms, then companies can achieve positive effects on their performance (Carr, Amelia, Kaynak & Hale, 2007).

Salaheldin (2007) in his study argues that companies must invest in proper information technology systems that will allow for better and faster information management which can help the company executives in making decisions which may eventually reflect positively on the company's profitability via enhanced efficiency. Thus, companies that are able to tap into the information technology systems advent can be able to capitalize on the competitive advantage to record better performance.

In Nigeria, a study on Knowledge and Utilization of Information Technology among health care professionals found that computer possession and utilization among health care professional's hospital in Nigeria was low. Some of the reasons for these occurrences were the lack of a structured training and computer accessibility that may have contributed to the poor knowledge and utilization patterns observed. The gains of IT can only be fully harnessed when the majority, if not all, of the staff become knowledgeable and are willing to utilize computers and IT. Such utilization will naturally impact on health information management (Ogunyade and Oyibo, 2003).

A study on factors influencing acceptance of electronic health records in hospitals highlighted factors that cause end users to embrace or reject information technology (Glandon *et al.*, 2008) according to the Technology Acceptance Model (TAM). Perceived ease of use is the second factor, which is used to indicate how difficult the person believes the proposed system would be to use. Age has an influence in the acceptance and utilization of a system. Younger people tend to embrace new technology more openly as compared to older people. The level of education of the health care worker has a positive influence how fast they will understand concepts (Heeks, 2006).

### **2.5.3 Quality Control & Management**

When a company's systems are well embedded in the organizational structure and culture and well supported by adequate systems hardware and security, the company can leverage on the competitive advantage created since not many companies can imitate a large scale rollout of well-integrated systems architectures (Picolli & Ives, 2005). Francalanci and Morabito (2008) argue that for systems to have an impact on the company's performance then there is a need to link the systems with the company personnel. The benefits accruing will be dependent on the absorptive capacity of the company. Ryals (2005) also provide empirical evidence that performance improvements derive not from IT expenditure alone but when companies use embedded IT to support customer service processes.

Juma (2008) carried out a case study on strategy implementation and its challenges on African Braille Centre a Kenyan Non-governmental organization. The findings of the study indicated that the institution was on track in implementing its strategies. This had been made possible by having staff commitment, elaborate annual plans, sound leadership, supportive organizational structure, supportive systems and procedures, and resources/budget allocation. This study was particularly important to the researcher since it was carried out in a small organization that had a formal strategic plan and well-structured action plans with clear targets. Factors such as fraud management, pricing control, performance control, and billing & monitoring are effectively managed with properly implemented systems.

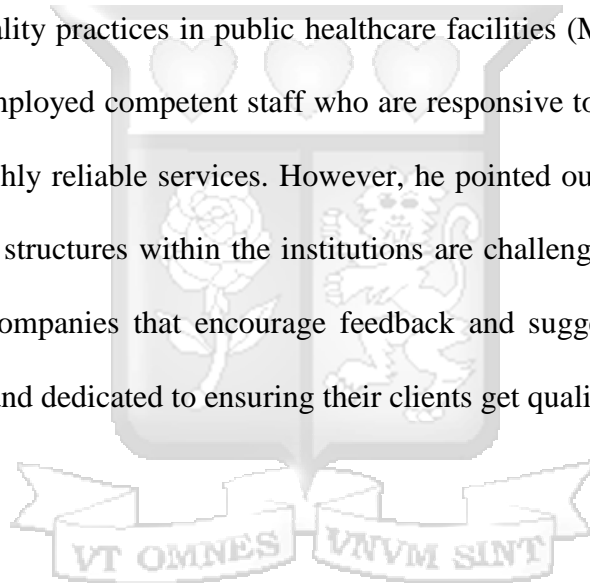
### **2.5.4 Service Design**

Chuck et.al (2012) observes that in companies where performance-based remuneration has been set up, personnel will ideally be motivated to work better and be committed to the quality of work they offer since this will impact positively on their remuneration. The researchers observed

that practitioners will increase the quality of care and outcomes of their work as they seek to achieve better pay.

McAlearny, et.al (2011) argue that management practices are key to the improvement of healthcare quality and efficiency through creating better systems and ensuring the individual practices are top notch. Thus, companies should set up work practices and ethics that will guide individuals/practitioners in prioritizing their efforts towards satisfying the patients through effective and efficient care management.

In a study on service quality practices in public healthcare facilities (Mbutia, 2013), found out that the facilities have employed competent staff who are responsive to the needs of the patients who are able to offer highly reliable services. However, he pointed out that lack of modernized equipment and elaborate structures within the institutions are challenges to better care management for the patients. Companies that encourage feedback and suggestions from their clients show how open minded and dedicated to ensuring their clients get quality products and services.



## 2.6 Conceptual Framework

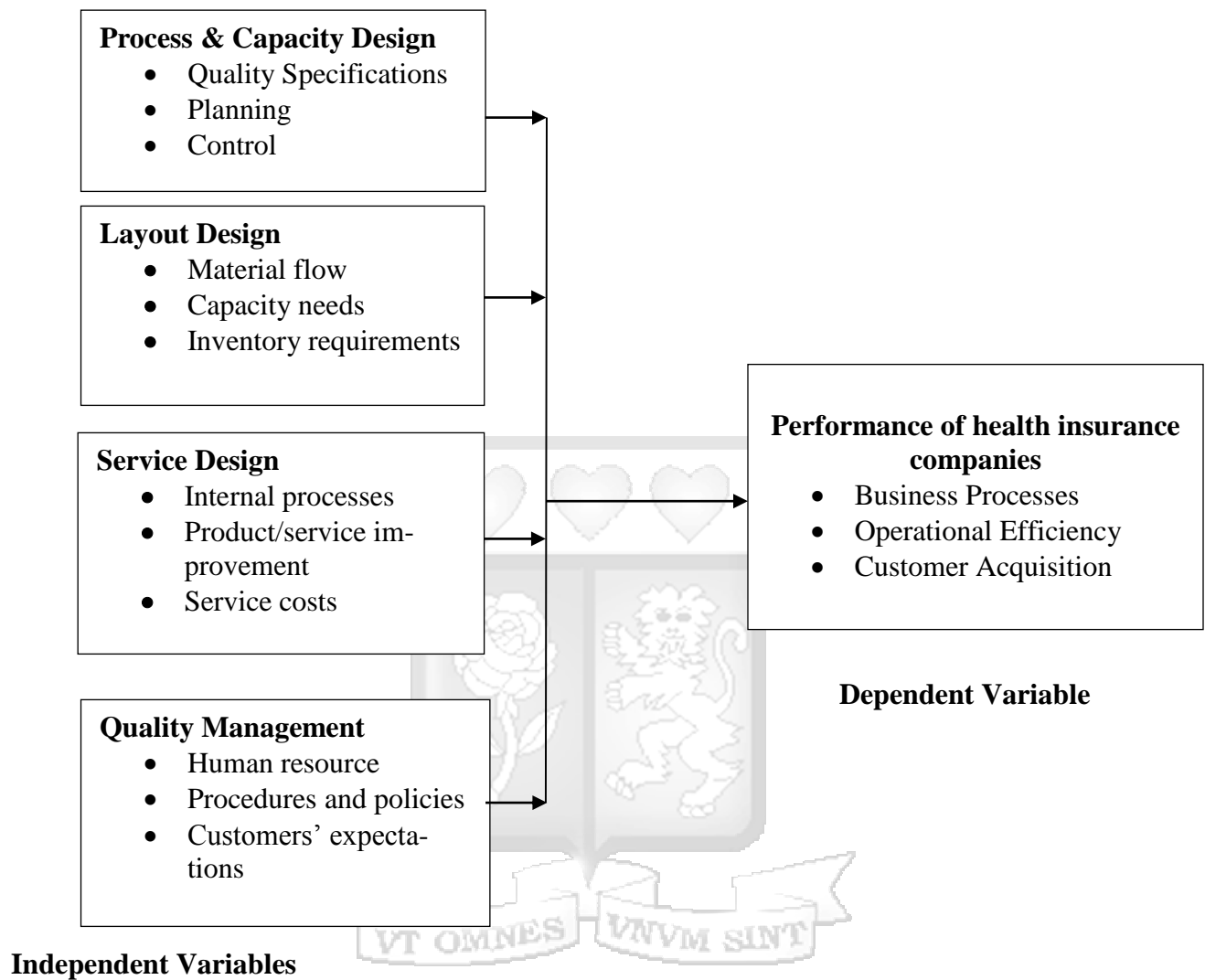


Figure 2.1: Conceptual Framework

Source: Mwendwa, J (2018).

## 2.7 Measurement of Variable

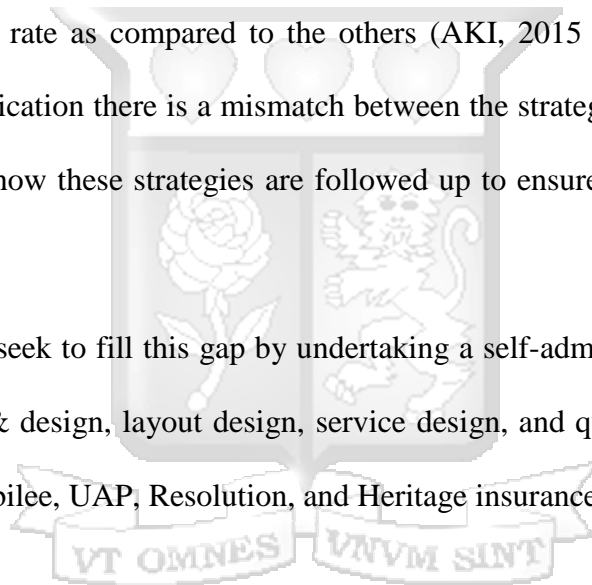
**Table 2.1: Measurement of Variables**

| <b>Variable</b>                       | <b>Type of Variable</b> | <b>Indicator</b>  | <b>Measurement scale</b> | <b>Data Collection Instrument</b> | <b>Data Analysis</b> |
|---------------------------------------|-------------------------|---|--------------------------|-----------------------------------|----------------------|
| Performance of health insurance firms | Dependent               | -Business processes<br>-Operational Efficiency<br>-Customer Acquisition | Ordinal                  | Questionnaire & Financial Reports | Descriptive          |
| Process & Capacity Design             | Independent             | Quality Specifications  | Ordinal                  | Questionnaire                     | Descriptive          |
|                                       |                         | Planning  | Ordinal                  | Questionnaire                     | Descriptive          |
|                                       |                         | Control   | Ordinal                  | Questionnaire                     | Descriptive          |
| Layout Design                         | Independent             | -Material Flow<br>-Capacity needs<br>-Inventory Requirement             | Ordinal                  | Questionnaire                     | Descriptive          |
| Service Design                        | Independent             | -Internal Processes<br>-Product Service Improvement                     | Ordinal                  | Questionnaire                     | Descriptive          |
|                                       |                         | -Service costs  | Ordinal                  | Questionnaire                     | Descriptive          |
| Quality Management                    |                         | Human Resources   | Ordinal                  | Questionnaire                     | Descriptive          |
|                                       |                         | Procedures and Policies   | Ordinal                  | Questionnaire                     | Descriptive          |
|                                       |                         | Customer expectations   | Ordinal                  | Questionnaire                     | Descriptive          |

## 2.8 Gap of the Study

In the recent past the average loss in the health insurance segment has been around 6%; however, despite this loss some health insurance companies have tried to come up with ways of enhancing their performance through means such as hiring doctors to head their medical divisions (Kimani, Ettarh, Kyobutungi, Mberu, & Muindi, 2012). However, despite the growth in GDP locally and the subsequent rise in the income levels of individuals, the insurance industry has not been able to leverage on this economic growth locally (Gitau, 2013). Further, contrasted with other financial sector industries such as banking and real estate firms, the insurance industry has been growing at a relatively lower rate as compared to the others (AKI, 2015 and Cytonn investments, 2015). This is a clear indication there is a mismatch between the strategies designed by these insurance institutions and how these strategies are followed up to ensure positive performance of the firms.

This research study will seek to fill this gap by undertaking a self-administered questionnaire to determine how process & design, layout design, service design, and quality management affect performance of AAR, Jubilee, UAP, Resolution, and Heritage insurance companies.



## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

The research methodology determines whether or not, the research objectives can be achieved. An appropriate research methodology ensures efficient and effective use of resources as the researcher endeavors to answer the research questions. This chapter presents the research methods used for this study. It specifically addresses the following: research design, population characteristics, sample, sampling technique, data collection, and data analysis. Ethical consideration is also discussed at the end of this chapter.

#### **3.2 Research Design**

The main research design adopted by for this study was descriptive research design. Descriptive research design was chosen since it's appropriate for the review of the research questions. A descriptive study design enabled an in-depth study of the various aspects of the organization related to strategy management concepts and practices within insurance companies and form a link between them and the performance of the firms. Quantitative was utilized to quantify participants' opinions. Qualitative research was used to gain an understanding of the operational management practices adopted in the selected insurance companies and how they affect company performance, based on the interview responses from participants.

#### **3.3. Population**

According to the Association of Kenya Insurers (AKI) website, the Kenya insurance market comprises of approximately 51 insurance companies (appendix III) (AKI, 2016). Most of these insurance companies combine various insurance services such as health, auto, life, home, travel insurance etc. This study only focused on five health insurance companies: AAR, Jubilee, UAP, Heritage, and Resolution insurance companies. These insurance companies focus mainly on

providing health insurance services. The population for the study comprised of employees working in various departments: audit, claims, underwriting, operations, sales & marketing, legal, accounting & finance, customer service, and human resources departments.

### 3.3.1 Sampling

This process involved selecting subjects from a population of interest to enable the researcher collect and analyze data. This study adopted a non-probability sampling method.

### 3.3.2 Sampling Technique

This study used a purposive sampling technique. This is a non-probability technique of sampling whereby samples are collected based on characteristics of a population or study objectives (Coles, 2017). In this study, data was collected specifically from AAR, Jubilee, UAP, Heritage, and Resolution, which focus mainly on health insurance services. This enabled the researcher to collect more relevant and reliable data that focused on the study objectives and helped the researcher answer the study questions. Questionnaires were administered to at least 30% of employees in each of the selected 5 companies (See table 3.4 below). Participants were inclusive of both male and female with no age limit.

## 3.3. Sampling

**Table 3.1: Sampling Table**

| Company              | Population | Sampling % | Samples Size |
|----------------------|------------|------------|--------------|
| Heritage             | 67         | 30         | 20           |
| UAP Insurance        | 103        | 30         | 30           |
| Jubilee Insurance    | 122        | 30         | 36           |
| Resolution Insurance | 68         | 30         | 20           |
| AAR                  | 75         | 30         | 24           |
| <b>Total</b>         | <b>435</b> | <b>30</b>  | <b>130</b>   |

### **3.4 Data Collection**

Primary data was collected using a self-administered questionnaire (appendix II). A self-administered questionnaire enables the collection of detailed and in-depth data from the respondents (Codo, 2005 ). The advantage of researcher conducting a self-administered questionnaire is that the interview questions could be clarified to the respondents during the interview. This ensured that the respondents understood the questions, thereby enabling the researcher to obtain the right kind of information required to meet the study objectives. Using a self-administered questionnaire is a more efficient method of data collection in terms of researcher time and response rate. The study questionnaire consisted of at least 4 statements in each category that focused on answering the study questions and objectives. A likert scale was used in the questionnaire for responses to the statements. The content of the questionnaire covered the independent variables: process & capacity design, layout design, service design, and quality management. It also covered the dependent variables: Business processes, operational efficiency, and customer acquisition. Participants were required to respond by indicating the level of how much they agree or disagree with the statements. For example, they were required to indicate whether they strongly agree, agree, whether they are neutral, disagree, or strongly disagree agree with the statements in the questionnaire scaled 1-5 respectively (appendix II).

The study looked at 60%-70% response rate for more accurate conclusions and recommendations. In addition to questionnaire's, auditor's reports, Balanced Scorecards, company SOPs indicating department practices etc., were used to enhance clarity and interpretation of data collected using the questionnaires.

### **3.5 Data Analysis**

For accuracy and ease in interpretation of results, data was analyzed in sections (see sections 4.3, 4.4, 4.5 and, 4.6 below). These sections included general demographic information, dependent

variable data, and independent variable data. Health insurance company performance was measured in terms of business processes, operational efficiency (timely & ease in processing of claims and ease in overall company operations), and customer acquisition.

Operational management practices were analyzed in terms of: process & capacity design, layout design, service design, and quality management. Data collected was classified into sub-samples then it was edited and cleaned to reduce ambiguity. The cleaned data was coded into SPSS 22 for subsequent data analysis through descriptive statistics and inferential statistics. Quantitative data was analyzed using descriptive analysis while qualitative data analyzed using inferential statistics. Descriptive statistics was represented using means, frequencies and infographics where possible. Inferential statistics included factor analysis and regression analysis.

The study used multiple linear regression equations, and the method of estimation was an Ordinary Least Squares (OLS) to develop a link between strategic management practices and performance of Health Insurance companies. Ordinary least squares (OLS) is a statistical method of estimating the unknown parameters in a linear regression model by minimizing sum of observed responses and the predicted responses, thus, providing minimum-variance, mean-unbiased estimation (Silverman, 2010).

The significance of the factors was tested at a confidence level of 95%. Multicollinearity test was used to describe the degree to which one variable is related to the other. The regression equation used is as shown below;

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

Where;

Y = Dependent variable (Performance of Health Insurance Firms)

$\alpha$  = the model intercept

$\beta$  = Co-efficient of independent variables

$X_1$ - $X_4$  ( $X_1$  – Process capacity design ,  $X_2$  – Layout Design,  $X_3$  – Service Design,  $X_4$  –Quality Management)

$\epsilon$  = Error Term

### **3.6 Reliability and Validity**

Reliability is defined as a measure of the degree to which a research instrument yields consistent results after repeated trials. Before actual data collection, piloting of the questionnaire was carried out. The questionnaires were sent out to APA insurance company, which did not participate in the actual study. Piloting enabled the researcher to test the reliability of the instrument.

Validity is defined as the accuracy and meaningfulness of inferences, which are based on the research results. In other words, validity is the degree to which results obtained from the analysis of the data actually represents the phenomena under study. Riege (2003) defines validity as the degree to which a test measures what it purports to measure. Content validity of an instrument is improved through expert judgment. The researcher removed bias in the research instrument by constructing it in line with the objectives of the study.

### **3.7 Ethical consideration**

To ensure quality study, ethical consideration is critical in any research study. Ethical consideration ensures safety and protection of study participants. In this study, the researcher obtained an introductory letter (appendix I). The introduction letter allowed the five companies the researcher collected data from, to easily identify the researcher. Secondly, employees at AAR, Jubilee, UAP, Resolution and Heritage insurance companies was not be forced to participate in the study.

Instead, participation made voluntary. Thirdly, before administering the questionnaire (appendix II) to the respondents, the researcher provided an introduction and explained the content of the questionnaire to the subjects. Any arising questions were answered and clarifications were made before and during the exercise. This ensured that respondents understood how to answer the questions in the questionnaire. Fourthly, all respondents were logged in as anonymous. No personal identifiable information was revealed on the questionnaire and in the reports.



## CHAPTER FOUR

### DATA ANALYSIS AND INTERPRETATIONS

#### 4.1 Introduction

The chapter presents data analysis and interpretations of the findings. The findings and discussions are about effects of operational management practices on the performance health insurance companies in Kenya. At the end of each variable, the findings are briefly discussed and inferences drawn. Summary descriptive statistics, regression and correlation analysis, and analysis of variance (ANOVA) are presented for each variable together with the fitting of a model.

#### 4.2 Response Rate

The questionnaires were distributed to 131 managers in five health insurance companies in Nairobi. A total of one hundred and twenty three (123) managers completely filled and returned the questionnaires reflecting a response rate of 93%. This response rate was satisfactory to make conclusions for the study and was adequate enough for generalization. According to Bryman & Bell (2015) and Mugenda and Mugenda (2008), a response rate of 50% is adequate for analysis and reporting; a rate of 60% is good and a response rate of 70% and over is excellent. Based on the assertion, the response rate was excellent. Table 4.1 presents a summary of the response rate.

**Table 4.1: Summary of the Response Rates**

| <b>Questionnaires</b>      | <b>Respondents</b> |
|----------------------------|--------------------|
| Questionnaires distributed | 131                |
| Questionnaires returned    | 123                |
| Response rate              | 93%                |

### 4.3 Pre-Requisite Tests

The study performed tests on statistical assumptions which included the test of regression assumption and statistics used. The tests conducted were: Linearity, independence, and homogeneity and multi-co-linearity test.

#### 4.3.1 Autocorrelation Test

The study sought to establish whether there was any presence of autocorrelation between the dependent and independent variables. The results are presented in Table 4.2. The results indicated that there was no autocorrelation between the dependent and independent variables since the Durbin-Watson coefficient was 1.909 which is nearly a value of 2 which shows non-correlation.

**Table 4.2: Test for Autocorrelation between Study Variables**

| <b>Model Summary</b> |                      |
|----------------------|----------------------|
| <b>Model</b>         | <b>Durbin-Watson</b> |
| 1                    | 1.909                |

#### 4.3.2 Multi-collinearity Test

Multi-collinearity is exhibited if one or more independent variables can be expressed in terms of the other independent variables. That would imply that the predictors are not truly independent of each other as assumed by fitting the OLS model. The fitted OLS model assumed that the independent variables do not exhibit multicollinearity. Mugenda and Mugenda (2008) posit that multi-collinearity can occur in multiple regression models in which some of the independent variables are significantly correlated among themselves. Multicollinearity is a situation that occurs when the independent variables are highly correlated (Martz, 2013). In their study, Mutunga, Minja & Gachanja (2014) tested for multicollinearity using the VIFs and tolerance. The fitted model was tested for multicollinearity as shown in table 4.3. If a predictor has a tolerance of less than 0.2, it implies that the predictor shares more than 80% of its variance with another predictor in the model. To confirm that there was non-multicollinearity in the model, all the independent

variables were shown to have tolerances of values above 0.2 and VIFs of below 5.0. The findings imply strong relationship between the independent variables: Process & capacity design, layout design, service design, Quality management design; and dependent variable: company performance.

**Table 4.3: Multicollinearity**

| Variable                  | Tolerance | VIF   |
|---------------------------|-----------|-------|
| Process & Capacity Design | .836      | 1.211 |
| Layout Design             | .800      | 1.113 |
| Service Design            | .952      | 1.059 |
| Quality Management        | .819      | 1.145 |
| Performance               | .896      | 1.137 |

#### 4.3.3 Homogeneity Test

The test was conducted to check whether all the items in the population have same characteristics. Homogeneity of variance is also called homoscedasticity and is used to describe a set of data that has the same variance. In this study, homoscedasticity was tested by use of Levene's test of homogeneity of variances. Levene's test is an inferential statistic used to assess the equality of variances for a variable calculated for two or more groups. Multiple regression assume that variances of the populations from which different samples are drawn are equal. Levene's test assesses this assumption. It tests the null hypothesis that the population variances are equal (called homogeneity of variance or homoscedasticity). If the resulting p-value of Levene's test is less than some significance level (typically 0.05), the obtained differences in sample variances are unlikely to have occurred based on random sampling from a population with equal variances, (Gastwirth *et al.*, 2009).

The results of the homogeneity test are presented and Levene's significances: Process & Capacity Design (p = .054), Layout Design (p = .029), Service Design (p = .071), Quality Management

(p = .333). This leads to p-values higher than 0.05 and therefore the items of the population had similar characteristics.

#### 4.4 Background Information

The study sought to establish brief background information about the respondents. They were asked to state their gender, age, department they work in, and the number of years they had been working at the health insurance firms.

##### 4.4.1 Age Distribution of the Respondents

The study sought to investigate the distribution of age among the respondents. Table 4.4 presents the distribution of the respondents by age. The results indicated that majority of the respondents (49.6%) were aged between 30-40 years, 38.2% were aged between 21-29 years while 12.2% were aged above 40 years, none of the respondents were aged below 21 years. The findings imply that most of the departments at the insurance firms were being managed by middle aged, experienced and tech savvy individuals. The variation was found to be appropriate and was appreciated due to the fact that middle age individuals were involved in the implementation of operational management strategies at the health insurance companies.

**Table 4.4 Age Distribution**

| <b>Age Distribution</b> | <b>F</b>   | <b>%</b>    |
|-------------------------|------------|-------------|
| Below 21 years          | 0          |             |
| 21-29 Years             | 47         | 38.2        |
| 30- 40 Years            | 61         | 49.6        |
| Above 40 Years          | 15         | 12.2        |
| <b>Total</b>            | <b>123</b> | <b>100%</b> |

#### 4.4.2 Gender Distribution

The study required the respondents to indicate their gender. Figure 4.1 presents the distribution of the respondents by their gender. From the findings, the study established that, majority of the respondents (55.6%) were males whereas 44.4 % of the respondents were females. This implies that there was an adequate gender balance during the study and thus the findings of this study were not affected by gender biasness.

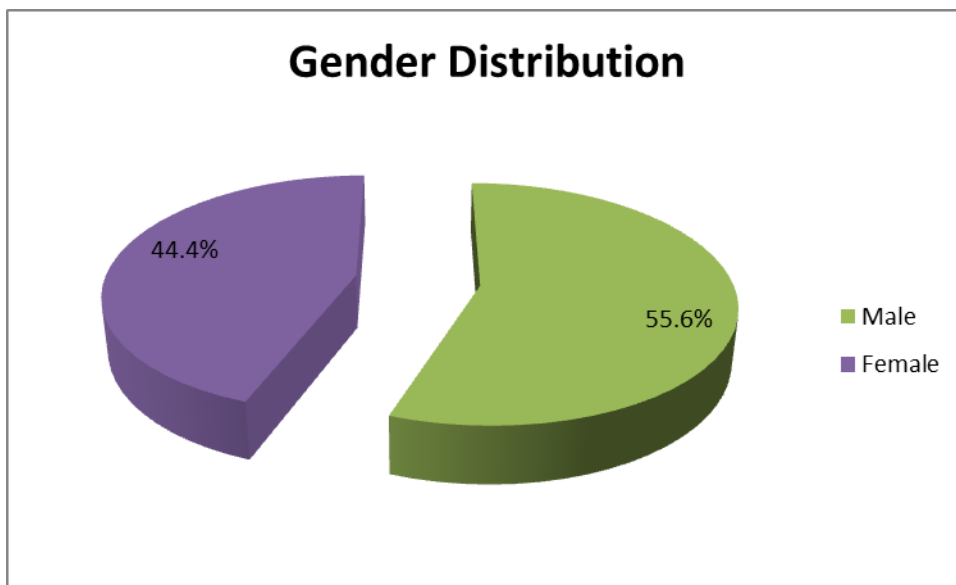


Figure 4.1: Gender Distribution of the Respondents

#### 4.4.3 Department

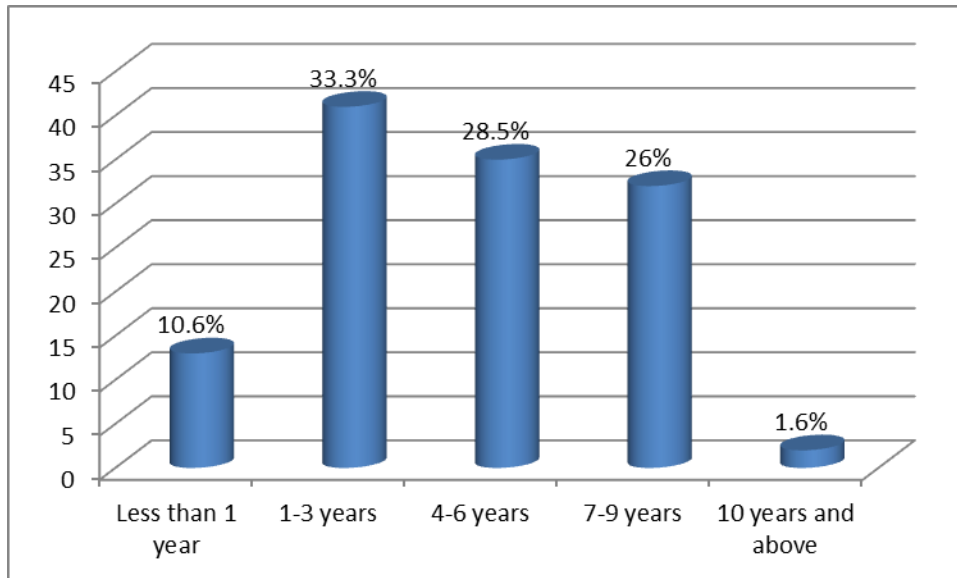
Based on the findings, a greater proportion of the respondents (31.7%) worked at the operations department, 12.19% worked at the Claims department, 8.9 % at Customer Service, 10.6% at Finance/Accounting department, 6.5% at Human Resource and 6.5% at ICT department. The findings imply that the respondents gave accurate information relating to operations management and performance of health insurance firms since more than a third respondents worked at key departments involved in operations at the respective insurance firms.

**Table 4.5: Departments**

| <b>Department</b>  | <b>F</b>   | <b>%</b>    |
|--------------------|------------|-------------|
| Audit              | 6          | 4.87        |
| Claims             | 15         | 12.19       |
| Customer Service   | 11         | 8.9         |
| Finance/Accounting | 13         | 10.6        |
| Human Resource     | 8          | 6.5         |
| ICT                | 12         | 9.8         |
| Operations         | 39         | 31.7        |
| Sales & Marketing  | 9          | 7.3         |
| Underwriting       | 10         | 8.1         |
| <b>Total</b>       | <b>123</b> | <b>100%</b> |

#### **4.4.4 Duration of Working at the Insurance Firms**

The study further sought to establish the number of years the respondents had been working at the respective insurance firms. Based on the findings presented in figure 4.2, a greater proportion of the respondents (33.3%) indicated that they had been working with the health insurance firms for 1-3 years followed by 28.5% who had been working with the firms for 4-6 years. 26 % of the respondents had been working with the firms for 7-9 years while only 1.6 % had worked with the insurance firms for more than 10 years. The findings imply that the researcher obtained accurate and relevant information on operational management practices in the health insurance firms since majority had of the respondents had worked in the health insurance firms long enough: more than three years.



**Figure 4.2: Duration of working with the firms**

#### 4.5 Descriptive Analysis

Quantitative analysis provides a means of describing and explaining a phenomenon through a numerical system (Maxfield & Babbie, 2009). The analysis is not based on subjective interpretation but on the objective analysis of the numerical findings derived from observations. The analysis in this study began by descriptive statistics, which helped to show or summarize data in a meaningful way, which allows a simpler interpretation of data.

##### 4.5.1 Company Performance

The responses for company performance was rated on a scale of 1-5 on which: 1= Strongly Disagree, 2= Disagree, 3= Neutral, 4= Agree and 5= Strongly Agree. Based on the findings presented on table 4.6, the respondents agreed with the following statements: Clients are satisfied with the company's current health insurance packages (Mean=4.11; SD=0.934); The company's overall performance has been very effective and successful (Mean=4.17; SD=0.884) and the company's operations has continuously led to profitability for at least the last 5 years (Mean=4.35;SD=0.640).

**Table 4.6: Company Performance**

|  | <b>N</b> | <b>Mean</b> | <b>Std. Deviation</b> |
|--|----------|-------------|-----------------------|
| The company has been very effective in delivering health insurance to its clients            | 123      | 3.84        | 1.217                 |
| Clients are satisfied with the company's current health insurance packages                   | 123      | 4.11        | .934                  |
| The company's health insurance package has improved patients' overall health                 | 123      | 4.06        | 1.019                 |
| The company's overall performance has been very effective and successful                     | 123      | 4.17        | .884                  |
| The company's operations has continuously led to profitability for at least the last 5 years | 123      | 4.35        | .640                  |

#### **4.5.2 Quality Management**

The responses for quality management was rated on a scale of 1-5 on which: 1= Strongly Disagree, 2= Disagree, 3= Neutral, 4= Agree and 5= Strongly Agree. Based on the findings on table 4.7, the respondents strongly agreed to the following statements: The company considers information management the most important factor in ensuring company growth in performance and profitability (Mean=4.51;SD=0.936); Documentation systems within the company has enabled ease in tracking and follow ups of various communications hence improving overall company performance (Mean=4.52;SD=0.839); they however agreed that: There are well laid out customer communications systems thus enhancing the excellence of customer relations and long term high performance (Mean=3.76;SD=1.049); As a result of improved information systems, the firm has been able to make informed decisions within the firm enhancing flexibility and efficiency(Mean=3.91;SD=0.713); The company involves personnel in formulating strategies thus

enhancing commitment and increased overall performance (Mean=3.79;SD=0.977); There are well laid out customer communications systems thus enhancing the excellence of customer relations and long term high performance (Mean=3.95;SD=0.818); And as a result of improved information systems, the firm has been able to make informed decisions within the firm enhancing flexibility and efficiency (Mean=3.82;SD=0.906).

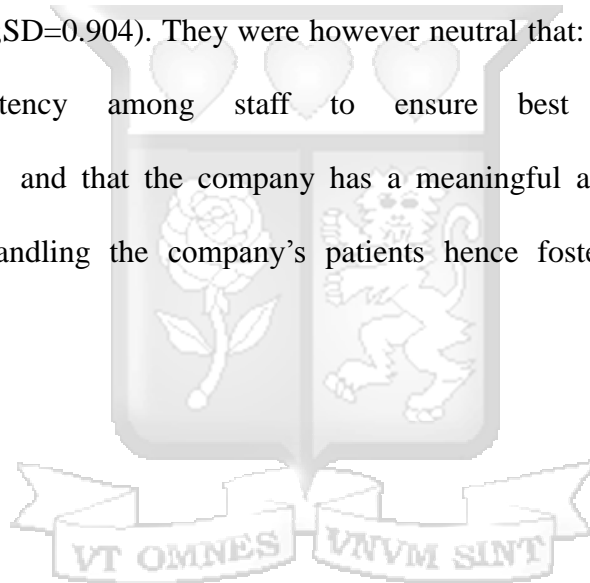


**Table 4.7: Quality Management**

|  | <b>N</b> | <b>Mean</b> | <b>Std. De-<br/>viation</b> |
|--|----------|-------------|-----------------------------|
| The company involves personnel in formulating strategies thus enhancing commitment and increased overall performance                                       | 123      | 3.64        | .924                        |
| There are well laid out customer communications systems thus enhancing the excellence of customer relations and long term high performance                 | 123      | 3.76        | 1.049                       |
| As a result of improved information systems, the firm has been able to make informed decisions within the firm enhancing flexibility and efficiency        | 123      | 3.91        | .713                        |
| Documentation systems within the company has enabled ease in tracking and follow ups of various communications hence improving overall company performance | 123      | 3.79        | 1.088                       |
| The company considers information management the most important factor in ensuring company growth in performance and profitability                         | 123      | 3.91        | .820                        |
| The company involves personnel in formulating strategies thus enhancing commitment and increased overall performance                                       | 123      | 3.79        | .977                        |
| There are well laid out customer communications systems thus enhancing the excellence of customer relations and long term high performance                 | 123      | 3.95        | .818                        |
| As a result of improved information systems, the firm has been able to make informed decisions within the firm enhancing flexibility and efficiency        | 123      | 3.82        | .906                        |
| Documentation systems within the company has enabled ease in tracking and follow ups of various communications hence improving overall company performance | 123      | 4.52        | .839                        |
| The company considers information management the most important factor in ensuring company growth in performance and profitability                         | 123      | 3.89        | .727                        |
| The company involves personnel in formulating strategies thus enhancing commitment and increased overall performance                                       | 123      | 3.95        | .818                        |
| There are well laid out customer communications systems thus enhancing the excellence of customer relations and long term high performance                 | 123      | 3.98        | .799                        |
| As a result of improved information systems, the firm has been able to make informed decisions within the firm enhancing flexibility and efficiency        | 123      | 4.02        | .839                        |
| Documentation systems within the company has enabled ease in tracking and follow ups of various communications hence improving overall company performance | 123      | 3.89        | .727                        |
| The company considers information management the most important factor in ensuring company growth in performance and profitability                         | 123      | 4.51        | .936                        |

### 4.5.3 Service Design

The study sought to determine the extent to which respondents agreed with statements relating to service design and performance of insurance companies in Kenya. The response was rated on a scale of 1-5 on which: 1= Strongly Disagree, 2= Disagree, 3= Neutral, 4= Agree and 5= Strongly Agree. Based on the findings on table 4.8, the respondents strong agreed to the following statements: The company effectively manages its services thus reducing customer complaints and eliminates bottlenecks in the services offered (Mean=4.93;SD=0.866); and the company considers patient care management the most important factor in ensuring growth in performance and profitability (Mean=4.95;SD=0.904). They were however neutral that: There is a high degree of accuracy and competency among staff to ensure best services are offered (Mean=3.04;SD=0.982): and that the company has a meaningful aspect of clinical practice which are upheld in handling the company's patients hence fostering patient satisfaction (Mean=3.14;SD=0.852).



**Table 4.8: Service Design**

|  | N   | Mean | Std. Deviation |
|--|-----|------|----------------|
| The company has put in place effective performance measurements to ensure patient satisfaction   | 123 | 4.03 | .735           |
| There is a high degree of accuracy and competency among our staff to ensure best services are offered  | 123 | 3.04 | .982           |
| The company has a meaningful aspect of clinical practice which are upheld in handling the company's patients hence fostering patient satisfaction.   | 123 | 3.14 | .852           |
| Every patient is encouraged to give feedback on their experience or suggestions on service improvement, during each encounter and randomly during the annual period hence encouraging trust and commitment from patients | 123 | 3.85 | 1.014          |
| The company reads and collectively reviews clients' suggestions/feedback and implements as deemed appropriate  | 123 | 3.91 | .800           |
| The company does a follow up of patients after each encounter of seeking health care with the health insurance coverage  | 123 | 3.30 | 1.318          |
| The company effectively manages its services thus reducing customer complaints and eliminates bottlenecks in the services offered.   | 123 | 4.93 | .866           |
| The company considers patient care management the most important factor in ensuring growth in performance and profitability  | 123 | 4.95 | .904           |

#### 4.5.4 Layout Design

The study sought to determine the extent to which respondents agreed with statements relating to layout design and performance of insurance companies in Kenya. The response was rated on a scale of 1-5 on which: 1= Strongly Disagree, 2= Disagree, 3= Neutral, 4= Agree and 5= Strongly Agree. Based on the findings as shown in table 4.9, the respondents strongly agreed that the organization has differentiated the service delivery points/sections to achieve efficiency and flexibility (Mean=4.73;SD=1.172). The respondents also agreed that there is a modular layout with a small group of machines that has the characteristics and flow pattern of a specific type of physical arrangement (Mean=4.52;SD=0.845), and that the layout design at the organization is in

consonance with the service delivery systems (Mean=4.50;SD=0.829). The respondents however disagreed with that the organization has put in place mechanisms that has reduced customers queuing during service delivery (Mean=2.89;SD=0.915).

**Table 4.9: Layout Design**

|  | <b>N</b> | <b>Mean</b> | <b>Std. Deviation</b> |
|--|----------|-------------|-----------------------|
| The company has a good space to handle customers   | 123      | 4.09        | .701                  |
| The physical arrangement and distribution of office equipment by the organization within its premises enhances operational efficiency              | 123      | 4.35        | .799                  |
| The organization has put in place mechanisms that has reduced customers queuing during service delivery  | 123      | 2.89        | .915                  |
| The organization has positioned its productive resources in accordance with the sequence of delivering services to its customers                   | 123      | 3.68        | 1.059                 |
| The organization has differentiated the service delivery points/sections to achieve efficiency and flexibility.                                    | 123      | 4.73        | 1.172                 |
| There is a modular layout with a small group of machines that has the characteristics and flow pattern of a specific type of physical arrangement. | 123      | 4.52        | .845                  |
| The layout design at the organization is in consonance with the service delivery system.   | 123      | 4.50        | .829                  |

#### 4.5.5 Process and Capacity Design

The study sought to determine the extent to which respondents agreed with statements relating to process and capacity design and performance of insurance companies in Kenya. The response was rated on a scale of 1-5 on which: 1= Strongly Disagree, 2= Disagree, 3= Neutral, 4= Agree and 5= Strongly Agree. Based on the findings on table 4.10, the respondents strongly agreed with the following statements: The company has set up systems to address performance, cost management and accountability (Mean=4.64;SD=0.967); The company achieves its improved per-

formance and profitability through its elaborate business systems management (Mean=4.70;SD=0.949); and that the company has implemented adequate security measures to ensure no cases of fraud or access of data by unauthorized personnel, hence improving profitability and company's overall performance (Mean=4.91SD=).913). The respondents were however neutral that: The company has incorporated stringent legal requirements that has helped reduce claims but maintain premium payments, hence profitability (Mean=3.05;SD=0.918); and the company has a strict system that monitors hospitals and doctors health care quality, prescription, and billing habits (Mean=3.00;SD=0.946).



**Table 4.10: Process and Capacity Design**

|   | N   | Mean | Std. Deviation |
|---|-----|------|----------------|
| The company has set up systems to address performance, cost management and accountability   | 123 | 4.64 | .967           |
| The company achieves its improved performance and profitability through its elaborate business systems management   | 123 | 4.70 | .949           |
| The company has implemented adequate security measures to ensure no cases of fraud or access of data by unauthorized personnel, hence improving profitability and company's overall performance   | 123 | 4.91 | .913           |
| The company has set up an elaborate system to run regular checks and maintenance to ensure problems are solved before they actually occur, hence improving its efficiency and overall performance | 123 | 3.79 | 1.001          |
| The company has an elaborate system that enhances pooling and thorough screening of clients.  | 123 | 4.91 | .920           |
| The company's controlled pricing technique has effectively contributed to its high performance in profitability   | 123 | 3.79 | .901           |
| The company has incorporated stringent legal requirements that has helped reduce claims but maintain premium payments, hence profitability  | 123 | 3.05 | .918           |
| The company has a strict system that monitors hospitals and doctors health care quality, prescription, and billing habits   | 123 | 3.00 | .946           |
| The company offers annual trainings to employee and this enhances overall performance of the company  | 123 | 4.52 | .839           |
| The organization has structured maternity & Annual leave policy to all employees, hence continuity of operations in the company   | 123 | 3.89 | .727           |
| The company offers performance development planning/appraisals. This helps improve company overall performance  | 123 | 3.95 | .918           |
| The company a succession plan policy in place which prevents gaps in company operations in case of resignations hence does not affect company performance negatively.                             | 123 | 3.98 | .899           |
| The company has an elaborate system that controls pricing risks including premium rates and claims pay outs   | 123 | 4.62 | .995           |
| The company considers system management the most important factor in ensuring company growth in performance and profitability   | 123 | 4.89 | .826           |

#### 4.6 Inferential Analysis

According to Osborne & Waters (2002), inferential statistics are used to make inferences from data to conditions that are more general. Thus, they are used to test hypothesis and make estimation using sample data. In this study, inferential analysis was conducted with correlation and regression analysis to determine the relationships between dependent and independent variables.

#### 4.6.1 Correlation Analysis

Stevenson (2009) asserts that Pearson's correlation is used when one is working with two quantitative variables in a population to establish the magnitude and direction of the relationship. The Pearson correlation coefficient,  $r$ , can take a range of values from +1 to -1. A value of 0 indicates that there is no association between the two variables. A value greater than 0 indicates a positive association; that is, as the value of one variable increases, so does the value of the other variable (Stevens, 2009). A value less than 0 indicates a negative association; that is, as the value of one variable increases, the value of the other variable decreases. In this study the Pearson correlation coefficient,  $r$ , was used to show the degree and significance of the relationship between the variables.

##### 4.6.1.1 Correlation between Process and Capacity Design and Company Performance

This study sought to establish whether there was any form of correlation between collateral and financial inclusion. The findings are summarized in Table 4.11. From the table, a positive correlation coefficient of .377 (or 37.70%) existed between Process and Capacity Design and Company Performance.

**Table 4.11: Correlation between Process and Capacity Design and Company Performance**

|                             |                        | Company Performance | Process and Capacity Design |
|-----------------------------|------------------------|---------------------|-----------------------------|
| Company Performance         | Pearson Correlation    | 1                   | .377**                      |
|                             | Sig. (2-tailed)        |                     | .000                        |
|                             | N                      | 123                 | 123                         |
| Process and Capacity Design | De-Pearson Correlation | .377**              | 1                           |
|                             | Sig. (2-tailed)        | .000                |                             |
|                             | N                      | 123                 | 123                         |

\*\**. Correlation is significant at the 0.05 level (2-tailed).*

#### 4.6.1.2 Correlation between Layout Design and Company Performances

This study sought to establish whether there was any form of correlation between Layout Design and Company Performances. The findings are summarized in Table 4.12. From the table, it can be observed that there was a negative Pearson correlation of .085 (or 8.50%) between layout design and company performance.

**Table 4.12: Correlation between Layout Design and Company Performance**

|                     |                     | <b>Company Performance</b> | <b>Layout Design</b> |
|---------------------|---------------------|----------------------------|----------------------|
| Company Performance | Pearson Correlation | 1                          | -.085**              |
|                     | Sig. (2-tailed)     |                            | .000                 |
|                     | N                   | 123                        | 123                  |
| Layout Design       | Pearson Correlation | -.085**                    | 1                    |
|                     | Sig. (2-tailed)     | .000                       |                      |
|                     | N                   | 123                        | 123                  |

\*\**. Correlation is significant at the 0.05 level (2-tailed).*

#### 4.6.1.3 Correlation between Service Design and Company Performance

This study sought to establish whether there was any form of correlation between service design and company performance. The findings are summarized in Table 4.13. From the table above, it can be observed that there was a positive Pearson correlation of .272 (or 27.2%) between service design and company performance.

**Table 4.13: Correlation between Service Design and Company performance**

|                     |                     | <b>Company Performance</b> | <b>Service Design</b> |
|---------------------|---------------------|----------------------------|-----------------------|
| Company Performance | Pearson Correlation | 1                          | .272**                |
|                     | Sig. (2-tailed)     |                            | .000                  |
|                     | N                   | 123                        | 123                   |
| Service Design      | Pearson Correlation | .272**                     | 1                     |
|                     | Sig. (2-tailed)     | .000                       |                       |
|                     | N                   | 123                        | 123                   |

\*\**. Correlation is significant at the 0.05 level (2-tailed).*

#### 4.6.1.4 Correlation between Quality Management and Company Performance

This study sought to examine whether there was any form of correlation between quality management and company performance. The findings are summarized in Table 4.14. From the table, a positive correlation coefficient of .298 (or 29.80%) existed between quality management and company performance.

**Table 4.14: Correlation between Quality Management and Performance**

|                     |                     | Company<br>mance | Perfor-Quality<br>ment |
|---------------------|---------------------|------------------|------------------------|
| Company Performance | Pearson Correlation | 1                | .298**                 |
|                     | Sig. (2-tailed)     |                  | .000                   |
|                     | N                   | 123              | 123                    |
| Quality Management  | Pearson Correlation | .298**           | 1                      |
|                     | Sig. (2-tailed)     | .000             |                        |
|                     | N                   | 123              | 123                    |

\*\**. Correlation is significant at the 0.05 level (2-tailed).*

#### 4.6.2 Regression Analysis

Statistical techniques were adopted to determine the relationship between the independent variables and the dependent variable and further determined the level of performance. The analysis adopted for inferential analysis involved parametric estimations that require the variables used to be measured on a continuous scale. The indicators were measured on an ordinal categorical scale and the descriptive analysis used non-parametric techniques to measure central tendency. The latent variables that are for the study variable that resulted from the computation of total scores from factor analysis were resulting continuous measures of the constructs and therefore were used for parametric estimation.

#### 4.6.2.1 Process and Capacity Design and Company Performance

**Table 4.15: Model Summary of Process and Capacity Design and Company Performance**

| Model | R                 | R <sup>2</sup> | Adjusted R <sup>2</sup> | Std. Error of the Estimate |
|-------|-------------------|----------------|-------------------------|----------------------------|
| 1     | .220 <sup>a</sup> | .142           | .140                    | .70338                     |

a. Predictors: (Constant), Capacity and Design

#### ANOVA for Process and Capacity Design and Company Performance

Analysis of Variance (ANOVA) is a statistical procedure used to test the degree to which two or more groups vary or differ in an experiment. ANOVA tests splits the aggregate variability found inside a data set into two parts: systematic factors and random factors (Jaccard *et al.*, 2006). Analysts use the analysis of the variance test to determine the result that independent variables have on the dependent variable amid a regression study (Keith, 2006). From the ANOVA Table 4.16, the model is statistically significant as the p-value is less than .05. The values of  $F(1, 121) = 61.7976$ ,  $P < 0.05$ , shows that process and capacity design is statistically and significant. It predicts the performance of insurance firms (i.e., the regression model is a good fit of the data) and that process and capacity design significantly influence performance of insurance firms.

**Table 4.16: ANOVA for Process and Capacity Design and Company Performance**

| Model |            | Sum of Squares | d.f | Mean Square | F     | Sig. |
|-------|------------|----------------|-----|-------------|-------|------|
| 1     | Regression | 3.042          | 1   | 3.042       | 6.149 | .000 |
|       | Residual   | 59.864         | 121 | .495        |       |      |
|       | Total      | 62.906         | 122 |             |       |      |

a. Dependent Variable: Company Performance

b. Predictors: (Constant), Process and Capacity Design

**Table 4.17: Process and Capacity Design and Company Performance**

| Model |                             | Unstandardized Coefficients |            | Standardized Coefficients |       |      |
|-------|-----------------------------|-----------------------------|------------|---------------------------|-------|------|
|       |                             | B                           | Std. Error | Beta                      | T     | Sig. |
| 1     | (Constant)                  | 2.847                       | .512       |                           | 5.565 | .000 |
|       | Process and Capacity Design | .320                        | .129       | .220                      | 2.480 | .015 |

*a. Dependent Variable: Company Performance*

To complement the ANOVA findings on Process and Capacity Design and Company Performance presented in Table 4.16, Person's correlation coefficients were also generated. The results of the person's correlation are presented in Table 4.17. These results show that Process and Capacity Design contributes a statistically significant value (p-value = .000) of .320 to the regression model. The value of process and capacity design is statistically significant (t=2.480, p< .05). From the coefficient, Process and Capacity Design and Company Performance contributes a statistically significant value (p-value = .000) of .320. Using the summary presented in Table 4.17, a linear regression model of the form,

$Y = \beta_0 + \beta X_1 + \varepsilon_i$  can be fitted as follows:

$$Y = 2.847 + 0.320 + 0.512 \dots \dots \dots \text{Equation 1}$$

The model shows that Process and Capacity Design positively affects the performance of health insurance firms, that is, an increase in mean index of Process and Capacity Design increases the performance of insurance firms by a positive unit mean index value of 0. 320. The study findings indicate that Process and Capacity Design influence the performance of health insurance companies.

#### **4.6.2.2 Layout Design and Company Performance**

The Model Summary Table presents an R<sup>2</sup> result of .357 or 35.7%, meaning that the independent variable, layout design alone can explain up to 35.7% of the total variability in the dependent

variable: company performance. The remaining 64.30% of the variation in the dependent variable is unexplained by this one predictor model but by other factors not included in the model.

The study findings are in agreement with the literature review.

**Table 4.18: Model Summary of Layout Design and Company Performance**

| Model | R                 | R <sup>2</sup> | Adjusted R <sup>2</sup> | Std. Error of the Estimate |
|-------|-------------------|----------------|-------------------------|----------------------------|
| 1     | .357 <sup>a</sup> | .128           | .120                    | .67342                     |

a. Predictors: (Constant), Layout Design

### ANOVA for Layout Design and Company Performance

An ANOVA test was performed on the variable, service design and the results obtained are presented in Table 4.34. From the ANOVA findings on Table 4.19, the model is statistically significant as the p-value is less than .05. The values of  $F(1, 213) = 65.1695$ ,  $P < 0.05$ , shows that layout design statistically and significantly predicts the performance of health insurance firms (i.e., the regression model is a good fit of the data) and layout design significantly influence the performance of insurance firms in Kenya.

**Table 4.19: ANOVA for Layout Design and Company Performance**

| Model |            | Sum of Squares | d.f | Mean Square | F      | Sig. |
|-------|------------|----------------|-----|-------------|--------|------|
| 1     | Regression | 5.023          | 1   | 5.023       | 10.500 | .002 |
|       | Residual   | 57.883         | 121 | .478        |        |      |
|       | Total      | 62.906         | 122 |             |        |      |

a. Dependent Variable: Company Performance

b. Predictors: (Constant), Layout Design

**Table 4.20: Layout Design and Company Performance**

| Model |               | Unstandardized Coefficients |            | Standardized Coefficients |       |      |
|-------|---------------|-----------------------------|------------|---------------------------|-------|------|
|       |               | B                           | Std. Error | Beta                      | t     | Sig. |
| 1     | (Constant)    | 2.808                       | .405       |                           | 6.927 | .000 |
|       | Layout Design | .341                        | .105       | .283                      | 3.240 | .002 |

a. Dependent Variable: Company Performance

To complement the ANOVA findings on service design and company performance, Pearson's correlation coefficients were also generated. The results of the person's correlation are presented in Table 4.20. These results show that service design contributes a statistically significant value (p-value = .000) of .341 to the regression model. The value of transaction costs is statistically significant (t= 3.240, p< .05). From the coefficient Table 4.20, Layout design contributes a statistically significant value (p-value = .000) of .341. Using the summary presented in Table 4.19, a linear regression model of the form;

$Y = \beta_0 + \beta X_1 + \varepsilon_i$  can be fitted as follows:

$$Y = 2.808 + 0.341 + 0.405 \dots \dots \dots \text{Equation 2}$$

The model shows that layout design positively affects the performance of health insurance, i.e an increase in mean index of layout Design increases the company performance by a positive mean index value of 0.341. The multiple regression analysis results indicate that layout design has a statistically significant value that predicts the performance of health insurance firms ; p < 0.05 (P=0.000) i.e. an increase in mean index of layout design increases the performance of health insurance firms by a positive unit mean index value of 34.1%. Hence, layout design significantly influences the performance of health insurance firms in Kenya.

**4.6.2.3 Service Design and Performance**

The study carried out a regression analysis between Service Design and performance of health insurance firms. The findings were presented in the table below. This Model Summary Table presents an R<sup>2</sup> result of .128 or 12.8%, meaning that the independent variable, service design alone can explain up to 12.8% of the total variability in the dependent variable, company performance. The remaining 87.20% of the variation in the dependent variable is unexplained by this one predictor model but by other factors not included in the model. The study findings imply that ser-

vice design is an important factor that influences to performance of health insurance companies in Kenya.

**Table 4.21: Model Summary of Service Design and Company Performance**

| Model | R                 | R <sup>2</sup> | Adjusted R <sup>2</sup> | Std. Error of the Estimate |
|-------|-------------------|----------------|-------------------------|----------------------------|
| 1     | .357 <sup>a</sup> | .128           | .120                    | .67342                     |

*a. Predictors: (Constant), Service Design*

An ANOVA test was performed on the variable service design and company performance and the results obtained are presented in Table 4.21. From the ANOVA Table 4.45, the model is statistically significant as the p-value is less than .05. The values of  $F(1, 121) = 46.018$ ,  $P < 0.05$  shows that perceived value statistically and significant predicts company performance (i.e., the regression model is a good fit of the data) and that perceived value significantly influence company performance.

**Table 4.22: ANOVA for Service Design and Company Performance**

| Model |            | Sum of Squares | df  | Mean Square | F      | Sig. |
|-------|------------|----------------|-----|-------------|--------|------|
| 1     | Regression | 8.033          | 1   | 8.033       | 17.714 | .000 |
|       | Residual   | 54.873         | 121 | .453        |        |      |
|       | Total      | 62.906         | 122 |             |        |      |

*a. Dependent Variable: Company Performance*

**Table 4.23: Service Design and Company Performance**

| Model |                | Unstandardized Coefficients |            | Coeffi-Standardized Coefficients |       |      |
|-------|----------------|-----------------------------|------------|----------------------------------|-------|------|
|       |                | B                           | Std. Error | Beta                             | T     | Sig. |
| 1     | (Constant)     | 2.683                       | .343       |                                  | 7.810 | .000 |
|       | Service Design | .371                        | .088       | .357                             | 4.209 | .000 |

*a. Dependent Variable: Company Performance*

To complement the ANOVA findings on service design and company performance, Pearson's correlation coefficients were also generated. The results of the person's correlation are presented

in Table 4.23 above. These results show that service design contributes a statistically significant value (p-value = .000) of .371 to the regression model. The value of perceived value is statistically significant (t=4.209, p< .05). From the coefficient Table 4.22 service design and company performance contributes a statistically significant value (p-value = .000) of .371. Using the summary presented in Table 4.22, a linear regression model of the form;

$Y = \beta_0 + \beta X_1 + \varepsilon_i$  can be fitted as follows:

$$Y = 2.683 + 0.371 + 0.088 \dots \dots \dots \text{Equation 3}$$

The model shows that service design positively affects company performance. That is an increase in mean index of service design increases the performance of health insurance firms by a positive unit mean index value of 0.371. The study findings are in agreement with the literature.

#### 4.6.2.4 Quality Management and Company Performance

The findings were presented in the table below. This Model Summary Table presents an R<sup>2</sup> result of .074 or 7.4 0%, meaning that the independent variable, quality management alone can explain up to 7.4 % of the total variability in the dependent variable i.e. company performance. The remaining 92.60% of the variation in the dependent variable is unexplained by this one predictor model but by other factors not included in the model. The study findings show that Quality management is an important factor that determines the performance of health insurance firms.

**Table 4.24: Model Summary for Quality Management and Company Performance**

| Model | R                 | R <sup>2</sup> | Adjusted R <sup>2</sup> | Std. Error of the Estimate |
|-------|-------------------|----------------|-------------------------|----------------------------|
| 1     | .478 <sup>a</sup> | .229           | .22                     | .63325                     |

a. Predictors: (Constant), Quality Management

An ANOVA test was performed on the variable quality management and the results obtained are presented in Table 4.24. From the ANOVA Table, the model is statistically significant as the p-value is less than .05. The values of F (1, 121) = 14.384, P < 0.05, shows that quality manage-

ment statistically and significantly predicts company performance (i.e., the regression model is a good fit of the data) and that quality management significantly influence the performance of health insurance firms.

**Table 4.25: ANOVA for Quality Management and Company Performance**

| Model |            | Sum of Squares | Df  | Mean Square | F      | Sig. |
|-------|------------|----------------|-----|-------------|--------|------|
| 1     | Regression | 14.384         | 1   | 14.384      | 35.869 | .000 |
|       | Residual   | 48.522         | 121 | .401        |        |      |
|       | Total      | 62.906         | 122 |             |        |      |

- a. Dependent Variable: Company Performance
- b. Predictors: (Constant), Quality Management

**Table 4.26: Coefficients of Quality Management and Company Performance**

| Model |                    | Unstandardized Coefficients |            | Coeffi-Standardized Coefficients |  | t     | Sig. |
|-------|--------------------|-----------------------------|------------|----------------------------------|--|-------|------|
|       |                    | B                           | Std. Error | Beta                             |  |       |      |
| 1     | (Constant)         | 1.817                       | .386       |                                  |  | 4.701 | .000 |
|       | Quality management | .590                        | .098       | .478                             |  | 5.898 | .000 |

- a. Dependent Variable: Company Performance

To complement the ANOVA findings on Quality Management and Company Performance, Person's correlation coefficients were also generated. The results of the person's correlation are presented in Table 4.25. These results show that quality management contributes a statistically significant value (p-value = .000) of .590 to the regression model. The value of quality management is statistically significant (t=5.989, p< .05). From the coefficient Table 4.25, quality management contributes a statistically significant value (p-value = .000) of .590. Using the summary presented in Table 4.25, a linear regression model of the form;

$$Y = \beta_0 + \beta X_1 + \varepsilon_i \text{ can be fitted as follows:}$$

$$Y = 1.817 + 0.590 + 0.386 \dots \dots \dots \text{Equation 4}$$

The model shows that quality management positively affects company performance. That is an increase in mean index of quality management increases the financial performance of health in-

insurance firms by a positive unit mean index value of 0.590. The study findings imply that there is a significant linear relationship between convenience and financial inclusion.



## CHAPTER FIVE

### DISCUSSION, CONCLUSION AND RECOMMENDATIONS

#### 5.1 Introduction

This chapter presents the summary of the findings, conclusion, recommendations, and areas of future search. Further, the research findings are corroborated with the empirical and theoretical literature review in chapter two.

#### 5.2 Discussion of the Major Findings

The study sought to establish the effects of operational management practices on the performance of health insurance firms in Kenya. The study response rate was satisfactory to make conclusions about the study and was adequate for generalization. The study specifically determined the effects of process and capacity design, layout design, serviced design, and quality management on the performance of health insurance firms in Kenya. The major findings summarized from the four specific objectives are as follows:

##### 5.2.1 Process and Capacity Design

On process and Capacity Design, the respondents strongly agreed that the respective companies have set up systems to address performance, cost management and accountability. They also agreed that company achieves its improved performance and profitability through its elaborate business systems management, and that the company has implemented adequate security measures to ensure no cases of fraud or access of data by unauthorized personnel, hence improving profitability and company's overall performance. The respondents were however, neutral that the company has incorporated stringent legal requirements that has helped reduce claims but maintain premium payments, hence profitability, and also the company has a strict system that monitors hospitals and doctors health care quality, prescription, and billing habits.

Pearson's correlation coefficients were also generated. The results show that Process and Capacity Design contributes a statistically significant to the regression model. The findings are in line with the arguments of Carr, Amelia, Kaynak & Hale, (2007) who stated that if a company can integrate better processes, communication channels, information storage and sharing systems and feedback mechanisms, then companies can achieve positive effects on their performance.

### **5.2.2 Layout Design**

Respondents strongly agreed that their respective companies have differentiated the service delivery points/sections to achieve efficiency and flexibility. In addition, there is a modular layout with a small group of machines that has the characteristics and flow pattern of a specific type of physical arrangement in the companies. They also agreed that the layout design at the organization is in consonance with the service delivery systems. The respondents however disagreed with the statement that the organization has put in place mechanisms that has reduced costumers queuing during service delivery.

The model shows that layout design positively affects the performance of health insurance, i.e. an increase in mean index of layout Design increases the company performance. The multiple regression analysis results indicate that layout design has a statistically significant value that predicts the performance of health insurance companies i.e. an increase in mean index of layout design increases the performance of health insurance companies by a positive unit mean index value of 34.1%. Hence, layout design significantly influences the performance of health insurance companies in Kenya. The study findings are in line with those of Stevenson, (2014), who established that effective layout designs minimize material handling costs, utilize space efficiently, utilize labor efficiently, eliminate bottlenecks, facilitate interaction and communication

within the facility, reduce customer service time, eliminate redundant movement, facilitate entry and exit of people, materials, and products hence improving the performance of an organization.

### **5.2.3 Service Design**

The results show that service design contributes a statistically significant value to the regression model. From the coefficient Table 4.22 service design and company performance contributes a statistically significant value (p-value = .000) of .371. The findings are in line with the literature by McAleamy, et.al (2011) who opined that service design as an operational management strategy is key to the improvement of the performance of health insurance companies.

### **5.2.4 Quality Management**

Respondents strongly agreed that the company considers information management the most important factor in ensuring company growth in performance and profitability. According to the results, documentation systems within the company has enabled ease in tracking and follow ups of various communications hence improving overall company performance. The respondents also agreed that there are well laid out customer communications systems thus enhancing the excellence of customer relations and long term high performance. As a result of improved information systems, the firm has been able to make informed decisions within the firm enhancing flexibility and efficiency. The results also showed that company involves personnel in formulating strategies thus enhancing commitment and increased overall performance. In addition, there are well laid out customer communications systems thus enhancing the excellence of customer relations and long term high performance in the companies.

The regression results showed that quality management contributes a statistically significant to the regression model. The findings supports the views of Francalanci and Morabito (2008) who

argued that for systems to have an impact on the company's performance then there is a need to link the systems with the company personnel who enhances quality management within the firm.

### **5.3 Conclusion**

Based on the study research and findings, this study concluded that process and capacity design, layout design, service design and quality management ensures flexibility of organization in adapting to different operational capacity thereby in overall improvement in the performance of the companies. The study concluded that operational management practices emphatically influences a company's execution through improved supply chain performance by way of quantities required and when they are required. Operational Management practices also influences most of the key performance indices used to gauge the performance of health insurance firms.

#### **5.3.1 Process and Capacity Design**

It can be concluded from the findings that excellent process and capacity design is key to better operational management in health insurance firms. It helps reduce high information storage costs, loss of firm data and large time lags in making key firm decisions. However, if a company can integrate better communication channels, information storage and sharing systems and feedback mechanisms, then companies can achieve positive effects on their performance. Health insurance companies that invest in proper process and capacity design are able to enhance better and faster information management which can help the company executives in making decisions which may eventually reflect positively on the company's profitability via enhanced efficiency.

#### **5.3.2 Layout Design**

Based on the findings of the study, it can be conclude that Effective layout design minimizes material handling costs, utilize space efficiently, utilize labor efficiently, eliminate bottlenecks, facilitate interaction and communication within the facility, reduce customer service time, elimi-

nate redundant movement, facilitate entry and exit of people, materials, and products, this in turn improves organizational performance. Effective layout design within an organization has also been found to incorporate safety and security measures, promote product and service quality, encourages proper maintenance activities, and provides visual control activities and increase organizational capacity.

### **5.3.3 Service Design**

Based on the findings of the study, it can be concluded that service design is key to the improvement of the operations of health insurance companies. Excellent service design contributes to quality and efficiency through creating better systems and ensuring the individual practices are top notch. Thus, insurance companies with excellent service design perform better than those with poor service design. Furthermore, lack of modernized equipment and elaborate structures within companies are challenges to better care management. Companies that encourage feedback and suggestions from their clients show how open minded and dedicated to ensuring their clients get quality products and services.

### **5.3.4 Quality Management**

It can be concluded from the findings that quality management systems within an organization have a great impact on organizational performance. This is because quality management enhances structure and culture supported by adequate systems hardware and security. This enables a company to leverage on the competitive advantage created since not many companies can imitate a large scale rollout of well-integrated systems architectures. This has been supported by (Picolli & Ives, 2005). Good management systems have an impact on the company's performance, therefore, there is a need to link the systems with the company personnel.

#### **5.4 Recommendations**

Based on the findings of the study, the following recommendations were made:

The management of health insurance companies needs to increase the organization's assets in order to improve the efficiency of the company's operations, which will in turn improve performance. The study also recommends health insurance companies need to improve processes and capacity design in order to increase their levels of operations.

Health insurance companies need to ensure that the structure the organization adopts has the capability of paying attention to and meeting the current insurance demands of Kenyans. The insurance firms need to focus on ensuring that their structures and systems are convenient for its staff as well as its customers in order to enhance operational management.

The health insurance firms need to ensure that their leadership style facilitates the improvement of the operations in all departments. This could be achieved through the firm increasing its authoritarian dimension level in leadership, and increasing its ability to adapt to new changes faster and easily guided by strategic management.

#### **5.5 Areas for Further Research**

The study is a milestone for further research in the field of health insurance. The findings demonstrated the importance of effective operations management practices among health insurance companies in Kenya. The current study should therefore be expanded further in future in order to determine others factors affecting performance of health insurance firms in Kenya. The study recommends that further research should be done on the policy measures that can be strategically developed in order to enhance the success of health insurance coverage for low income earners in Kenya. Further, a study needs to assess on how health insurance firms can mitigate challenges relating to operational management in order to improve their performance. This will encourage and ensure that the success of the insurance firms is realized. The policy makers such

the government regulatory body such as Insurance Regulatory Authority (IRA) needs to look into the operations of health insurance companies in order to regulate them effectively for the benefit of customers. In addition, IRA should commission a study to examine how operations management affects the health insurance firms and propose policies that can improve operations in the health insurance sector.



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## APPENDICES

### Appendix I: Introduction Letter

**Jackie Dalizu**

**C/O Strathmore University,**

**School of Business, Nairobi, Kenya**

**Mobile No:**

**To.....**

**Dear Sir/Madam**

#### **RE: REQUEST TO COLLECT DATA FROM YOUR ORGANIZATION**

I'm a student at Strathmore University currently undertaking a Master of Business Administration degree program. I am in the process of completing my course work for the studies and as part of the university requirements I am supposed to undertake a research study.

My research will focus on strategic management practices and the performance of organizations with a particular interest in health insurance firms in Kenya.

The purpose of this letter is to request your permission to collect data for the research purposes. All information collected will be treated with utmost confidentiality and will only be used for academic purposes. I will appreciate your support and, therefore, look forward to your positive consideration.

Yours Sincerely,

Jackie Dalizu Mwendwa

MBA student- Strathmore University School of Business

## Appendix II: Questionnaire

### Section A: Demographics.

1. Gender of the respondents?

Female ( )                      Male ( )

2. What is your age bracket?

Below 21 years ( )

21-29 years ( )

30-40 years ( )

Above 40 years ( )

3. Which department to you work in the Company?

Audit ( )

Claims ( )

Customer Service ( )

Finance/Accounting ( )

Human Resources ( )

Information and Communication Technology (ICT) ( )

Operations ( )

Sales & Marketing ( )

Undewrtting ( )

4. How long have you worked for the firm?

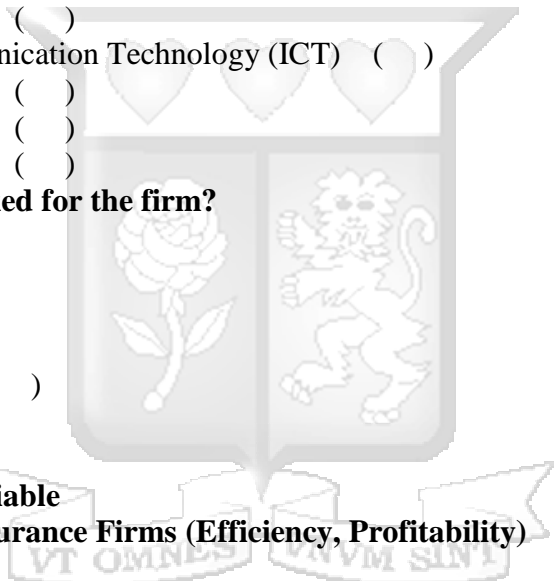
Less than 1 year ( )

1-3 years ( )

4- 6 years ( )

7-9 years ( )

10 years and above ( )



### Section. B- Dependent Variable Performance of Health Insurance Firms (Efficiency, Profitability)

In this section, please indicate the extent to which you agree with the following statements with regard to performance of your health insurance company, where **5=strongly agree 4=agree 3=fair 2=disagree and 1=strongly disagree**. Tick inside the box that best describes your opinion on the question asked.

| 5. Company Performance  | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| The company has been very effective in delivering health insurance to its clients |   |   |   |   |   |
| Clients are satisfied with the company's current health insurance packages        |   |   |   |   |   |
| The company's health insurance package has improved patients' overall health      |   |   |   |   |   |

|  |  |  |  |  |  |
|--|--|--|--|--|--|
| The company's overall performance has been very effective and successful                     |  |  |  |  |  |
| The company's operations has continuously led to profitability for at least the last 5 years |  |  |  |  |  |

**6. In what other ways would you describe your company's overall performance?**

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**Section C: Independent variables  
(Process and Capacity Design, Layout design, Service design, Quality management)**

In this section, please indicate the extent to which you agree with the following statements with regard to factors that influence performance of your health insurance company, where **5=strongly agree 4=agree 3= fair 2=disagree and 1=strongly disagree. Tick inside the box that best describes your opinion on the question asked.**

| <b>7. Quality management</b>   | 1 | 2 | 3 | 4 | 5 |
|--|---|---|---|---|---|
| The company's cost minimization strategy has greatly contributed to it's high performance  |   |   |   |   |   |
| The company has been effective in controlling majority of the cost hence resulting in better profit margins  |   |   |   |   |   |
| Through elaborate plans and budgets, the organization has been able to effectively foster performance  |   |   |   |   |   |
| The company minimizes costs within the firm through inculcating a culture of efficiency within the firm  |   |   |   |   |   |
| The company monitors claims and premiums of every patient annually and adjusts premiums accordingly therefore enhancing efficiency and profitability |   |   |   |   |   |
| The company has set up a business system that has improved cost control and maximization of profits  |   |   |   |   |   |
| The company considers cost management the most important factor in ensuring company growth in performance and profitability                          |   |   |   |   |   |
| The company involves personnel in formulating strategies thus enhancing commitment and increased overall performance                                 |   |   |   |   |   |

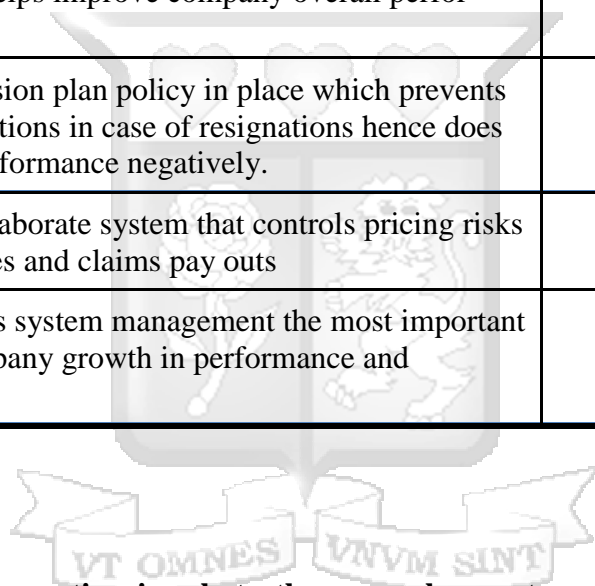
|  |  |  |  |  |  |
|--|--|--|--|--|--|
| There are well laid out customer communications systems thus enhancing the excellence of customer relations and long term high performance                 |  |  |  |  |  |
| As a result of improved information systems, the firm has been able to make informed decisions within the firm enhancing flexibility and efficiency        |  |  |  |  |  |
| Documentation systems within the company has enabled ease in tracking and follow ups of various communications hence improving overall company performance |  |  |  |  |  |
| The company considers information management the most important factor in ensuring company growth in performance and profitability                         |  |  |  |  |  |

**8. In what other ways has cost control management influenced the performance of the company?**

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| <b>9. Process and Design Capacity</b>  | <b>1</b> | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> |
|--|----------|----------|----------|----------|----------|
| The company has set up systems to address performance, cost management and accountability  |          |          |          |          |          |
| The company achieves it's improved performance and profitability through it's elaborate business systems management  |          |          |          |          |          |
| The company has implemented adequate security measures to ensure no cases of fraud or access of data by unauthorized personnel, hence improving profitability and company's overall performance    |          |          |          |          |          |
| The company has set up an elaborate system to run regular checks and maintenance to ensure problems are solved before they actually occur, hence improving it's efficiency and overall performance |          |          |          |          |          |
| The company has an elaborate system that enhances pooling and thorough screening of clients.   |          |          |          |          |          |
| The company's controlled pricing technique has effectively contributed to it's high performance in profitability   |          |          |          |          |          |

|   |  |  |  |  |  |
|---|--|--|--|--|--|
| The company has incorporated stringent legal requirements that has helped reduce claims but maintain premium payments, hence profitability                            |  |  |  |  |  |
| The company has a strict system that monitors hospitals and doctors health care quality, prescription, and billing habits   |  |  |  |  |  |
| The company offers annual trainings to employee and this enhances overall performance of the company  |  |  |  |  |  |
| The organization has structured maternity & Annual leave policy to all employees, hence continuity of operations in the company                                       |  |  |  |  |  |
| The company offers performance development planning/appraisals. This helps improve company overall performance  |  |  |  |  |  |
| The company a succession plan policy in place which prevents gaps in company operations in case of resignations hence does not affect company performance negatively. |  |  |  |  |  |
| The company has an elaborate system that controls pricing risks including premium rates and claims pay outs   |  |  |  |  |  |
| The company considers system management the most important factor in ensuring company growth in performance and profitability   |  |  |  |  |  |



**10. From your own observation in what other ways has systems management enhanced performance of your health insurance company?**

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**11. Kindly from your own experience how would you characterize the influence of information management on the performance of health insurance companies?**

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| <b>12. Service Design</b>  | <b>1</b> | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> |
|--|----------|----------|----------|----------|----------|
| The company has put in place effective performance measurements to ensure patient satisfaction   |          |          |          |          |          |
| There is a high degree of accuracy and competency among our staff to ensure best services are offered  |          |          |          |          |          |
| The company has a meaningful aspect of clinical practice which are upheld in handling the company's patients hence fostering patient satisfaction  |          |          |          |          |          |
| Every patient is encouraged to give feedback on their experience or suggestions on service improvement, during each encounter and randomly during the annual period hence encouraging trust and commitment from patients |          |          |          |          |          |
| The company reads and collectively reviews clients' suggestions/feedback and implements as deemed appropriate  |          |          |          |          |          |
| The company does a follow up of patients after each encounter of seeking health care with the health insurance coverage  |          |          |          |          |          |
| The company effectively manages its services thus reducing customer complaints and eliminates bottlenecks in the services offered.   |          |          |          |          |          |
| The company considers patient care management the most important factor in ensuring growth in performance and profitability  |          |          |          |          |          |

| <b>13. Layout Design</b>  | <b>1</b> | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> |
|---|----------|----------|----------|----------|----------|
| The company has a good space to handle customers  |          |          |          |          |          |
| The physical arrangement and distribution of office equipment by the organization within its premises enhances operational efficiency |          |          |          |          |          |
| The organization has put in place mechanisms that has reduced customers queuing during service delivery                               |          |          |          |          |          |
| The organization has positioned its productive resources in accordance with the sequence of delivering services to its customers      |          |          |          |          |          |
| The organization has differentiated the service delivery points/sections to achieve efficiency and flexibility.                       |          |          |          |          |          |

|  |  |  |  |  |  |
|--|--|--|--|--|--|
| There is a modular layout with a small group of machines that has the characteristics and flow pattern of a specific type of physical arrangement. |  |  |  |  |  |
| The layout design at the organization is in consonance with the service delivery system.   |  |  |  |  |  |

**14. In what others ways has patient care management been fostered within the company to enhance performance?**

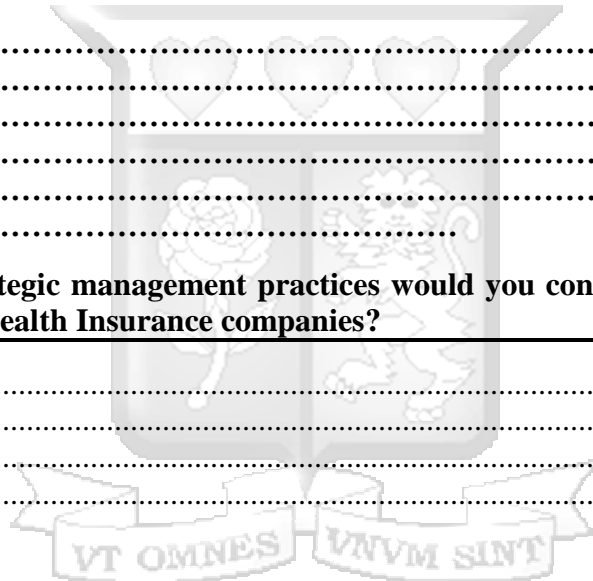
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**15. In your own view does the current regulatory framework support strategic practices by Insurance providers?**

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 .....  
 .....  
 .....

**16. What other strategic management practices would you consider to have an impact on performance of health Insurance companies?**

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 .....  
 .....



**17. From the below operation management practices, kindly indicate the extent to which the practices affect the performance of health insurance firms? Use the scale 1= Low extent, 2= Moderate extent and 3= High extent.**

|                             | 1 | 2 | 3 |
|-----------------------------|---|---|---|
| Process and Capacity design |   |   |   |
| Layout Design               |   |   |   |
| Services Design             |   |   |   |
| Quality Management          |   |   |   |

**Other opinion in relation to performance of health insurance companies**

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### Appendix III: List of Insurance Companies in Kenya

|    |  |
|----|--|
| 1  | AAR Insurance Company                    |
| 2  | Africa Merchant Assurance Company        |
| 3  | AIG Kenya Insurance Company              |
| 4  | Allianz Insurance Company of Kenya       |
| 5  | APA Insurance                            |
| 6  | Apollo Life Insurance                    |
| 7  | Barclays Life Assurance Kenya Ltd        |
| 8  | British American Insurance Kenya Limited |
| 9  | Bupa Global                              |
| 10 | Cannon Assurance Company Limited         |
| 11 | Capex Life Assurance Company             |
| 12 | CIC General Insurance                    |
| 13 | CIC Life Insurance                       |
| 14 | Continental Reinsurance                  |
| 15 | Corporate Insurance Company              |
| 16 | Direct Line Assurance Company            |
| 17 | East Africa Reinsurance Company          |
| 18 | Fidelity Shield Insurance Company        |
| 19 | First Assurance Kenya Limited            |
| 20 | GA Insurance Company                     |
| 21 | Geminia Insurance Company                |
| 22 | Heritage Insurance Company               |
| 23 | ICEA LION General Insurance Company      |
| 24 | ICEA LION Life Assurance Company         |
| 25 | Intra Africa Assurance Company           |
| 26 | Invesco Assurance Company                |
| 27 | Jubilee Insurance Company Limited        |
| 28 | Kenindia Assurance Company               |
| 29 | Kenya Orient Insurance                   |
| 30 | Kenya Reinsurance Corporation            |
| 31 | Liberty Life Assurance Kenya Limited     |
| 32 | Madison Insurance Company Kenya          |
| 33 | Mayfair Insurance Company                |
| 34 | Mercantile Insurance Company             |
| 35 | Metropolitan Life Insurance Kenya        |
| 36 | Monarch Insurance Company                |
| 37 | Occidental Insurance Company             |
| 38 | Old Mutual Life Assurance Company        |
| 39 | Pacis Insurance Company                  |
| 40 | Pan Africa Life Assurance                |
| 41 | Phoenix of East Africa Assurance Company |
| 42 | Pioneer Assurance Company                |
| 43 | Prudential Assurance Company             |

|    |                              |
|----|------------------------------|
| 44 | Real Insurance Company       |
| 45 | Resolution Insurance Company |
| 46 | Takaful Insurance of Africa  |
| 47 | Tausi Assurance Company      |
| 48 | Trident Insurance Company    |
| 49 | UAP Insurance Company        |
| 50 | UAP Life Assurance Company   |
| 51 | Xplico Insurance Company     |

*Source: <http://kenyanlife.info/insurance-companies-in-kenya/> Retrieved January 15, 2018.*

