FACTORS INFLUENCING PERFORMANCE OF MEDICAL REPRESENTATIVES IN THE PHARMACEUTICAL INDUSTRIES IN KENYA: A CASE OF DAWA PHARMACEUTICAL COMPANY, NAIROBI

OKOK MESHACK

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SEPTEMBER, 2015
DECLARATION

Declaration by the Student

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

Signature ____________________________ Date:_________
Okok Meshack
MBA/2/0004/3/2014

Declaration of the Supervisor

This thesis has been submitted for examination with my approval as university supervisor.

Signature: ____________________________ Date:_________
Dr. Alaka D. Opollo
The Management University of Africa
DEDICATION

This is dedicated to my beloved family for the humble time they granted me during the time for studies.
ACKNOWLEDGEMENT

I would like to thank God for giving me the strength, time, ability and finances to embark on this thesis. I am grateful for the encouragement, support and assistance of a large number of people in pursuit of this MBA degree. I would like to thank my family, especially my wife for understanding and support during the duration of the study. Special thanks to my supervisor Dr. Alaka D. Opollo for guiding and supporting me through all the phases of this thesis. I am grateful to all the lecturers of the MBA program for their valuable support.
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<tr>
<td>ICT</td>
<td>Information Communication Technology</td>
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<td>IS</td>
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<td>IT</td>
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<td>NRB</td>
<td>Nairobi</td>
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<td>BMC</td>
<td>Bio Medical Central</td>
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<td>HR</td>
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<td>ISO</td>
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<td>MUA</td>
<td>Management University of Africa</td>
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<td>KMPPDU</td>
<td>Kenya Medical Practitioners, Pharmacists and Dentists Union</td>
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<tr>
<td>MBA</td>
<td>Master of Business Administration</td>
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<td>MOH</td>
<td>Ministry of Health</td>
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### OPERATIONAL DEFINITION OF TERMS

<table>
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<tr>
<th>Term</th>
<th>Definition</th>
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<tr>
<td><strong>E – Health</strong></td>
<td>An emerging field of health informatics, referring to the organization and delivery of health services and information using related technologies (Eisenach, 2008).</td>
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<tr>
<td><strong>Data Security</strong></td>
<td>This refers to protective digital privacy measures that are applied to prevent unauthorized access to computers, databases and websites (Kullger, 2007).</td>
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<tr>
<td><strong>Decision making</strong></td>
<td>This is the process of making agreements on how the institution should be run which is guided by a given rules and regulations (Miller et al., 2004).</td>
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<tr>
<td><strong>Performance</strong></td>
<td>The action or process of carrying out or accomplishing an action, task, or function (Jain, 2004).</td>
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<tr>
<td><strong>Medical Representative</strong></td>
<td>This is a sales person within the pharmaceutical industry. Their main job is marketing of pharmaceutical drugs (Kohl, 2010).</td>
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ABSTRACT

Medical representatives play a central role in many companies, spanning the boundary between the selling firm and the customer. Medical representative’s requirements and training change through years, a fact the influences their performance. The performance of medical representatives is a combined measure of performance of the pharmaceutical product, and penetration of the product, a situation leading to this study whose aim is to investigate factors affecting their performance. There is a disconnect between the pharmaceutical companies, the administrators of the drugs, and the users of the. ICT usage, education on pharmaceutical products, age of medical representative and consumer perception on the pharmaceutical firm were used in the study to find if they influence the performance of medical representatives. Literature from various scholars in related material was reviewed in terms of their contents, contexts, and related to the situation at Dawa. The descriptive study conducted in Dawa pharmaceutical company in August 2015 had 60 medical representatives, 40 chemists, and 3 bio chemists as the population for this study. ICT usage had a direct positive effect on the performance of medical representatives; education on pharmaceutical products also was found to have an effect on the performance of medical representatives. Age of the of the medical representative did not have an effect, and neither was perception of the pharmaceutical company. The study recommended integrated ICT usage in pharmaceutical companies, more training on communication for medical representatives to enhance their communication amongst the parties they interact with.
CHAPTER ONE
INTRODUCTION

1.0 Introduction

This chapter covers the background of the study, statement of the problem, objectives of the study, research problems, the significance of the study, the limitations and the scope of the study.

1.1 Background of study

Performance management is a vital component of human resource management that ensures the effective use of scarce resources. Performance management is a continuous process of identifying, measuring and developing the performance of individuals or teams and aligning that performance to the strategic goals of the organization. Performance management has three main functions which are classified as strategic, administrative and developmental. The strategic function links the workers’ performance to the overall organizational strategy. Administratively, performance management provides valuable information to help the managers make important decisions such as salary increments, promotions, recognition and rewards (Hongoro & Normand, 2006).

The developmental function of performance management is realized through the provision of information on the strengths and weaknesses of health care workers. Performance management involves six main steps, which include having knowledge of the job and organization mission, performance planning, performance execution, performance Determinants of poor performance can be influenced in a variety of ways, using various methods at different levels in the health system. The 2006 World health report describes three levers to influence workforce performance: job-related interventions that focus on individual occupations, support-system related interventions and interventions that create an enabling environment and focus on managerial culture and organizational arrangements. Using these levers, a further refinement can be made (at micro, macro and individual levels), to link these interventions to the determinants of poor performance(Ajzen, 1991).
The concept of performance management is relatively new in the health sector, particularly the pharmaceutical industry, and lacks documented proof of practice. Health sector reforms for nearly two decades seek to improve access and strengthen health care systems. Among the reforms implemented is the decentralization of responsibility for delivery of health services and management of healthcare workers from the central Ministry of Health (MoH) to the local governments. Education primarily uses messages to inform and persuade but occasionally can reinforce behavior which is the main job for medical representatives. Enforcement uses the law to coerce, punish, or threaten to punish in exchange for appropriate behavior, this is the scope of policy and regulators and the environment is used to reward desired behavior, to increase benefits, to decrease barriers for desired choices, and to decrease the hassles of daily life (Chalker, 2005).

The environment can encourage exchange through the development of a choice with comparative advantage, favorable cost-benefit, and the convenience of time and place. After the choice is developed, messages are used to describe and advocate. Marketers manage through the use of the 4 P's (product, price, place, and promotion): The product consists of the bundle of "goods," or benefits, that a person receives in return for the desired behavior. Anything received is considered P4P and can be monetary or nonmonetary, tangible or intangible. The price consists of the bundle of "bads," or costs, that a person incurs to receive the goods. These also can be monetary or nonmonetary, tangible or intangible. The place considers the time and location for the exchange to occur. It can be a benefit or a cost, depending on its convenience. The promotion consists of the messages that announce the proposed exchange (the product, the price, the place, and the desired behavior) as state by (Rowe, 2005).

According to Smith, (2011) Information Communication Technology (ICT) refers to various gadgets that aid in communication. It is a tool that helps in communication among persons, governments, businesses and cultures, within and outside it, and, in different parts of the world. ICT is a tool to attaining marketing and not a tool for marketing. It is a part of technology that ensures people talk, on a timely and reliable manner; it’s effective and efficient use yields development, however, its misuse, leads to
disaster. Proper communication enables marketing, and in this case. Proper use of ICT is therefore an enabler of sustainable development

Healthcare industries are intensely promoting and adopting ICT to improve patient care, as stated by Johnson, (2010) in the medical care realms. Improvement in technology has enabled accessibility, availability; affordability and usage of health care services reaching more populations than it would have ordinarily reached thus improving marketing of the products and services. When ICT is properly used, more patients know of better health care services, thus are in charge of their health, and it propels providers to innovate ways of countering their problems. This situation places great demands on the health care industry’s information-handling abilities and infrastructure.

Health is at the heart of the Millennium Development Goals (MDG), recognition of the fact that health is central to the global agenda of reducing poverty as well as an important measure of human development. Three of the eight MDGs are directly health-related; Reduce child mortality (goal 4), Improve maternal health (goal 5), Combat HIV and AIDS, malaria, and other diseases (goal 6). The other MDGs include health-related targets and reflect many of the social, economic, environmental, and gender-related determinants that have an impact on people’s health. The eight MDGs do not work in isolation and therefore cannot be treated in isolation. Policy efforts and discussions need to consider the broader health determinants that affect people’s lives (WHO, 2005).

Published evidence by (Batchelor and Norrish, 2010) ascertains that a conveyance relationship is key in providing acceptable healthcare standards. The idea of using a particular technology in relation to a particular medical condition or within an area of the health care system and communicating its efficacy to other users of the same information has been shown to work. Besides, continue to state, ICT is becoming the catalyst for health care; it serves as an essential medium of communication between patients and medical teams.
The social, demographic and economic context in which the pharmaceutical industry operates is changing dramatically. One role of pharmaceutical research companies is to provide information about their medicines to health care professionals. This interaction between pharmaceutical representatives and health care professionals is as stated by Elliot (2010) asserts that without the service of medical representation, pharmaceuticals would less likely to have the latest, accurate information available regarding prescription medicines, which play an increasing role ineffective health care. Direct communication between medical representatives and pharmaceutical research companies is a part of the wider health care objective of developing medicines that patients use to live longer, healthier, and more productive lives.

Communication enables pharmaceutical research companies inform health care professionals about the benefits and risks of their products, provide scientific and educational information about their use, and obtain information and advice about their medicines through consultation with medical experts, and further, pharmaceutical marketing ensures timely access to new studies, clinical data, dosing information, and updated drug safety profiles. Many physicians find it at least somewhat difficult to stay informed about medications or therapies. This poses a challenge: not only do physicians need to know about the treatment options available; they also need to keep abreast of emerging drug safety and risk information that could affect their prescribing decisions. “Pharmaceutical company representatives provide one source of help in bridging this information gap by providing physicians with the latest clinical evidence and updated drug safety and risk profiles as they develop. This helps speed the translation of clinical evidence into clinical practice, and can help improve patient outcomes and eventually the MDG that relate to health (Appleyard, 2003).

Marketing in companies determines the volumes of sales, and innovation of new products. Pharmaceutical marketing is a very broad sense incorporates how pushing the company products in the market and informing the producers of the drugs to produce make productions that improve health care. About 60 per cent of established marketing relationships within the pharmaceutical industries fail to function despite having good
products since there lacks communication between the producers and consumers. In this sense, the marketing literature points up the lack of familiarity between the partners, the distance that separates them or the absence of pre-collaboration experience as the most important inhibitors of the process of marketing, further, medical representatives do more than pushing products (Appleyard, 2003).

Ahuja (2000) note that medical representative bridge this gap effectively by enhancing marketing of products of these companies, and their performance is key. One of the most crucial moments in marketing relations within the pharmaceutical industry is ensuring that both ends achieve their goals. The companies gains access to a vast quantity of relevant and up-to-date information quickly, easily and cheaply, state however, that the availability of information does not guarantee knowledge creation. Knowledge is the end-result of a complex process of acquisition, interpretation (analysis and evaluation) and integration of that information. For pharmaceutical companies to acquire knowledge, they have to undergo a complex learning process to transform the information gained from marketing into knowledge.

1.1.2 Profile of Dawa Pharmaceuticals Company
Dawa pharmaceutical company manufactures both human and veterinary medicine; the company is based in Nairobi, Kenya and manufactures drugs for Eastern and Central African market for over three decades. The pharmaceutical company, formerly known as Dawa Limited, was acquired by Medisel (K) Ltd in August 2004 and has gone major renovation in manufacturing facilities with focus on the quality control department. Dawa pharmaceutical company has overcome the test of time and thereby nurturing a culture of continuously growing and attaining progression in pharmaceutical product and service delivery. This was the idea perceived by its directors on realizing opportunity, market demands, and capitalizing on a conceptual idea of medicals supply. The kind of products to be manufactured is informed by the Marketing department that does market research, but mostly though they operate on the selling concept. Dawa pharmaceutical management believes in the older staff to market their products since they have the company history and a belief that they understand the health marketing dynamics well.
The cost of producing medicine locally seems higher than importing the same finished products from China and India, as a result of high cost of power and the higher taxes imposed on the importation of Active Pharmaceutical Ingredients (A.P.I). Other challenges such as “Brief case business” people who sell counterfeits within the pharmaceutical industry, have affected the sale of Dawa pharmaceuticals drugs. The company has various departments, which ensure efficacy and efficiency of the drugs; Regulatory Affairs department handles quality, the Pharmacy and Poisons department, aligns its self to the government regulator and ensures compliance, while customer relations department has a dual function of looking inwardly at the staff performance, and customer satisfaction. The company has invested heavy in technology in terms of equipment and personnel ability.

Marketing performance is a great contributor in the advancement of health care doesn’t seem to work at Dawa pharmaceuticals. The company produces many human medical drugs lines key being paracetamol for both adult and pediatric use. Production of medicine requires medical representatives to market the medicine to secondary consumers in this case stocks such as chemists, and doctors to prescribe the drug to their patients, and at times to primary consumers who are patients. Other players are the bio chemists who mix the drug portions that enable their manufacturing. Despite the major investment, there seems to be a major disconnect between what is produced, and what the market actually expects. For measures of marketing performance in the pharmaceutical industry in Europe; the performance of medical representative is not only a measure of how much drugs they can market, but a combination of how effective are these drugs in enhancing health care, and creating profits for the manufacturer.
1.2 Statement of the Problem
Pharmaceutical companies worldwide face growing pressures to cut expenses margins while research and development costs of new blockbuster drugs are skyrocketing, Tzokas and Saren (2007). It is even more difficult to recruit patients to enroll in clinical trials to ascertain efficacy of the manufactured drugs, while at the same time the pattern of diseases is changing and patients are demanding more personalize care. Medical representatives bridge the gap between the producers and consumers of the pharmaceutical products, hence communication is key, while facing these challenges, can information communication technology improve delivery of service in the humongous pharmaceutical industry.

Kenya Medical Research Institute (2014) reports that there seems to be a disconnect between the manufactures of the drugs, the administrators of the drugs, and the users of
the drugs. As per the pharmaceuticals industry ICT investment trends survey of 113 companies, 52% of respondents are planning to increase their ICT budgets in 2014, either slightly or significantly - witnessing an increase of 23% compared to 2013. The survey also shows that the percentage of respondents planning to retain their ICT budgets and basic pharmaceutical training at the same level or to reduce by 8% to reach a value of 27% in 2014. Could lack of ICT usage as an enabler of communication at Dawa be an influencer to the performance of medical representatives?

The role of marketing representative is to ensure the drug produced by pharmaceuticals reach the eventual consumer of the drug. Ahuja (2000) noted that medical representative bridge this gap effectively by enhancing marketing of products of these companies, and their performance is key, consider that one of the most crucial moments in marketing relations within the pharmaceutical industry is ensuring that both ends achieve their goals, thus the go in between, who is the medical representative is important to both parties. How possible is it then to measure the performance of the medical representative. It is not possible to measure performance of a medical representative in numerical strength, but by the information that they give. Could the ages of medical representatives and their knowledge of the pharmaceutical products be an enhancer to their performance?

The gap between necessary care and the critical care patients indicates that new medicines cannot be expected to enter into appropriate use based solely on the clinical evidence supporting them. Gronroos (2004) considering that one of the most crucial moments in marketing relations within the pharmaceutical industry is ensuring that both ends achieve their goals. In the absence of active dissemination of information about medicines to both physicians and consumers, what role does a pharmaceutical company age play in ensuring that this gap is closed up in the case of Dawa pharmaceuticals? Taking into cognition that the environment is dynamic, with brand new pharmaceutical companies emerging in the market, what measures has Dawa pharmaceuticals put in place to ensure it adequately responds to these market dynamics.
1.3 Research Objectives

1.3.1 Main Objective
The main objective of this study was to assess factors influencing marketing performance of medical representatives in the pharmaceutical industry: A case of Dawa pharmaceutical company, Nairobi

1.3.2 Specific Objectives
The specific objectives of this study were;
1. To evaluate the effect of ICT usage on performance of medical representatives at Dawa Pharmaceuticals Company in Nairobi.
2. To establish the effect of education of pharmaceutical products on performance of medical representatives of Dawa Pharmaceuticals
3. To determine the effect of age on the performance of medical representatives of Dawa Pharmaceuticals Company in Nairobi.
4. To examine the effect of public perception on pharmaceutical products on performance of medical representatives at Dawa Pharmaceuticals Company in Nairobi.

1.4 Research Questions
In order to achieve the above objectives, the study asked the following questions
1. What is the effect of ICT usage on the performance of employees at Dawa Pharmaceuticals
2. What effect does education on pharmaceutical products have on the performance of medical representatives of Dawa Pharmaceuticals
3. Does the age of a medical representative influence the performance of medical representatives at Dawa Pharmaceuticals
4. What is the effect of public perception on pharmaceutical industries on the performance of medical representatives at Dawa Pharmaceuticals?
1.5 Significance of the Study

1.5.1 Dawa Pharmaceuticals Management
The study may assist Dawa Pharmaceuticals have a broader understanding of the effects of information technology, and knowledge of pharmaceutical products on performance of medical representatives. The study shall come up with the effects of ICT and product knowledge, and, thus advice on the best strategy to employ in implementing it on its operations. This may assist the management to know the extent by which to invest appropriate ICT infrastructure and staff training within the marketing department.

1.5.2 Pharmaceutical Industry Regulators
Over recent years the drug discovery pipeline has been a concern for many in the pharmaceutical industry. Escalating costs, increasing complexity and a dwindling population of drug candidates suggest that traditional research and development methods are unlikely to produce enough breakthrough drugs to ensure industry growth. The convergence of information and bio-technologies is revolutionizing drug discovery and design and may radically alter the economics of the drug discovery over the coming years. This study may ascertain if the efficacy of the drugs that they produce.

1.5.3 Policy makers
Policy implications highlight two issues; the need for better marketing skills in the industry and the ongoing development of a social infrastructure for the pharmaceutical industry to continue health care uptake for their products. There have been many changes within the health realm, enabling real time decision making. The findings will enable policy makers to re-strategize and restructure current health policies that correspond to current changing world demands.

1.5.4 Academicians and Scholars,
The findings may act as a reference point to other researchers in the same field thus facilitating their studies. To academicians and scholars, the findings of this study may be useful to forming the basis for future research on the subject, providing a critical examination of the field. The findings of this study will provide future researchers
interested in this area with references and relevant literature to complete their research work. The study may provide a deeper understanding and training for medical representatives aimed at improving their performance.

1.5.5. Medical Representatives
This study may further inform medical representatives of Dawa Pharmaceuticals the important role that they play as bridges between the manufacturer and the consumers of the medicine. It may assist them in designing their reports better and probing chemists and doctors for more information regarding their products.

1.6 Scope of study
This study focused on assessing the factors influencing performance of medical representatives in the pharmaceutical industry: The study that was carried out in Dawa Pharmaceutical Company limited, human drug production unit, and narrowed down on adult paracetamol line drug manufacture at Dawa pharmaceuticals. The target population was medical representatives at the pharmaceutical company, chemists, and the company bio chemists. The study took place between the months of July to August 2015, in Nairobi, Dawa pharmaceuticals plant in Ruaraka, Nairobi.

1.7 Chapter Summary
Chapter one of this report introduced the space of marketing within the medical realm and how to measure their performance. The problem the researcher studied, the research objectives questions used, scope of study, and its limitations are discussed.
CHAPTER TWO
LITERATURE REVIEW

2.0 Chapter Introduction
The chapter presents literature review which explores the role of pharmaceutical marketing. According to Mugenda and Mugenda (2003), review of literature involved the systematic identification, location, and analysis of documents containing information related to the research problem being investigated. Moreover, literature review helped determine new approaches and stimulated new ideas. The chapter further presents critical literature and gaps filled, summary and the conceptual framework of the study.

2.1. Theoretical Literature Review
2.2.1. Motivation-Hygiene Theory
Herzberg, (1998) identified specific events in a job that made the employees feel exceptionally good or bad about their jobs. By identifying these events he felt he could better understand employees' behavior. This attempt to explain the factors that motivate individuals through identifying and satisfying their individual needs, desires and the aims pursued to satisfy these desires. This theory also known as a two factor content theory is based upon the idea that motivation can be dichotomized into hygiene factors and motivation factors.

These two separate ‘needs’ are the need to avoid unpleasantness and discomfort and, at the other end of the motivational scale, the need for personal development. Shortage of factors that positively encourage employees to attain their goals (the motivating factors) will cause employees to focus on other, non-job related ‘hygiene’ factors in order to hide their failures. The main motivating factors are not in the environment but in the intrinsic value put by the employee in achieving the job. This follows therefore that to motivate an individual, a job itself must be challenging, have scope for enrichment, be of interest to the jobholder and allows them to have personalized ways of accomplishing it (Lukes, 2000).
A lack of motivators leads to over-concentration on hygiene factors, which are those negative factors which can be seen and therefore form the basis of complaint and concern. Hygiene factors (often referred to as maintenance factors) lead to dissatisfaction with a job because of the need to avoid unpleasantness (Chitetchi, 2011). They are referred to as hygiene factors because they can be avoided or prevented by the use of ‘hygienic’ methods. They are concerned with factors associated with the job itself but are not directly a part of it, these factors need to be sanitized, by the employee themselves with minimal interference by the employer.

Understanding Herzberg’s theory recognizes the intrinsic satisfaction that can be obtained from the work itself. It draws attention to job design and makes managers aware that problems of motivation may not necessarily be directly associated with the work, but how to accomplish the work. Managers’ understanding that factors which demotivate can often be related to matters other than the work itself, can lead to improved motivation, greater job satisfaction and improved organizational performance by the entire workforce. Hygiene factors in the job are which avoid pain from the environment and help prevent problems in the future while assisting employees achieve their goals. “Workers will strive to avoid the "pains' in the work environment, such as the "pain" brought about by a low salary, or uncomfortable work place. They seek basic comfort and innovate ways that make it easy to achieve their jobs. Since the maintenance of hygiene is short lived, these factors need continual and need not management attention (Jefferson, 1999).

If the motivation-hygiene theory holds, management not only must provide hygiene factors to avoid employee dissatisfaction, but also must provide factors intrinsic to the work itself in order for employees to be satisfied with their jobs. The job should have sufficient challenge to utilize the full ability of the employee. Employees who demonstrate increasing levels of ability should be given increasing levels of responsibility. “If a job cannot be designed to allow creativeness and platforms for the employee use their full abilities, then the firm should consider automating the task or replacing the employee with one who has a lower level of skill (Chitechi, 2011).
2.1.2 Continual Improvement theory

Continual improvement, a term of art coined by Clayton (2005), describes a process by which a product or service takes root initially in simple applications at the bottom of a market and then relentlessly moves up market, eventually displacing established competitors. Disruptive innovation describes a process by which a product or service takes root initially in simple applications at the bottom of a market and then tent relentlessly moves ‘up market’, eventually displacing established competitors.

An innovation that is disruptive allows a whole new population of consumer’s access to a product or service that was historically only accessible to consumers with a lot of money or a lot of skill. Characteristics of disruptive businesses, at least in their initial stages, can include: lower gross margins, smaller target markets, and simpler products and services that may not appear as attractive as existing solutions when compared against traditional performance metrics. Companies tend to innovate products that their consumers need, with a hope that their lives change. By only pursuing sustaining innovations that perpetuate what has historically helped them succeed, companies unwittingly open the door to “disruptive innovations” which are ways that go beyond the general direct expectations of consumers (Bitrix, 2007).

Companies pursue these “sustaining innovations” at the higher tiers of their markets because this is what has historically helped them succeed: by charging the highest prices to their most demanding and sophisticated customers at the top of the market, companies will achieve the greatest profitability. However, by doing so, companies unwittingly open the door to “disruptive innovations” at the bottom of the market. An innovation that is disruptive allows a whole new population of consumers at the bottom of a market access to a product or service that was historically only accessible to consumers with a lot of money or a lot of skill (Bitrix, 2007).

Characteristics of disruptive businesses, at least in their initial stages, can lead to companies tending to innovate faster than their customers’ needs evolve, most organizations eventually end up producing products or services that are actually too
sophisticated, too expensive, and too complicated for many customers in their market and eventually the expectations of the consumers as stated by Lee et al., (2012) in his study on the rapid increase of manufacture of new car models by Toyota.

2.1.3 Vroom's expectancy theory
Developed in 1964, the Expectancy Theory of Motivation was created by Vroom. This theory assumes that behavior results from conscious choices among alternatives whose purpose it is to maximize pleasure and to minimize pain. Vroom realized that an employee's performance is based on individual factors such as personality, skills, knowledge, experience and abilities. Effort, performance and motivation are linked in a person's motivation, and use the variables Expectancy, Instrumentality and Valence to account for this, (Huerta et al., 2008).

Expectancy is the belief that increased effort will lead to increased performance i.e. if I work harder than this will be better. This is affected by such things as, having the right resources available (e.g. raw materials, time), having the right skills to do the job, and having the necessary support to get the job done (e.g. supervisor support, or correct information on the job). Instrumentality is the belief that if you perform well that a valued outcome will be received. The degree to which a first level outcome will lead to the second level outcome. I.e. if I do a good job, there is something in it for me. This is affected by such things as: clear understanding of the relationship between performance and outcomes; trust in the people who will take the decisions on who gets what outcome and transparency of the process that decides who gets what outcome. Valence is the importance that the individual places upon the expected outcome. For the valence to be positive, the person must prefer attaining the outcome to not attaining it. For example, if someone is mainly motivated by money, he or she might not value offers of additional time off, (Huerta et al., 2008).

When applying expectancy theory to a workplace setting it’s important to keep a few things in mind. The first is that management needs to establish clear linkages between effort and performance, as well as performance and outcomes. Not doing so can
inadvertently impact performance on the job as employees are lead to believe their increased effort provides little benefit. The second is that management needs to focus on providing desirable outcomes to employees. Many times employers offer the same type of rewards to all employees. This is one of the most significant errors in motivation because one thing rarely motivates employees to the same degree. The reward itself isn’t the point, the point is that it means something to someone else and will thus impact their behavior hence motivating them to work even harder, in the end the employer gains (Huerta et al., 2008).

2.2 Empirical Literature Review

2.2.1 ICT Usage and Pharmaceutical marketing

Escalating costs, increasing complexity and a dwindling population of drug candidates suggest that traditional methods are unlikely to produce enough breakthrough drugs to ensure growth. In drug manufacturing, and eventual reach to the consumer, increasing inputs leads to an approximately proportional increase in outputs, and many go in between, lead to high uptake, or low uptake of the drugs thus increasing or decreasing economies of scale of manufacture. ICTs marketing offer the greatest value for pharmaceutical companies when they are paired with the scientific advances, revolutionizing drug discovery, and consumer needs (Kable, 2013).

Lewis, (2007) suggest that genomics, bioinformatics, and advances in drug discovery technologies unleash the power of innovation by greatly increasing the number of new drug targets and chemical compounds, as well as accelerating the speed with which they can be matched, he however notes that the gap between the manufacture of the drug, and the consumer of the drug, a gap that can be bridged by use of ICT by marketing representatives who work between manufactures and consumers. ICTs provide the tools to harness and navigate the flood of data, identify promising prospects for targets and compounds, and assess which are most likely to produce results.

Tollerman (2001) suggested that looking at the impact of ICTs on healthcare reveals an enormous range of opportunities for significant corporation and service enhancements,
aimed at improving health of the consumer. In so doing it focuses upon applications in four key areas. Payer applications—this includes management of funding and delivery programs, by all health providers and use of commerce and electronic communication to coordinate healthcare organizations and activities throughout the system to ensure that funds are transferred all across the health providers; Provider applications— includes applications of health in ensuring that the provider has all the necessary applications to provide for the best health care, from the manufacturer to the consumer. Practitioner applications – this is adoption of practice management tools, clinical tools and communication systems that ensures the practitioner has all the tools to practice health administration, and Patient applications— new forms and locations of care delivery, the emergence of informed consumers and of new information and health intermediaries, and the ability to use this information appropriately.

The endowment with ICT has by now reached a level that allows investigating possible effects of ICT use on various dimensions of the performance the pharmaceutical field. It makes a twofold contribution in this direction: It investigates empirically the impact of ICT on product and process innovation in drug manufacture, and, with the use of specific ICT applications to ensure standards within the industry. The interface between the pharmaceutical industry and the healthcare industry is being changed by ICT applications, with many opportunities for cost savings and efficiency gains. In the pharmaceuticals industry there is a convergence of leading-edge information and biotechnologies which looks set to transform the drug development pipeline. The demand for new biotechnology and informatics capabilities within established pharmaceutical companies, and the emergence of new players into the industry with specialist skills in biotechnology and/or informatics, experience in using bioinformatics in genomics and genetics, and much sort after proprietary databases presents many new challenges (Tuner, 2010).

ICT and production present both threats and opportunities for pharmaceutical industry development, with changes in core skills likely to affect the relative attractiveness of different locations, the viability and the mobility of investment within the industry. The
potential for pharmaceuticals manufacturers and suppliers to integrate more fully into clinical systems opens up enormous possibilities (and risks) in terms of influencing drug selection and usage at the critical point of care. (Kable, 2013). The critical barrier facing pharmaceutical companies in navigating these possibilities and realizing potential opportunities appears to be that of maintaining credibility while gaining advantage in the process of manufacture of drugs.

The use of ICT supports and contributes to innovation activities through three main channels. The first channel goes through the improvement of the management of the data and knowledge used in the innovation process. These data and knowledge might be internally created or externally acquired. ICT enables an efficient storage and a high accessibility of these data and knowledge throughout an enterprise in a coordinated manner. Second, ICT enables a more efficient cooperation in innovation with external partners. The creation of new knowledge through collaboration with other firms has become more and more important in the last twenty years (Enkel, 2009).

Information technology facilitates the exchange of information with external partners that are located far away from the focal firm. Third, ICT contributes directly to the innovation production in several ways. Identified three main stages of the innovation process, for which the application of ICT has proved to be useful. First, the stage of the generation of ideas for new products can benefit from information systems that enable a firm to analyze customer’s communication and transaction data and identify needs that can be covered by new products or significant modifications of existing products. Further, ICT enables the development of efficient design capabilities for new products (Cutler, 2005).

2.2.2 Education on pharmaceutical products and employee performance

The link between education investments and productivity within the work place is rather indirect, and positive effects are contingent upon additional complementary investments into innovation and human capital at the firm level. The empirical evidence suggests that innovative firms are more likely to exhibit productivity increases staff knowledge on key products to enhance development. More advanced product users are more likely to
experience productivity gains and be highly motivated by their performance. These results suggest that intense product training combined with innovate activity are positively related to productivity growth at the firm level (Jefferson, 2005).

It is noted by Koellinger, 2005) that the key to understanding the impacts on performance is to view product education as an enabler of innovation and thus performance. This conceptualization of new technologies as a possible enabler of innovation allows a market-based approach to study the relationship between product knowledge and performance. Management literature recognizes numerous concepts and variables to measure performance. Profits, sales, market share, productivity, debt ratios and stock prices. Many of these different measures are correlated since they function in similar environment. Which of the measures is given priority is essentially a matter of perspective management; however, as employees and stakeholders are likely emphasize different performance measures as most relevant to them.

The effects of product education on corporate performance are subject to debate because not all studies have demonstrated clear payoffs from these investments. Also, the results vary depending on how performance and payoffs are measured and analyzed. On the conceptual level, say there exists a clear link between product knowledge and innovation to enable better performance. E-business and ICT investments can only increase with knowledge of product in general; it can enable process innovations in marketing (Enkel, 2009).

Whether the increasing product knowledge creates or destroys jobs remains a subject of debate. Theory suggests that the net impact depends on the relative strength of two competing effects: On the one hand, this state can lead to innovations which can result in output growth and a concomitant growth in jobs. On the other hand, process innovation productivity gains imply that a given output level can be produced with less labour input putting the manufacturer at competition with itself. Adopting market-based, economic perspective, possible consequences of this approach in three different, although related areas: (1)corporate performance, empirically measured by turnover development, (2)
productivity and (3) employment dynamics. Based on a literature review of recent research findings by Kleis, (2010).

The same results offered by Black and Lynch (2001), who examined the impact of product training on pharmaceutical staff state that it increases confidence in the staff marketing the medicine. Product Management training in Developing and Developed Countries in the medical field for marketing staff. The relationships between productivity growths, evidence of the positive impact of complementarities in a comparative study. The study found a positive correlation. Evidence of the positive relations of improved human capital and organizational horizontal growth in their study on organizational accredited training.

2.2.3 Age of Medical Representative and Employee Performance
ICT usage and its different applicability have been defined by different scholars in various ways. Many definitions focus particularly on the ‘newer’ computer-assisted, digital or electronic technologies, such as the internet of mobile telephony and the current generation referred to as generation. E-health is the use of emerging information and communication technology, especially the Internet, to improve or enable health and healthcare. This term bridges both the clinical and non-clinical sectors and includes equally individual and population health-oriented tools (Waldburger, 2004).

Advances in ICT in the last quarter of the 20th century have led to the ability to more accurately profile individual health risk. To understand better basic physiologic and pathologic processes and to revolutionize diagnosis through new imaging and scanning technologies human resource that can articulate and interpret such information is required. Hence, such technological development, demands an increased responsibility of practitioners, managers, and policy-makers for assessing the appropriateness of new technologies and protecting records to ensure they match the patient and the diagnosis (Eysenbach, 2008).
The age of medical representatives and ICT usage has in the last decade been extensively proposed as a means to reform, modernize and even reshape national health systems and has direct effect on their performance. Adoption of such market based systems is expected to achieve cost effectiveness, support clinical decision making, improve patients’ privacy and safety, speed-up delivery and improve the quality of healthcare. Adopting technology is however not without consequences; market based systems challenge health professionals’ work practices, the roles they occupy, the types of knowledge they use and the modes of collaboration they employ, thus need for policy and regulation. It is the rate, attitude and ability of adaptation to technology that is key and not the age of the nurse (Muneer, 1999).

Professionalism in institutional settings is influenced by specific standards, code of ethics and behavioral norms drawn from the profession but also, to degrees, from their employing organizations there is an impact of age of the performers. A re-look at the age of those conducting the work setting promotes changes to work practices, roles and identities. Typically age to gather, maintain, process and disseminate cuts across temporal and spatial boundaries within the operations of the company (Muneer, 1999).

Friedman (2002) has shown that organizations managed care demanded more, not less, marketing effort, and more complex, not simpler, management structure. As the field force has remained the most potent and expensive instruments of the pharmaceutical company, it is essential that investment in this tool be optimized, and properly utilized. Tried to emphasize the influence of age policies on both doctors and pharmacist toward the use of generic drugs in Jordan. He studied the influence of age policy of practitioners on the performance of doctors and toward prescribing new generic products to their patients. Results provided clear support for older doctors and their belief on original drugs.

2.2.4 Public Perceptions factors in the pharmaceuticals industry
According to Jones (2000) the success or failure of a business to a great extent is influenced by consumer perception. Though a consumer’s perception about a product or
service to some extent is said to be based on his or her actual experience obtained from the use of specific goods or service, it is also to a great extent influenced by a variety of other factors such as price, quality, and reputation of the manufacturer, branding, and packaging including other complex psychological factors. Patient satisfaction is an important measure of how well services are provided, and the ability for a drug to cure or offer some relief is key in pharmaceutical marketing.

Pricing of pharmaceutical products has a key effect on consumer perception. Though a large majority of consumers appreciate and favor a low or reasonably priced item, there are also cross sections of sophisticated and skeptical consumers who look down up a product that is considerably low priced than the other available alternatives or generics. They are considered below standard and not fit for human consumption. Many such consumers tag the product as cheap hence pricing of a product or service should form the basis of a larger marketing plan. By doing so, even low priced products can be marketed as favorable ones with good quality and at a better price, however, in the study of tropical over the counter medicine. Most consumers preferred to use cheap antibiotics as opposed to expensive ones due to the thought that the cheap ones do not easily reach resistance levels (Kohler, 2007).

The importance of the quality of a product or service from the perception of a consumer can never be undermined. Any feature of the product such as its use, durability and how reliable the product is in satisfying or disappointing the consumer can be described as its quality. Pharmaceutical marketing to a great extent helps in influencing the consumer’s perception about the quality of product but even word of mouth communication about quality of a product is equally effective and travels fast. Though marketing plays a greater role in influencing the consumer’s opinion about quality of a product, it is the consumer’s inherent opinion from the use of a specific product or service that will determine the awareness about quality. As much as performance of the drug includes a myriad of factors, consumers’ perception on a particular drug outweighs it performance, and actually it is the drug name that sell, not the drug (Troy, 2000).
Bell, (2007) states that the first impression is the best impression very aptly applies to consumer perception of pharmaceutical product especially at the time purchase. How a product is attractively packaged to exhibit the display quality by the manufacturer determines the perception of the product. Even branding messages for drugs that cure chronic disease need to be friends, and stable, and moreover, as reliable, long lasting, tough are of great help in promoting the product perception.

History and reputation of a company and its products and services plays an equally important role in the consumer perception. Age old businesses with strong reputation and history are always preferred by consumers whereas new products are always tried with caution and based on public opinion and reviews, especially to the older generations, and those who have used their services before (Bell, 2007).

Online as well as offline reputation of a company and products and services largely influence the consumer perception. Any negative reviews and opinions online or by word of mouth can strongly affect the overall performance of pharmaceutical companies, and they try to guard their reputations. In his scholarly work on lethal drugs, used for execution in various USA states found that this stance does not hold, for such companies, they hid their identity and only promote the efficacy of “the killer drug”. Only the socially perceived positives sell, within this industry, and companies will try to keep the persons associated with the good, and not those associated with the bad. “ If any product has not performed well in the past or if any company has been alleged for any unscrupulous activity will strongly affects its performance for long period of time, and it will be gotten off the shelf, rebranded, or its composition changed, since these are matters of human health (Marks, 2010).

2.3 Summary and Research Gaps
Medical representatives are the bridge between the drug producers, and the drug consumers. The marketing aspect of medical representatives ensures that the practitioners are aware of the current drug in the market, while at the same time, the producer of the drug knows which drug needs production. Scholarly work seems not to have explored
much information in relation to the impact of marketing of the drugs, and how ICT has enhanced this important aspect. Payer applications, Provider applications, Practitioner applications and Patient applications have not been integrated to form a seamless transaction that ensures health benefits to the end user.

Further research gaps that focus on whether age of medical representative influence their performance in the conquest of marketing pharmaceutical goods has also not been fully explored. The age of the medical representatives has a correlation to the level of experience the medical representatives be it in terms of consumption of pharmaceutical products, or marketing of the pharmaceutical products. The age of the med rep further influences their performance in terms of reach, and accessibility of the products.

There seems to be a gap in defining the appropriate training of medical representatives; this borders on whether to concentrate their training to be inclined on biochemical knowledge so as to enable them be at a position to understand drug composition, thus explaining their efficacy, while on the other hand, a training, that is inclined on marketing so as to enhance the spread of the pharmaceutical products. There seems to be a scholarly gap regarding this issue, a fact that Dawa pharmaceuticals bridges by conducting on job training for its employees.
2.4 Conceptual framework

Figure 2.1 Diagram depicting the relationship between theory(s) independent and dependent variables

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Dependent variables</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vroom’s theory of expectancy</td>
<td>ICT usage</td>
</tr>
<tr>
<td>Continual Improvement theory</td>
<td>Age of medical reps</td>
</tr>
<tr>
<td>Hygiene Motivation theory</td>
<td>Training of medical reps</td>
</tr>
<tr>
<td></td>
<td>Public perception</td>
</tr>
<tr>
<td></td>
<td>Performance of Medical representatives</td>
</tr>
</tbody>
</table>

2.5 Operationalization of variables

2.5.1 ICT usage

ICT has changed and transformed how the world thinks and performance. ICT has revolutionized health care and is responsible for the current on spot diagnosis and treatment of diseases. The effect use of ICT as a form of communication within the pharmaceuticals industry enables improvement of product manufacture and produce utilization. ICT usage offers a dual effect in this perspective.

2.5.2 Education on Pharmaceutical products

Pharmaceutical product knowledge, sales planning, innovation and information about the product increases the medical representative’s confidence while marketing and provides them with a platform to advice consumers from an informed platform. This variable also helps to effective information on the market dynamics and efficacy of pharmaceutical products.
2.5.3 Age of medical representative
Age denotes wisdom and experience; however this is not applicable in the medical realm as noted by Waldburger, (2004) in their study on challenges of working with old professionals in the transport industry. Most healthcare equipment is ICT dependent, and the ability to use them is reliant on the professional’s ability to learn and conceptualize the ICT functionalities.

2.5.4 Public perception
How the market perceives a product influences their attitude towards the product, regardless of the efficacy of the product. This is in regardless to inferiority or simply an inability to communicate properly by the medical representative or the packaging of the product (Cooper, 2004). This study also will try to find out if perceived poor attitude of old pharmaceutical companies is as a barrier to health care access.

2.6 Chapter summary
This chapter looked at other scholarly work regarding use of ICT in pharmaceutical marketing, and its importance in this realm. Various theories that support its use, challenges and the areas not yet explored. Further, this chapter looked and different studies on how these have work in various industries. The chapter ends by stating the knowledge gaps encountered.
CHAPTER THREE
RESEARCH DESIGN AND METHODOLOGY

3.0 Introduction
This chapter presents the research methodology used in conducting the study describing the research design, location of the study, target population, sampling procedures, sampling size, instrumentation, data collection and analysis procedures employed.

3.1 Research Design
Research designs refer to the plan on how to answer a research question. It refers to the overall strategy chosen to integrate the different components of the study in a coherent and logical way, thereby, ensuring effectively addressing the research problem; it constitutes the blueprint for the collection, measurement, and analysis of data. Research designs is arrangement of conditions for collecting, an analyzing of data in a manner aimed to combine relevant research purpose with economy if procedure. According to Kothari (2006), a research design is the collection and arrangement of conditions of analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure. In this case both quantitative and qualitative research designs were used.

3.2 Target Population
Mugenda and Mugenda (2003) describes target population as a complete set of individuals cases object with the same common characteristics to which researchers want to generalize the results of the study. Population is the targeted group, that is, the groups about which the researcher is interested in getting the information from and drawing conclusions. Senior managers from insurance companies are directly involved in strategy formulation and implementation within organizations. This study employed three types of population; the medical representatives, these were the pharmaceutical marketing staff employed by Dawa Pharmaceuticals, who have connections between the drug producers, the drug producers, who are responsible for production of the drugs, and the consumers, in this case the chemist owners, who prescribe the drugs to their customers.
Table 3.1 Showing target population

<table>
<thead>
<tr>
<th>Category</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical Representatives</td>
<td>400</td>
</tr>
<tr>
<td>Chemists</td>
<td>300</td>
</tr>
<tr>
<td>Line Biochemists</td>
<td>36</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1236</strong></td>
</tr>
</tbody>
</table>

3.3 Sample and sampling technique

A sample is a sub-group drawn from the target population with relevant characteristics. According to Kothari (2006), where it is not always appropriate or possible to study the whole population, a sample may be drawn. Sampling is a process of selecting a number of individuals for a study in such a way that individuals selected will represent the target group from which they will be selected. Sampling procedures are the definite plans of obtaining a sample from a given population. They inform the size of the population in consideration. The researcher considered definite and indefinite types of population, the sampling unit based on social and physical factors, the acceptable levels of the sample sizes, available resources, and the parameters of interest. Data for this study were obtained the human resource department of Dawa pharmaceuticals.

In practice, the sample size used in this study was based on the expense of data collection, and the need to have sufficient statistical power. In addition to the purpose of the study and population size, three criteria employed were the level of precision, the level of confidence or risk, and the degree of variability in the attributes being measured (Kothari, 2006).

In determining the appropriate sample, Fischers’ formula \( n = \frac{z^2pq}{d^2} \) was used as quoted in Mugenda and Mugenda, (2003). Where; \( n \) is desired sample size, \( z \) is the standard normal deviate at the 95% confidence level, \( p \) is the proportion in the target
population estimated to have the characteristics being measured, in this case, p is 0.5, q is 1 and p is 0.5. d is the marginal error of 5%.

Probability sampling method of simple random was then applied in selecting the specific populations for the study, application of Fischer’s formula used to get the desired sample size. From each group, 30% of the population was selected using simple random sampling to deduce the medical representatives and chemists for the study. purposive sampling was used to selecting biochemists

Table 3.1: Table Showing Research Study Sample Size

<table>
<thead>
<tr>
<th>Category</th>
<th>Number</th>
<th>% of the total</th>
<th>Sample size (30% of population)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical Representatives</td>
<td>150</td>
<td>45%</td>
<td>75</td>
</tr>
<tr>
<td>Chemists</td>
<td>100</td>
<td>40%</td>
<td>60</td>
</tr>
<tr>
<td>Line Biochemists</td>
<td>9</td>
<td>15%</td>
<td>5</td>
</tr>
<tr>
<td>Total</td>
<td>359</td>
<td>100%</td>
<td>140</td>
</tr>
</tbody>
</table>

3.4 Data Collection Methods

Data was collected using self-administered questionnaires to ensure the respondents have a sense of confidentiality with no fear of victimization. The questionnaire had both structured and unstructured questions. Structured questions were accompanied by a list of all possible alternatives or options from which the respondents selected the answer that best describes their situation. The unstructured questions gave the respondent complete freedom of responding. Questions were formulated in English.
3.5 Pilot Test

3.5.1 Validity Test
According to Wallen (2000), validity relates to the quality attributed to the degree to which they conform to establish knowledge or truth. It refers to the extent to which an instrument can measure, or, ought to have measured. It is the accuracy and meaningfulness which are based on the research results. Concurrent Validity refers to a measurement device’s ability to vary directly with a measure of the same construct or indirectly with a measure of an opposite construct. It allows showing that the test is valid by comparing it with an already valid test. Content validity is concerned with a test’s ability to include or represent all of the content of a particular construct. In order for a test to be a valid screening device for some future behavior, it must have predictive validity. The study conducted a pilot test, to the content validity of the tools and their ability to test the desired variables.

3.5.2 Reliability Tests
Wallen (2000), states that reliability indicates the extent to which a measure is free from random error. Random error occurs when effectiveness of measured variable is influenced by other factors besides conceptual factors of interest besides the main variable. A pilot test totaling to 18 medical representatives, and 5 chemists operators who were randomly selected were used in the pilot test. The pilot test tested the ability of the questions to measure the desired concept, the degree of accuracy of the measuring tools, and the researcher’s interpretation of data. This exercise helped refine the tools more for accuracy and was done two weeks before the real data collection period. This test was conducted twice, to ascertain its reliability.

3.6 Data Analysis Methods
Since the instrument of choice for this research is a semi-structured questionnaire, data analysis was composed of both quantitative and qualitative analysis. The quantitative analysis was done to establish the measures of central tendency that included the mean, mode, and median highlighting the key findings. The quantitative data was edited and coded into Statistical Package for Social Sciences (SPSS) for analysis. The qualitative
data was analyzed by means of content analysis. This process uses inductive reasoning, by which themes and categories emerge from the data through the researcher’s show careful examination and constant comparison (Patton 2002).

### 3.7 Data Presentation
Presentations of analyzed data inform of qualitative and quantitative formats were considered. Measures of variation, and tendencies of standard deviation, and other data were presented in bar graphs, histograms, tables, and pie charts. There was also qualitative presentations informs of direct quotation and pictures from the respondents.

### 3.8 Ethical Considerations
This study involved human subjects, thus ethical considerations were highly considered. Wallen (2000) defines ethics in research the ability of a researcher to report exactly what happened. It involves maintaining honesty in conducting and reporting scientific research and credit for ideas and efforts. Treating research participants ethically matters not only for welfare of individuals but for continued effectiveness of behavioral science as a scientific discipline.

#### 3.8.1 Confidentiality and Privacy
There was respecting privacy of participants by assigning them unique identifier codes to protect their identity and the responses that will have given. The study generalized the finding, thus information could not be associated to an individual. In addition, other practices, such as changing the reported characteristics of participants such as gender was also used by some to conceal identities and thereby maintain the confidentiality of the data provided by participants.

#### 3.8.2 Anonymity
Anonymity, according to Mugenda and Mugenda (2003) only occurs if identity of participants is central to ethical research. Where possible, researchers aim to assure participants that every effort is made to ensure that the data they provide cannot be traced back to them in reports, presentations and other forms of dissemination. Before
conducting the research and in accordance with social research protocols, the identity and research time, were protected. The study assigned unique identifies for the respondents, the use of pseudonyms for participants and also for the location of the research.

3.8.3 Power Balance
Mugenda and Mugenda (2003) in his scholarly work states that power balance in research is essential in ensuring that the quality of research is guaranteed. Maintaining awareness of power difference between the researcher, and the respondents was observed by avoiding abuse of power on junior staff, by not showing up late for the appointments during the interviews, and by not promising money to sway the research.

3.8.4 Informed consent
Participants were informed and their consent sought for use for the purpose of the study. The informed consent included; expected duration of research, and right of participants to decline or withdraw during the process.

3.9 Chapter Summary
This chapter has discussed the methodology that was used in the study, it has critically analyzed the research design, target population, the sample design, data collection techniques, validly and reliability test and the application package for data analysis.
CHAPTER FOUR
DATA ANALYSIS, RESULTS AND DISCUSSIONS

4.0 Introduction

This chapter presents the findings of the study, which was to determine the factors affecting the performance of medical representatives. The chapter has been sectioned into; response rate, response demographics, an evaluation of the effect of ICT usage on performance of medical representatives, an establishment of the effect of education of pharmaceutical products on performance of medical representatives, a determination of the effect of age on the performance of medical representatives and an examination of the effect of public perception on pharmaceutical products on performance of medical representatives at Dawa Pharmaceuticals Company in Nairobi.

4.1 Response rate

The study sought to reach 60 medical representatives, 45 chemist owners, and 5 biochemists. Factors such as their availabilities, commitment to responding and acceptance to participate in the research were considered during the study. Fig 4.1 shows the study response rate.

Fig: 4.1 showing study response rate
The study interviewed 98% of the intended medical representatives, 80% of the intended chemists, and 80% of the intended bio chemists. As stated by Mugenda and Mugenda (2003) regarding target population reach for social studies, this study attained an average reach of 75% of the intended population.

4.2 Respondents demographic

The Socio economic demographics of respondents aid researchers in knowing the background of respondents. The study sought to find out the gender, age brackets, marital status and education levels of the respondents.

<table>
<thead>
<tr>
<th>Demographic factors</th>
<th>Medical representatives</th>
<th>Chemist Owners</th>
<th>Bio Chemists</th>
<th>% of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Male</td>
<td>36</td>
<td>31</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>24</td>
<td>9</td>
<td>1</td>
</tr>
<tr>
<td>Age brackets</td>
<td>20-30 yrs</td>
<td>43</td>
<td>9</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>30-40 yrs</td>
<td>10</td>
<td>12</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Above 40yrs</td>
<td>7</td>
<td>19</td>
<td>2</td>
</tr>
<tr>
<td>Marital status</td>
<td>Single</td>
<td>15</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Married</td>
<td>45</td>
<td>40</td>
<td>3</td>
</tr>
<tr>
<td>Highest Education</td>
<td>Secondary</td>
<td>10</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>level attained</td>
<td>Bachelors</td>
<td>39</td>
<td>33</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Post</td>
<td>11</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Bachelors</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The research carried out, 66% of the respondents were male, 49% of the respondents were between the ages of 20 and 30 years old. Most of the respondents were married (85%) and only 15% of the respondents had a post bachelor’s education. Further probe into the data revealed that most of the married medical representatives were male, proving the fact that their job requires a lot of traveling away from family thus not suitable for most females who were settling down to starting or nurturing their families.
The study further, under demographics sought to find out how long medical representatives had worked in the particular company. 84% of the medical representatives who were within the age bracket of 20-30 years reported as being below one year, 10% who were between the ages of 30-40 years as having worked for between one to five years, while 5% were above the 40 years mark had worked for periods above five years. The study interpreted this finding to having an angle towards job stability and security of the employees, a fact that affirms the Motivation-Hygiene Theory by Herzberg, et al., (1998) where employees continue looking for factors that sanitize their work. As employees got older, they stabilized in their employment stations, while younger ones kept looking for greener pastures.

4.3 ICT usage

The study sought to find out the level of ICT usage amongst the medical representatives. This question would help the study determine the level of ICT influence in their performance. The ICT usage was limited to usage of smart phones to communicate during working period, usage of emails between themselves and other departments within the organizations, and use of faxes, and emails in communicating between them and their clients. The same question was also asked to bio chemists, and chemist owners. The aim of the question was to establish to what level ICT usage influenced their work as individuals and what they felt about ICT usage at Dawa. The findings of this objective is presented in figure 4.3 below.

Fig: 4.3 showing ICT usage amongst respondents
The study found out that 40% of the medical reps moderately use ICT in the course of their work, 25% of chemist owners highly use ICT in their work, and all the bio chemists interviewed during this study used ICT in their work. The respondents affirmed that ICT was key in determining their performance, however as one medical representative asserts; “ICT is important in this era, both at individual level and organizational level. The company needs to put in place systems that are integrated and those that operate through similar platforms, this I mean from procurement, to manufacture and feedback from the field. The current situation is that there is some form of ICT, though in silos, each department communicates on its own, yet to outsiders we are one organization and should be integrated, I believe this will have an overall performance even at organizational level”.

Further investigation into the usage of ICT exposed that there was a relationship to age of the respondents. Younger respondents used ICT in most of their transactions; this case was not similar to the older category of those above the ages of 40 years. Under the usage of ICT, the study also did find out that most male’s medical representatives, within the 20 – 30 years age bracket were more technology savvy than their female counterparts. The scope of the study did not however investigate reasons as to why the disparity.

The chemist owners and bio chemists relied heavily on ICT in conducting their business, and communicating within and outside their organizations. The chemists’ owners used ICT in their procurement and sales processes. The bio chemists used ICT in getting the chemical formula for the pharmaceutical products. The bio chemists interviewed however, did not have any form of communication pertaining their work with the medical representatives, and according to them, there was no way their usage of ICT by medical representatives affected their performance. They however felt that there was need for an integrated system, to offer them a platform to measure and evaluate their work.

### 4.4 Products Education

The study sought to find out what form of education was important and relevant to the respondents with a view of improving their performance. There is limited literature on
what form of training would be preferred for medical representatives, the measure of medical representatives cannot be complete without measure of utilization of the drug. Education for medical representatives enables them market the drug, and its utilizations, to their clients, who prescribe, and dispense the drugs. If the drug is not well marketed, its utilization is compromised. The findings of this study show what form of education the medical representatives preferred more education on (fig 4.3.1), the findings chemist owners felt the medical representatives should have education on, (fig 4.3.2) and the findings bio chemist felt, medical representatives should have education on, (fig 4.3.3).

Objective 2i; Type of training preferred by medical representatives

Fig 4.4.1 Showing education preferences by medical representatives

From the Research, 45% of medical representatives felt that they need more education in the realm of pharmaceutical products, 35% felt they needed education in marketing, while 20% felt they need more education on both pharmaceuticals and marketing. This data was further scrutinized and compared to their corresponding demographics, the results were such that, 75% of those who felt that they needed more education on
pharmaceutical were within the age brackets of 30 years to 40 years, and 60% of those requiring education on marketing were within the age brackets of 20-30 years. Those who opted for education in both marketing and pharmaceutical knowledge were above the age of 40 years old. This finding alludes to the fact that those above the age of 40 years were settled in their professions and were determined in improving their performance by enhancing their skills.

Objective 2 ii: Type of training preferred for medical representatives by chemists

Fig 4.4.2 showing education preferences for medical representatives by chemist owners

From the study, 65% of the chemist owners felt that medical representatives required more education on matters related to pharmaceutical products, 20% felt they needed education on marketing and 20% felt education on both marketing and pharmaceutical products would enhance their work. Chemists mostly dispense drugs to patients, thus making them persons who are go between the company representative and the patients. The performance of pharmaceutical industry is dependent on its ability to efficiently and
effectively communicate. Chemists training is generally biased towards pharmaceuticals products, their ability to communicate to medical representatives who are more included towards marketing the right drug with appropriate composition is key to them

Objective 2 iii: Type of training preferred for medical representatives by biochemists

Fig 4.4.3 showing education preferences for medical representatives by biochemists

The Study also shows 41% of biochemists would prefer medical representatives to have an education on etiological trends, and 14% of them felt that education on communication would enhance their work. These findings indicate that most biochemists would like to manufacture drugs that respond to the societal needs; however they lack information on the efficacy, and performance of their productions. The finds further affirm an earlier knowledge gap at Dawa on silos communication, a situation that requires harmonization to enable combined organizational performance.
4.5 Age of Medical representative

The study sought to establish whether the ages of medical representatives had an effect on their performance. The age of medical representatives did not directly influence performance; however, it did influence their performances. According to this scholar, compounding age factors such as marital status, health, experience, and expectations that are directly related to a medical representatives age, does have an influence on performance.

Outputs are immediate effects and their measure assumes a quantitative angel, while outcomes are long term effects and their measure does assume a qualitative angle. This study was interested in finding out whether age affected their performance in terms of their output and outcomes. The question was asked to chemist owners had the following findings as depicted in the table below.

<table>
<thead>
<tr>
<th>Age bracket</th>
<th>Performance Output</th>
<th>Performance Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>20 – 30 years</td>
<td>high</td>
<td>low</td>
</tr>
<tr>
<td>30 – 40 years</td>
<td>medium</td>
<td>medium</td>
</tr>
<tr>
<td>Above 40 years</td>
<td>low</td>
<td>high</td>
</tr>
</tbody>
</table>

When delved further regarding the indicators of outputs and outcomes relating to performance of chemists in relation to their interactions with medical representatives, one chemist owner reported; “Younger medical representative’s aim is to push the drug into the market, regardless of its performance, cost and even knowledge of its composition. Older medical representatives are better, especially when they are marketing drugs that are designs for older populations. The older ones take time, to understand the performance of the drug, and even offer after sales service to find out about their performance. If performance is measured in terms of quantity of products in the markets, then those in the younger category would be seen as good performance, however, if performance is measured in terms of quality, then the older generation performance far outweighs that of the younger medical representatives”.
4.6 Public perception

The study sought to know whether public perception does influence the performance of medical representatives. The figure below shows the findings of this study.

Fig: 4.5.1 showing relationship between public perception and medical representative’s performance.

![Pie chart showing public perception & performance](image)

From the study, 60% of respondents felt that the public perception of the pharmaceutical company influenced its performance, 30% felt this ratio was moderate, while only 10% of the respondents felt that the pharmaceutical company’s perception did not affect the performance of medical representative. The public perception and attitudes toward leading companies do not always reflect attitudes toward the industry. Leading pharmaceutical companies tend to be better perceived when it comes to the quality of their products and their industry leadership than on being good citizens. The study further sought to establish what led the public to develop such attitudes towards local companies.
4.7 Chapter summary

CHAPTER FIVE

SUMMARY OF FINDINGS, RECOMMENDATIONS AND CONCLUSION

5.0 Introduction
This chapter presents a summary of the findings, as regards to the main objectives of the study. Based on these findings the conclusions were drawn and some recommendations on the way forward made.

5.1 Summary of Findings
The study found out that the usage of ICT had a positive effect on the performance of medical representatives at Dawa Pharmaceuticals Company. ICT enabled internal and external communication, making it easier for decision making and follow up. The study also found the younger male medical representatives used a lot of ICT in performance of their work as compared to their female counterparts. This study also did find out that communication at Dawa is in silos, and departments did not know what goes on in the other department, a situation that negatively impacts on the performance of medical representatives.

The second study objective was to establish whether education on products did affect performance of medical representatives. The findings of this study were that education on medical products did affect the performance of medical representatives. The more a medical representative understood the products, in terms of its composition and usage, the more they marketed the products and related to it.

Whether age was a factor influencing the performance of a medical representative was the other objective of this study. The findings reveal that age does not affect the performance of medical representatives. Pharmaceutical products could be marketed by those in both ages, what mattered were the outcome and output measures put by the pharmaceutical companies.
The study did find out that public perception highly affected the performance of the medical representative. The higher the public perceived the pharmaceutical company, the higher they perceived their products, which may not necessarily be of good quality.

5.2 Recommendations
The following are recommended in response to the findings revealed by this study; Training of medical representatives to boost their technical knowhow needs to be taken seriously by Dawa Pharmaceutical Company. They need to have fully fledged training department headed by qualified and registered pharmacist in the next financial year and allocate a budget for it when they will be doing their projections and budget for 2016. This is because currently there is no proper guideline as far as training is concerned. Training is critical since the scope of their work borders on both the subject of life and death. The need to relook at the training curriculum of medical representatives would enable appropriate ways of measuring performance of medical representatives as well.

The study also recommends use of integration of ICT at Dawa pharmaceutical company. This situation would enable efficient communication between all departments in the company. The communication would enable production and utilization of better products. This should be done through enforcement of strict standards for all the departments that are involved in the drug manufacturing process. The group ICT manager leads to lead the process in the next six months because currently the company has budget that has not been utilized. Hence post market surveillance hardly takes place.

5.3 Research Limitations
There were difficulties in accessing most retail chemists as they feared that they were being spied on by Pharmacy and Poisons Board. Getting access to some information at Dawa proved to be difficult owing to the attachment pharmaceutical companies has on confidentiality: the researcher had to produce a letter from this learning institution to prove that he was actually a student collecting data for his research to enable him meet the course requirement.
5.3 Conclusion
In conclusion, usage of ICT, age of medical representatives, training on pharmaceutical products and public perception does influence the performance of medical representatives.
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APPENDIX I: LETTER OF INTRODUCTION

To whom it may Concern

RE: ACADEMIC RESEARCH ON ASSESSING THE ROLE OF INFORMATION COMMUNICATION TECHNOLOGY ON PERFORMANCE OF PHARMACEUTICAL INDUSTRIES IN KENYA

My name is Meshack Okok, am a student of MBA at Management University of Africa conducting an academic research, as part of requirement in fulfillment for degree of Masters of Business Administration of Management University of Africa. I wish to request your permission to spend 30 minutes with you to assist me with information that will help me achieve this endeavor. The information collected in this schedule is purely for academic purposes and shall not be shared with anyone except the examiners. Your identity will not be revealed to any one and information herein will be treated with utmost confidentiality

Yours Sincerely

Meshack Okok
MBA/2/00004/3/2014
APPENDIX 11: RESEARCH STUDY QUESTIONNAIRE TO MEDICAL REPRESENTATIVES

<table>
<thead>
<tr>
<th>Questionnaire number</th>
<th>Date of administration.</th>
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Please respond to the following questionnaire to the best of your ability.

SECTION A: BACKGROUND INFORMATION

What is your gender?
Male  [ ]
Female  [ ]

Please state your age Bracket
Between 18-30 years  [ ]
Between 31-40 years.  [ ]
Between 41-50 years  [ ]
Above 50 years  [ ]

Please state the highest Education level you have attained.
Secondary.  [ ]
College.  [ ]
University.  [ ]
Other  [ ]

How about the number of years regarding your work experience.
Less than one year.  [ ]
Between 1-4 years.  [ ]
Between 5-10 years.  [ ]
Above 10 years.  [ ]
SECTION B: ICT USAGE

Where do you place information technology in your work?
High
Moderate.
Low

Do you think Information Technology has an effect to your work?
Yes.
No.
Please Explain this effect

Do you think introduction of information technology can change the perception of pharmaceutical consumers?
Yes.
No.
Please explain this effect

To what extent has Information Communication Technology improved communication in the pharmaceutical industry?
Very Much
Moderate.
No improvement.

SECTION C: PRODUCTS EDUCATION

Would you prefer more education in pharmaceutical products, or in marketing, or in both of them so as to enhance your performance? Response

Please Explain this fact further
What other factors, other than education stated above influence your performance as a medical representative for Dawa Pharmaceuticals?

Please explain in detail each of these factors mentioned above

What other measures needs to be put in place to enhance effective performance by your employer

**SECTION D: MEDICAL REPRESENTATIVES AGE**

What is your age bracket?
- Between 20-30 years.
- Between 31-40 years.
- Above 40 years.

Do you feel your age have anything to do with your performance, Please explain

Supposing some policies were to be made regarding the age of medical representatives, which areas would be of interest to you and why?

Do you think consideration of age is important in this profession, please explain your response
SECTION E – Public Perception

What is your perception towards local pharmaceuticals companies?

What do your customers think about local pharmaceutical company products?

Thank you for your response to this questionnaire, kindly is assured this response is for the purpose of academic research only.
APPENDIX III: RESEARCH STUDY QUESTIONNAIRE TO CHEMIST OWNERS

Please respond to the following questionnaire to the best of your ability.

1. What is the size of your business?

   Retail
   Wholesale & Retail
   Other

2. Do you think medical representatives have an influence in your work?
   Yes
   No

3. Please explain your answers in regards to question 2 above

4. Do you think your work as a chemist has an influence in medical representatives’ work?
   Yes
   No

5. Please explain your answers in regards to question 4 above,

6. What sort of education would you prefer for a medical representative that you feel would make your work, and theirs easier and effective?

7. In your opinion, does age affect the performance of medical representatives?

8. Still on matters of age, how would you relate it to their outcomes, and outputs of the performance of medical representatives?

<table>
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<td></td>
<td></td>
</tr>
<tr>
<td>Above 40 years</td>
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</tbody>
</table>
9. Please comment further on how these indicators (output and outcomes) of medical representative’s influences performance of your business?


10. How would you like to work with the medical representatives to make your work efficient and effective?


11. What is your perception towards usage of local pharmaceutical products?


Thank you for your response to this questionnaire, kindly be assured this response is for the purpose of academic research only.

APPENDIX IV: RESEARCH STUDY QUESTIONNAIRE TO BIO CHEMIST

<table>
<thead>
<tr>
<th>Questionnaire number</th>
<th>Date of administration.</th>
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Please respond to the following questionnaire to the best of your ability.

1. Do you work or interact with medical representatives in the course of your work?
   Yes [ ]
   No [ ]

2. Do you think your performance influence performance of medical representatives?
3. Please explain your response in question 3 above
________________________________________________________________________
________________________________________________________________________

4. Do you think the performance of medical representatives affect your performance
________________________________________________________________________

5. Please explain in our response above
________________________________________________________________________
________________________________________________________________________

6. What other measures need to be put in place to enhance your performance and that of medical representatives?

Thank you for your response to this questionnaire, kindly be assured this response is for the purpose of academic research only.