

**THE ROLE OF INFORMATION TECHNOLOGY IN STRATEGIC
MANAGEMENT AT AGA KHAN UNIVERSITY HOSPITAL, NAIROBI**

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**A RESEARCH PROJECT SUBMITTED IN PARTIAL
FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF
THE DEGREE OF MASTER OF BUSINESS ADMINISTRATION,
SCHOOL OF BUSINESS, UNIVERSITY OF NAIROBI**

2014

DECLARATION

This research project is my original work and has not been presented for the award of a degree in any other university or any other higher learning institution for examination purpose.

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D61/79060/2012

This research project has been submitted for examination with my approval as the university supervisor.

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ACKNOWLEDGEMENTS

I forthwith acknowledge and thank the Almighty God. Without His wisdom, grace and provision this project would not have been possible. My sincere appreciation goes to Mr. J. Kagwe for supervising this research and offering invaluable comments, suggestions and corrections. Thank you for agreeing to supervise my work and accommodating me in your tight schedule.

I would also like to express my appreciation to the departmental heads at Aga Khan University Hospital, Nairobi who played a critical role in providing useful information through interviews and other materials. I am grateful to my bosses Mary Wambui and Samuel Njoroge for allowing me to take time off from work to undertake this study. I thank my colleagues in the MBA class Ann Makena, Charity Mugo and Kenneth Kagira for their support and motivation. Special thanks go to my family and friends for their moral support during this special academic journey without which it would not have been successful.

DEDICATION

This research work is dedicated to my parents Francis Kiiru and Nancy Kiiru, my brother Gatei. It is through your unwavering support and committed prayers that made my studies possible. Thank you and God bless you abundantly.

ABSTRACT

The world has become a global village and information sharing is at all-time high. Accessing and using this information through technology gives organizations a competitive edge. Information Technology (IT) is one of the contemporary themes affecting strategic management in a number of organizations at the moment. The reengineering process faced by organizations as a result of IT raises a number of key questions which include how to take advantage of advances in IT to make a significant change in the way organizations are doing business so that they can gain a competitive advantage; or should organizations invest and concentrate on IT to improve their approach to the marketplace; and whether they should center their efforts around internal improvements in the way they currently carry out the activities of the organization. The research design adopted the case study approach as its research design, in this case Aga Khan University Hospital, Nairobi (AKUH, N) with a view to study the role of IT in the hospital's strategic management. Primary data was collected by conducting focused interviews with middle level management from IT, Budgeting and planning, Medical services, Finance, Security, Marketing and Audit. While the primary data was analysed qualitatively, secondary data provided additional information that was not practically possible to obtain from the primary sources due to the time frame within which this research has to be carried out and hence reaching the outreach centers across the country was not possible. Content analysis was used to analyse the data since the study seeks to solicit for data that is qualitative in nature. The findings support the RBV theory which attributes improvement in firm performance to valuable resource bundles. From the RBV, one lens through which to look at IT value creation is "an indirect role for IT in firm performance. It was established that strategic management at Aga Khan University Hospital, Nairobi had been influenced by advances and developments in IT. On the one hand IT is directly responsible for the development of some strategic goals, while on the other hand investment in the use of IT is required in the execution and attainment of the laid down goals. From the research findings, the researcher recommends an evaluation of the existing IT investments and the exploration of avenues for their modernization, improvement and enhancement to be institutionalized in the strategic management process at AKUH, N. The second recommendation is for AKUH, N's management to continually acquire knowledge, and remain current, on available and emerging IT technologies, their application as well as business capabilities. This is because some strategic management processes are made feasible only through investment in the use of IT, hence guarding against missed opportunities in an ever changing and competitive world.

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LIST OF ABBREVIATIONS AND ACRONYMS

AKUH, N	–	Aga Khan University Hospital, Nairobi
IT	–	Information Technology
RBV	–	Resource Based View
ITSM	–	Implementation of IT Service Management
LAN	–	Local Area Network
WAN	–	Wide Area Network

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Strategic management is a widely accepted concept in management today. Organizational leaders are expected to set clear vision and mission statements for their firms and then marshal the entire organization towards achievement of set goals. In most organizations today, clear strategic management structures have been established to ensure effective formulation and execution of strategy. Strategy formulation in particular is concerned with how a firm's set objectives will be achieved (Thompson, Stickland and Gamble, 2007).

The emergence of new network technologies and expansion of the internet can improve an organization's internal and external communications capabilities. Lower information processing costs make coordination and mutual adjustment processes more efficient and therefore improves organizational performance. The performance effects of computer networks should be particularly pronounced in organizations that adhere to decentralized strategic decision making, because information communication technology (IT) increases the speed and quality of dispersed decisions (Huber, 1990).

The resource based view (RBV) theory of the firm is a concept applied by modern competitive firms in the dynamic business environment when formulating, implementing and monitoring strategies (Thompson et al., 2012). There is compelling evidence that Aga Khan University Hospital, Nairobi is likely to be engaged in good strategic management practices and that the firms also use IT extensively in their business operations. The opportunities created by IT are enormous, creating opportunities for new

products and services and transforming operations in entire organizations, sectors and economies in ways that were not perceivable a few years ago (Rockart, 1988). Due to the opportunities presented by IT, it is likely that Aga Khan University Hospital, Nairobi has used or is using IT in strategy formulation either as one of the competitive weapons, or by applying IT to actualize various strategic and operational objectives.

1.1.1 Strategic Management

The term strategic management is used to refer to the entire scope of strategic-decision making activity in an organization. Strategic management as a concept has evolved over time and will continue to evolve. As result there are a variety of meanings and interpretations depending on the author and sources. Strategic management is the process of managing the pursuit of organizational mission while managing the relationship of the organization to its environment (Higgins, 2008). Strategic management can be defined as the art and science of formulating, implementing and evaluating cross functional decisions that enable an organization to achieve its objectives (David, 2009).

Thompson and Strickland (2003) a strategy is a management tool which is of multi-dimensional nature as described by various authors in various ways. It is the match between organizational resources, skills, risks and the environmental opportunities facing an organization in accomplishing its purpose. Strategy is a framework through which an organization can assert its vital continuity whilst managing to adapt to the changing environment to gain competitive advantage. According to Ansoff (1984), strategic management is a systematic approach to the major and increasingly important responsibility of general management to position and relate the firm to its environment in a way which will assure its continued success and make it secure from surprises.

Strategic planning is therefore a decision making process that aligns the organizations internal capability with the opportunities and threats it faces in its environment.

Porter, (1985) states that strategy is about achieving competitive advantage through being different, which is, delivering a unique value added to the customers, having a clear and actable view of how to position yourself uniquely in your industry. Thompson et al (2003) strategy is the match between an organization resources and skills and the environment opportunities as well as the risks it faces and the purposes it wishes to accomplish. A strategy is a long term plan of action designed to achieve a particular goal, most often 'winning'. Strategy is a deliberate search for a plan of action that will develop a business's competitive advantage and compound it. For any company, the search is an iterative process that begins with recognition of where you are now and what you have now. It is the process of specifying the organization's objectives, developing policies and plans to achieve these objectives, and allocating resources to implement the policies and plans to achieve the organization's objectives (Thompson, Strickland and Gamble, 2007). Johnson and Scholes (2002), states that strategy is the direction and scope of an organization over the long term, which achieves advantage for the organization through its configuration of resources within a challenging environment, to meet the needs of markets and to fulfill stakeholders expectations.

1.1.2 Information Technology

IT can be defined as any form of computer-based information system, including main frame as well as microcomputer and telecommunication applications (Orlikowski and Gash (1992). In an organizational context IT refers to the management and use of information using computer-based tools (Mirani & Lederer, 1998). It includes acquiring, processing, storing, and distributing information. Most commonly it is a term used to

refer to business applications of computer technology, rather than scientific applications (Mirani & Lederer, 1998). The term is used broadly in business to refer to anything that tie into the use of computers.

Bakos and Treacy (1986) proposed bounded rationality as one of the theoretical links between information technology and competitive advantage. They explained that extending the bounds of organizational rationality has direct implications for both bargaining power and comparative efficiency, as it affects the cost of search (by improving the generation and evaluation of alternatives), as well as transaction costs in organizational interfaces. Transaction costs is affected, for example by reducing contracting and monitoring costs (thus mitigating the effect of opportunism), improving the generation and evaluation of alternatives (thus mitigating the effect of environmental uncertainty and complexity), and either decreasing or increasing information asymmetries. They proposed industrial economics as the second theoretical link between information technology and competitive advantage that comes from the effects of IT on production processes. They explained that this is through improving the adaptability of products, and allowing the realization of scale economies from smaller production runs.

IT can therefore change the economies of production, and facilitate product differentiation based on unique features. Furthermore, information technology can allow assets to be less specific to the particular economic transactions involved, potentially decreasing the costs of switching to alter-native customers and suppliers.

We use the term information technology or IT to refer to an entire industry. In the real sense, information technology is the use of computers and software to manage information. In some companies, this is referred to as Management Information Services or simply as Information Services. The information technology of a large company would

be responsible for storing information, protecting information, processing the information, transmitting the information as necessary, and later retrieving information as necessary.

Senior executives, strategic planners, and information system managers are increasingly turning their attention to opportunities for achieving competitive advantage through information technology. There are several explanations for this recent trend, not the least of which is the publicity received by companies that have gained significant leverage through information technology (Fortune, 1982). The unstable economic conditions of the last few years have helped to create a challenging business environment and an “economic imperative” for information technology (Rockert, 1984). The technology is also offering a greater array of capabilities at lower costs than ever before. Finally, firms’ abilities to utilize the technology are also improving. The transaction processing and decision support systems already in place in most firms provide a base on which systems for competitive advantage can be built. Without this base, many of these systems will not be possible.

Several authors have identified the underutilization of information technology as a serious problem facing both information systems and business managers (Gerstein & Reisman, 1984). Technology- based competitive opportunities are overlooked because of senior management’s ignorance of information technology and its potential uses, poor communication between the information system group and the rest of the business, resistance to change, among both financial systems and business personnel, a lack of focus on opportunities, for competitive advantage , and a lack of instruments to measure.

1.1.3 The Health Care Industry in Kenya

Kenya's health care system is structured in a step-wise manner so that complicated cases are referred to a higher level. Gaps in the system are filled by private and church run units. The structure thus consists: Dispensaries and private clinics, Health centers, Sub-district hospitals and nursing homes, District hospital and private hospitals, Provincial hospitals and National hospitals.

Growth in the hospital industry in Kenya will be supported by increasing expenditure on healthcare, within both public and private sectors. This expanded outlay within the public sector, coupled with rising private expenditure and greater levels of insurance coverage will drive the further growth of the medical devices and pharmaceutical industries. Kenya has an extensive network of private healthcare facilities, from small local clinics, to large, high-class hospitals. Private healthcare can be quite good, with small but modern health facilities and well-trained medical staff. However, for any serious operations, it is advised that experts look outside the country for help (South Africa has the best medical facilities on the continent). There are a number of private hospitals and medical clinics in Nairobi and Mombasa offering all medical services at international standards.

1.1.4 The Aga Khan University Hospital, Nairobi

Established in 1958, Aga Khan University Hospital, Nairobi (AKUH, N) is a private, not for-profit institution that provides tertiary and secondary level health care services. The decision to upgrade the Hospital to a tertiary level teaching hospital was taken in order to respond to the health care needs of the people of East Africa. AKUH, N is a premier provider of ambulatory care and quality in patient services, including critical care.

The Hospital plans to strengthen existing partnerships with the Ministry of Health and other universities offering health education, with an aim to share experiences, strengthen

public sector delivery systems and collaborate on teaching and research. In recent years, the Hospitals have grown, expanding services and upgrading their facilities. The expansion programme has emphasized the introduction of new diagnostic services and therising of the quality of care to international standards.

1.2 Research Problem

A number of researchers such as Wilken, (1998) and (Myburgh, 2002) have expressed their belief in the idea that the use of information technology (IT) enhances strategic decisions and have proposed several explanations about the impact of IT on strategic decision making. In light of this, a study examining the impact of IT on the main stages of the process is performed by investigating the impact IT has in each phase. Results lend support to the notion that IT boosts the efficiency and effectiveness of the decision – making process. Although many variables have positive impacts on the IT use and performance, time pressure and individual differences do have negative impacts on IT use and performance.

The Kenyan information technology industry has recently received attention as one of the key pillars that will grow Kenya in future. The industry has to deal with rapid product obsolescence, timely product orders and deliveries, foreign currency fluctuations, availability of competent and skilled workforce and turnaround time to clear goods through customs.

Several studies have been carried out on strategic management and information technology relationship in different companies. Mosoti, (2009) carried out a survey of information systems challenges in Kenya parastatals. Gichuhi, (2009) undertook a study on value of IT in organizations. A knowledge gap therefore exists in the presence of whether an appropriate fit of information technology to strategic management contribute

to improved performance. This study intended to fill the question: What is the role of information communication technology at Aga Khan University Hospital, Nairobi?

1.3 Research Objective

The objective of the study was to determine the role of information technology in strategic management at the Aga Khan University Hospital, Nairobi.

1.4 Value of the Study

The results of this study would benefit various groups. First, the results would benefit managers and board of directors of Aga Khan University Hospital, Nairobi (AKUH, N). They would be provided with information concerning the general state of information technology in the health sector and the modes of strategic management used at AKUH, N.

Secondly, the research findings will be useful to potential investors in the sector. They will be informed on the IT challenges faced by the institutions already operating and therefore prepare themselves accordingly before entering the industry.

Thirdly, the research findings will be useful to the government by informing them on the role and contribution made by Aga Khan University Hospital in health care delivery in Kenya by use of IT. Areas of complex IT use that require heavy investing shall be articulated.

Finally, this is expected to contribute to the existing knowledge in the field of Strategic Management, more specifically in the area of IT role in strategic management in not for profit institutions in Kenya. The outcome should also be a useful source of reference for scholars and researchers who might be interested in carrying out further research based on the findings of the current study.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter provides a review of literature on the link between information technology and strategic management. It explores how IT can be employed to achieve sustained competitive advantage; enhance an organization's internal strategy and business portfolio strategy.

2.2 Theoretical Foundation of the Study

Resource based view (RBV) theory of the firm is one of the concepts applied by modern competitive firms in the dynamic business environment when formulating, implementing and monitoring strategies (Thompson et al., 2012). Ngau and Kumsaa (2006) define resources as stocks of available factors that are owned or controlled by the firm, which are converted into final products or services. Capabilities, in contrast, refer to a firm's capacity to deploy resources, usually in combination, using organizational processes, to produce a desired effect. Hence, the presence of capability enables resources to begin to be utilized, and the potential for the creation of output arises. While resources are the source of a firm's capabilities, these form the main source of its competitive advantage (Thompson, Gamble, and Strickland, 2012).

Many scholars have emphasized effective use of selected strategically related resources as the basis of superior performance. To some researchers, mere ownership of superior resources does not guarantee attainment of superior performance, what, matters is how the resources are integrated and utilized (Johnson et al, 2002). Where organizations in the same industry have the resources but differing performance levels the reason could be

that they vary in the extent to which they make use of their resources. Since some organizations may possess similar resources, it is the capabilities that enable them to optimize the usage of these resources to generate more value than translate into superior performance.

Proponents of the Resource Based View strongly believe that the internal resources possessed by organizations could be the key to successful strategies that generate competitive advantage and superior performance (Pearce and Robinson, 2010). Others have argued that organizations should select strategies that enable them best exploit their resource strengths relative to opportunities in the external environment (Prahal and Hamel, 1995).

Proponents have added that being strategic means creating a chasm between ambitions and resources, since an organization with relatively small amount of resources but with big ambitions can produce greater output for its smaller inputs through effective management (Grant, 2002). On this basis, organizations with meager resources can optimize their use and achieve value added outcome through a good fit between available resources and strategic objectives. Most researches have recognized the role of firm based tangible and intangible resources as sources of competitive advantage and superior performance in organizations.

Strategic management researchers are increasingly focusing on internal resources possessed by organizations as the basis for developing strategies that lead to competitive advantage and superior performance. This is built upon Resource Based Theory of the firm which viewed organizations as bundles of productive resources that are tangible and intangible capabilities which they could use to generate competitive advantage and superior performance (Penrose, 1959). Building on these concepts, strategic management

researchers have developed the RBV model which focuses on internal resources possessed by organizations as building blocks for creating strategies that generate competitive advantage. RBV holds the view that heterogeneity in the level of either tangible or intangible resources across organizations will result in different levels of performance because some firms possess superior resources than their rivals in the same industry.

RBV theory views organizations as bundles of resources and capabilities of different combinations that can be exploited to gain competitive advantage and higher than average performance (Grant, 2002). Each organization exercises control over its own resources and those valuable resources cannot easily be moved across organizations. As such the few organizations possessing such resources may enjoy competitive advantage over their rivals for considerably long period if such differences persist. This implies that every organization integrates and utilizes its internal resources and capabilities in different ways from competitors in the same industry in order to take advantage of their potential to achieve competitive advantage and superior performance.

Resource based view (RBV) is a model that looks at resources as key to superior firm performance and an approach to achieving a competitive advantage (Hamel & Prahalad, 1994). The theory proposes that executives should look inside the company to find the source of competitive advantage instead of looking at the competitive environment (Barney, 1991). Those resources possessed by a firm are the primary determinants of its performance, and they may contribute to a sustainable competitive advantage of the firm (Wenerfelt, 1984). Barney, (1991), listed some of the firm's resources as including; all assets, capabilities, organizational processes, firm attributes, information, knowledge among others being controlled by a firm and which enables it to conceive of and

implement strategies that improve its efficiency and effectiveness. In the context of healthcare business, these resources are controlled within operation function of a hospital and strategies to manage them may help the firm achieve a competitive advantage.

Together with the agency theory, the RBV imposes a duty on the firm's management to safeguard the organization's assets and resources in the best interest of all stakeholders (Akio, 2005). Therefore, in focusing on the organization's operations and management strategies, the study will seek to establish how IT affects strategic management at Aga Khan University Hospital, Nairobi.

2.3 The role of IT in Strategic Management

Advances in IT have far reaching effects on competition. Porter & Millar (1985) identified three vital ways that the information revolution affects competition. Firstly, by changing industry structure, and in so doing, alters the rules of competition. Secondly, by creating competitive advantage giving companies new ways to outperform rivals; and lastly by spawning whole new businesses, often from within a company's existing operations. The structure of an industry is as a result of the five competitive forces that collectively determine industry profitability: the power of buyers, the power of suppliers, the threat of new entrants, the threat of substitute products, and the rivalry among existing competitors. IT can alter each of the five forces and, hence, industry attractiveness as well. Porter, (2001), identifies the Internet, advancement in IT, as an open system whose technological advances level most industries' playing fields - thus intensifying competitive rivalry and reducing entry barriers. He adds that the internet dramatically increases available information, shifting bargaining power to buyers.

Competitive advantage is created through the use of technology in lowering of costs and enhancement of differentiation (Porter & Millar, 1985). This is through its effects on an

organization's value activities, or by exploiting changes in competitive scope. IT can alter a company's cost in any part of the value chain and allows product customizations in support of differentiation. IT Increases a company's ability to coordinate its activities regionally, nationally and globally. In so doing, it can unlock a broader geographical scope to create competitive advantage. Porter, (2001), credits IT (in particular the Internet) with delivering sustained competitive advantage from operational efficiency (doing what your competitors do, but better) or strategic positioning (doing things differently than your competitors). He argues that a firm's advances in operational effectiveness can be easily copied by competitors and therefore strategic positioning becomes most important. The internet therefore becomes a strategic complement in making it easier to maintain strategic positioning. This is because it lets you create a customized, common information technology platform for all your company's activities - resulting in unique, integrated systems that reinforce the strategic fit among your firm's many functions. Competitors can't easily imitate these systems. The Internet can complement traditional ways of competing as well as integrating virtual and physical activities to compensate for the Internet's performance limits in physical touch and product test.

Porter and Millar (1985) identified the "value chain" as an important concept that highlights the role of information technology in competition. They explained that Information technology is permeating the value chain at every point, transforming the way value activities are performed and the nature of linkages among them. They further explained that IT is affecting competitive scope and reshaping the way products meet buyer needs. Mata, Fuerst and Barney (1985) argue that the ability of IT to add economic value to a firm by either reducing a firm's costs or differentiating its products or services is not the same as IT being a source of sustained competitive advantage for a firm. They

use the resource based view of the firm is based on two underlying assertions, that there sources and capabilities possessed by competing firms may differ (resource heterogeneity), and that these differences may be long lasting (resource immobility).

They explain that a firm may use its IT resources to help implement a wide range of strategies, including cost leadership, product differentiation, strategic alliance strategies, diversification strategies, and vertical integration strategies. If those resources are heterogeneously distributed across competing firms, and if firms without these resources find it more costly to develop, acquire, and use them to implement a strategy than firms that have already used them to implement that strategy, these resources can be a source of sustained competitive advantage.

Advances in IT are creating completely new industries in three ways. First, it makes new businesses technologically feasible, for example the mobile money technology. Secondly, IT can spawn new businesses by creating derived demand for new products, for example mobile banking, which was not feasible before the advent of mobile money. Thirdly, IT creates new businesses within old ones; this could be through sale of excess capacity created (Porter & Millar, 1985). Industry-level impacts of IT have important strategic implications for the portfolio of industries in which a firm is competing. Specifically, a firm may be able to improve this portfolio by taking advantage of structural changes catalyzed by advances in IT.

Alternatively, a firm can actively seek opportunities to exploit its IT-related skills and resources in new industries (Bakos & Treacy, 1986). They further propose that IT affects the efficiency and effectiveness of the organization primarily by reducing the effects of bounded rationality of the individual and group decision making.

Advances in IT, and Internet technology in particular, tends to weaken industry profitability without providing proprietary operational advantages (Porter, 2001). Porter argues that it is more important than ever for companies to distinguish themselves through strategy adding that winners will be those that view the Internet (and IT by extension) as a complement to, not a cannibal of, traditional ways of competing.

Deliberate consideration for advances in IT in strategic decisions-making is an imperative in industries where the rate of technological and competitive change is so extreme that market information is often unavailable or obsolete, where strategic windows are opening and shutting quickly, and where the cost of error is involuntary exit (Bourgeois & Eisenhardt, 1988).

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes the methods that were applied in carrying out the research. It covers the research design, data collection and data analysis.

3.2 Research Design

The study was modeled for a case study design. As stated by Kothari ,(1990), a case study is a form of qualitative analysis which involves a careful and complete observation of a social unit be it a family, a person, a cultural group, or an entire community or institution. The study focused on the role of IT in strategic management at Aga Khan University Hospital, Nairobi. The results provided an insight on how private hospitals should use IT in their strategic management in order to remain competitive in the current unstable and sometimes aggressive environment.

Yin (1994) also points out that a case study allows an investigation to retain the holistic and meaningful characteristics of real life events. It is a method of study in depth rather than breadth and lays more emphasis on a limited number of events and other interrelations. Previous studies of similar nature have successfully used this method Kandie (2001), Koske (2003), Muthuya (2004), Machuki (2005), Olali (2006), Atandi among others.

3.3 Data Collection

The study used both primary and secondary data. The primary data was collected by use of an interview guide. The respondents of the study were the seven Heads of departments

from IT, Budgeting and Planning, Medical services, Finance, Security, Marketing and Audit who were considered to be key informants. The interviews were conducted at the interviewee's place of work. Secondary data was obtained from organizational documents such as the strategic plan, service charter, performance contracts, ISO certification documents, annual reports and annual performance evaluations.

3.4 Data Analysis

Data obtained was qualitative in nature and was analyzed using content analysis techniques. The information was analyzed and evaluated to determine its usefulness, credibility, consistency and adequacy. Content analysis has been defined as the systematic replicable technique for compressing many words of text into fewer context categories based on explicit rules of coding. It is a technique for making inferences by objectively and systematically identifying characteristics of messages. As stated by Mugenda and Mugenda (2003), the main purpose of content analysis is to study existing information in order to determine factors that explain a specific phenomenon. In coding qualitative data, the researcher read all the responses, identified key information and related it to emerging patterns. The outcome was compared in an attempt to get more revelation on the role of IT in strategic management at Aga Khan University Hospital, Nairobi. Content analysis has in the past been used successfully by Kimeli (2008), Kiplotich (2008), Njuguna (2009), Atandi (2010), Ndonga (2010) and Maiko (2011).

CHAPTER FOUR

DATA ANALYSIS, FINDINGS AND DISCUSSION

4.1 Introduction

This chapter documents the findings of this study whose data was collected through personal interviews with the aid of an interview guide. The researcher interviewed seven heads of departments in the hospital who are central in ensuring IT is used in the strategic management process. The persons interviewed were managers of IT, Budgeting and planning, Medical services, Finance, Security, Marketing and Audit.

4.2 Role of IT in Strategic Management at AKUH, N

The respondents reported various ways in which Aga Khan University Hospital, Nairobi has used IT in its strategic management. The main strategic goal has been providing accessible and affordable healthcare in the region. To achieve this, the fully fledged heart and cancer centre in the hospital was identified by all the respondents as having been developed as a result of advances in IT in the medical field. The goal was developed primarily to take advantage of IT developments and advances. There had been a dire need in the entire Sub-Saharan market for treatment in heart and cancer cases. Patients were being flown abroad for treatment and especially to India. This has offered the heart and cancer treatment options in Kenya and saved the families of the patients' long and expensive trips abroad. The top management ensured the personnel handling the sophisticated machines were well trained abroad. The plan to enhance IT services, Information Systems, Security and IT governance was to be achieved through implementation of various IT initiatives and the adoption of IT best practices. Specific initiatives identified include the use of service level agreements; the acquisition of monitoring and control solutions for networks, applications and databases; enhancement

of system reliability and security; development of a disaster recovery and business continuity plan, contingency plans another measures to ensure business continuity at all times; deployment of an intrusion prevention system; and implementation of IT Service Management (ITSM).

To modernize, maintain and integrate IT systems, a number of IT projects undertaken were identified by the respondents. The projects include opening up new clinics and outreach centers with the view of making the services available to the local communities across the country while maintaining the high standards of the main hospital in Nairobi. Smart card mode of patient identification was also identified. This has been rolled out as well and has reduced significantly the number of rejected claims by the insurance companies. A number of initiatives to enhance and maintain IT Infrastructure were identified by the respondents. This includes an initiative to improve and expand IT infrastructure in the hospital through expansion of Local Area Network (LAN) and Wide Area Network (WAN), data centre improvement project.

Secondly, it was noted that IT has at been at the heart of dealing with customer care compliance costs and customer service issues. The objective of minimizing customer compliance costs and enhancing customer service was identified by all the respondents to anticipate an enhanced usage of IT. For this goal to be achieved greater facilitation through a higher level of service automation is expected. This is through increasing the scope and accessibility of services offered electronically. Some services are now available across the outreach centers essentially radiology and laboratory tests that use sophisticated technology. Other services are planned to be rolled out including mobile money services.

Customer service avenues have been increased courtesy of social media. Twitter and Facebook have been major avenues where clients have aired their concerns and the customer clients office has ensured they respond to the issues raised in a timely manner. Furthermore, the consolidated Frequently Asked Questions (FAQs) are being captured, collated, updated and uploaded on to the AKUH, N website to assist patients and any other interested party to readily access information as and when they require. The need to access healthcare information as a means to enhancing customer service was identified as requiring IT for it to be met.

Thirdly, developing a professional team that is well remunerated was pointed out as a major strategic goal. One of the respondents highlighted the need to invest in the workforce since they are the greatest asset any organization has. This was identified by some respondents as being partly driven by a number of IT initiatives in AKUH, N at varied stages of implementation. The hospital is on a program to ensure evidence based care through the university. This heavily calls for the use of IT in treatment and documentation. The changes introduced by completed initiatives as well as those anticipated to be brought about by ongoing and planned initiatives have necessitated a more robust change management process. As a result, AKUH, N planned to institutionalize change management in its fourth corporate plan as a means to enhancing its corporate culture by espousing the organization's core values. The institutionalization of this change management resulted in the creation of a Quality Management section within the IT department. To enhance capacity building for the AKUH, N team, some respondents identified the undertaking of systematic and structured training based on identified competencies and needs, and in particular the IT related competencies required for staff to work with and support automated systems. The specific trainings identified include project monitoring and evaluation, system analysis and design, information

system audit, structured software testing and product specific manufacturer training. The need for training in existing, ongoing and planned IT initiatives was identified as being a key requirement in achieving the goal, in an increasingly automated environment. Implementation of e-learning process was identified by some respondents as a means to achieving the goal of developing a professional team that is well remunerated, that cannot be attained without the use of IT. The implementation of the doctors' module is another specific initiative that was identified. The adoption of contemporary human resource management tools in implementing human resources best practice was identified as requiring the use of IT. Online appraisals will be an achievement made possible courtesy of IT.

Furthermore IT comes in handy in achieving the revenue targets by using sophisticated machines at all the centers of operation. This goal was identified as having a direct linkage with IT advances by all respondents. It all starts from advertising. People cannot know all the investment that has been done by the hospital if they are not told. The marketing manager made it clear that the hospital had intensified its marketing campaigns over the last few years both in print and visual. The hospital being the first in the region to be accredited with JCIA was and is still a major selling point for AKUH, N with a view to increase revenues. In terms of operations, it rolls out from the registration of patients that will be by use of the biometric machines. This has curbed errors at the registration desk and fast tracked the registration process making it very efficient. The use of smart cards at the payment desk, for insurance clients, has ensured zero losses on patients treated at the hospital since the smart card accurately indicates the status of the credit level of the patient. Moreover, it also leads to enhanced security since confirmation is done that the right patient is being treated. Debt collection then becomes enjoyable for the accounts receivable team since proper documentation is in place. Thanks to IT, this

highly contributes to increased revenues. Other ways have also been pursued to ensure the revenue streams are increasing. The outreach centers across the country have come in hand. Majority of these centers concentrate on provision of diagnostic services by offering laboratory and radiology services at highly discounted services. This has attracted many customers putting in mind the quality has not been compromised. Timing has been another key ingredient IT has helped in. Due to the fast processing rates of the machines used in the diagnostic testing, doctors are able to diagnose and treat patients in very little time compared to days past. This has led to an influx of patients from all over the region thus increasing revenues. The technology to handle complicated heart and cancer surgeries has increased revenue while at the same time providing avenues for the less fortunate to access very expensive treatment previously only a reserve for the rich.

Creation of an enabling working environment is at the very core of AKUH, N management model. Communication has been geared up from top to bottom and vice versa. The management has made it very easy to communicate in and off campus through the extensive use of emails and telephone technology. A doctor can now advice on an operation through Skype while in another country. Proactive management of health and safety risks as a means to achieving the goal of creating an enabling work environment were identified by one respondent as having a minor linkage to IT advances. The new parking system has helped curb the problem of packing space while ensuring improved security of the cars of all people at campus be they patients, families of patients, medical staff or even administrative staff. With the recent terrorist threats, the security team has beefed up the controls at all the entry level by using high-tech gadgets to check for any materials that could be hazardous in any way. Lines of communication are always kept open for reporting of any suspicious activities, all thanks to IT advancement. In this information age, people want to be informed of the latest developments world over.

AKUH, N being a premier hospital in the region, it has ensured internet is easily accessible to all. Free Wi-Fi has become a common phenomenon at the main campus. The library has beefed up their collection courtesy of e-journals and electronic correspondences with other learning medical institutions. All these have led to a richer life for both patients and staff at AKUH, N.

4.3 Discussion

The literature reviewed identified IT as one of the contemporary themes affecting strategy development in a number of organizations. The findings from the study are that's some strategic goals at AKUH, N were developed with the aim of modernizing, improving and enhancing existing IT investments, while some other strategic goals were developed with the expectation that their attainment will require investment in IT. The findings therefore support existing literature in that IT influences strategic management either directly by targeting enhancement of IT investment or indirectly through IT facilitating the attainment of strategic goals. From the findings, AKUH, N has developed a number of specific corporate goals that are geared directly at modernizing, improving and enhancing existing IT investments. This has the effect of reducing costs and is in line with the assertion in the literature reviewed that competitive advantage is created through the use of technology in lowering of costs and enhancement of differentiation (Porter & Millar, 1985). AKUH, N has deployed a number of applications using internet technology in line with the findings reviewed in Porter (2001) where he credits IT (in particular the Internet) with delivering sustained competitive advantage from operational efficiency (doing what your competitors do, but better) or strategic positioning (doing things differently than your competitors. The findings support the RBV theory which attributes improvement in firm performance to valuable resources or resource bundles. From the RBV, one lens through which to look at IT value creation is “an indirect role for

IT in firm performance. The basic logic is that IT affects other resources or processes which, in turn, lead to competitive advantage this is why AKUH, N has invested heavily in IT and is one of the leading hospitals in the Sub Saharan region in providing excellent patient care in matters relating to heart and cancer issues.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents a summary of the research findings. It then discusses the conclusions of the study in line with the objective of the study, and makes recommendations based on the research findings.

5.2 Summary

From the research findings and answers to the research questions, some conclusions can be made about the study. The study findings indicate that Information Technology has had influence on strategic management at Aga Khan university hospital, Nairobi. Providing accessible and affordable healthcare in the region is primary to the hospital and the management is willing to do all it takes to ensure this happens with the use of IT. Customer care has also heavily used IT and made it very interactive with all the related parties. The achievement of response timelines is very encouraging. The hospital has gone to great pain in ensuring they have a highly trained and technically specialized team that is motivated. Revenues have been increasing over the last few years and this is heavily attributed to the increased infrastructure in equipment across the hospital, on and off campus. Advertisements on different kinds of media have also made the hospital known in the country and beyond. Communication has been instrumental in ensuring the creation of an enabling working environment.

5.3 Conclusion

From the research findings and answers to the research questions, some conclusions can be made about the study. This study has found out that firms take their strategic planning very seriously where all the respondents interviewed were involved in formal strategic

management practices. As pointed out earlier there is also consensus in literature that IT presents many opportunities for organizations to formulate their strategies. Past literature however dwells a lot on one or just a few of the opportunities presented by IT. Conclusions from these studies are definitely very credible, but there is also merit in looking at IT from a more holistic view and paying special attention to IT opportunities from two dimensions of an organization; internal and external. The two dimensions identify different issues of importance and are pliable to different methodologies for opportunity identification. These perspectives are also likely to differ in their appropriate environmental analysis methods as they are based on separate theoretical disciplines.

5.4 Recommendations for Policy and Practice

From the research findings, it was established IT is key in strategic management. It comes in handy in developing strategies and executing them as well. It is recommended that an evaluation of the existing IT investments and the exploration of avenues for their modernization, improvement and enhancement be institutionalized as part of the strategic management process at AKUH, N.

It is also recommended that when developing the strategic management process, investment in the use of IT should be considered as an enabler for meeting goals. Management need to acquire knowledge, and remain current, on available and emerging IT technologies and their application as well as business capabilities and application. This is because some strategic management practices are made feasible only through investment in the use of IT, meaning that lack of knowledge will result in missed opportunities.

5.5 Limitations of the Study

The study was focused on the Aga Khan University Hospital main campus in Nairobi. This left out the participation of other AKUH, N outreaches and clinics whose contribution could have enriched the study. The study covered a period of three months and this duration could not allow the researcher to collect enough data for comprehensive analysis.

The other limitation that the researcher encountered was the presence of organizational rules that do not allow release of information to the public hence it was difficult to obtain some of the useful information. Even after getting clearance from the Chief Executive Officer to collect data some of the information would not be released to the researcher.

5.6 Recommendations for Further Research

It is generally believed that no research is an end in itself. What this research has achieved in this area of study is minimal thus requiring further research. From the knowledge gained from the study, the researcher recommends the following which should act as a direction for further research. This study aimed at establishing the role of IT in strategic management at Aga Khan University Hospital, Nairobi. The study focused on AKUH, N only and did not look at other factors other than IT that influence strategic management. Future studies should seek to establish the role of IT in other private and public hospitals in Nairobi as well as other factors that influence strategic management in hospitals.

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APPENDICES

APPENDIX 1: INTRODUCTION LETTER



UNIVERSITY OF NAIROBI
SCHOOL OF BUSINESS
MBA PROGRAMME

Telephone: 020-2059162
Telegrams: "Varsity", Nairobi
Telex: 22095 Varsity

P.O. Box 30197
Nairobi, Kenya

DATE... 24/9/2014

TO WHOM IT MAY CONCERN

The bearer of this letter... KIIRU KEVIN KAMENJU

Registration No... D61/79060/2012

is a bona fide continuing student in the Master of Business Administration (MBA) degree program in this University.

He/she is required to submit as part of his/her coursework assessment a research project report on a management problem. We would like the students to do their projects on real problems affecting firms in Kenya. We would, therefore, appreciate your assistance to enable him/her collect data in your organization.

The results of the report will be used solely for academic purposes and a copy of the same will be availed to the interviewed organizations on request.

Thank you.


PATRICK NYABUTO
MBA ADMINISTRATOR
SCHOOL OF BUSINESS



APPENDIX II: INTERVIEW GUIDE
THE ROLE IT IN STRATEGIC MANAGEMENT IN AGA KHAN UNIVERSITY
HOSPITAL, NAIROBI

1. Does AKUH, N use IT in carrying out formal strategic planning where clearly defined strategic and operational objectives are identified?
2. In your internal and external environmental analysis, do you use a structured approach to assess the opportunities that IT presents for your internal, competitive, and business portfolio objectives?
3. How has technological changes affected strategy implementation in your department? What measures have you taken to address the problem associated with those changes as an organization?
4. Are resources a constraint to the use of IT in achieving your strategic and operational objectives?
5. How has the use of IT changed the way you conduct business as an organization? Has it enhanced competitiveness or created strategic advantage? Has it helped improve customer relations?
6. Is the use of IT enhancing employee productivity or business efficiency?
7. Is the use of IT helping AKUH, N establish useful linkages with other organizations?
8. Has the use of IT at AKUH, N helped reduce costs? In what ways has it reduced the costs if any?
9. How has the use of IT at AKUH, N improved the management of information for strategic planning? Is it easier to access or retrieve information?
10. Is the use of IT in your operations helping the organization to comply to governmental and industry requirements?

11. Has the use of IT facilitated development of previously infeasible applications?

12. Security is nowadays a matter of great concern. How have you used IT to safeguard vital information, patients, employees and company assets?