

**A SURVEY OF THE STRATEGIC ROLE OF
INFORMATION AND COMMUNICATION TECHNOLOGY
AMONG INSURANCE COMPANIES IN KENYA**

**UNIVERSITY OF NAIROBI
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DECLARATION

This research project is my original work and has never been presented in any other University/College for the award of degree/diploma/certificate.

DEDICATION

This project is dedicated to my family members. Specifically, it is dedicated to my dear
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This research project has been submitted for examination with my approval as the University supervisor.

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Date: 13/11/06

ACKNOWLEDGEMENTS

DEDICATION

This project is dedicated to my family members. Specifically, it is dedicated to my dear wife Brigid Cheronon and my two sons Ryan and Bryan with lots of love for the support and patience they accorded me during the three year period I undertook the course.

My father, who devotedly and uncompromisingly guided and encouraged me throughout the project. His counsel, support, and constructive criticism he gave throughout the study enabled me to complete my project in time. I am convinced that without his support, this study would not have been a success.

Most especially, I am grateful to my colleagues in my place of work who encouraged me to move on tight schedules. I also wish to say a big "Thank You" to the managers who agreed to share their experiences and opinions; and patiently answered all questions and returned completed questionnaires. Their time and effort are acknowledged with gratitude. I wish them God's blessings too.

I greatly appreciate the companionship and assistance of my 2003-2005 MBA class throughout the program. Were it not for their interactive discussions and encouragement, the program could have proved unmanageable.

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The MBA program has been a very long, taxing and challenging journey, the successful completion of which has been the result of the support and encouragement from many quarters. I am indebted not only to people who gave me the inspiration to take up this program but also to those who gave me the guidance and assistance on what I have reported here.

My heartfelt gratitude and appreciation go to my supervisor Mr. Jackson Maalu, who devotedly and uncomplainingly guided and encouraged me throughout the project. His counsel, support, and constructive criticism he gave throughout the study enabled me complete my project in time. I am convinced that without his support, this study would not have been a success.

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ABSTRACT

I am very grateful to my wife Brigid for her generous support and love during the program period. I earnestly thank her for the good friend she was and still is. I wish her God's blessings.

Whereas I acknowledge input from all these persons in the research project, I take responsibility of any deficiencies and flaws therein.

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ABSTRACT

Capabilities and potential of technology are increasing more rapidly than ever before. Developments in IT have seen the enhancement of communication technology. The use of Internet, Enterprise Resource Planning (ERP) Solutions, Business Process Reengineering (BPR), and the common trend of outsourcing of IT services are among IT's applications in organizations' businesses. As information technology becomes more widespread, the opportunities to take advantage of a new competitive scope will only increase. The benefits of scope (and the achievement of linkages), however, can accrue only when the information technology spread throughout the organization can communicate. Information and Communications Technology therefore, has evolved in such a way that it is becoming the single most vehicle for organizations' attainment of competitive advantage. This therefore means that ICT plays a strategic role in organizations.

The study was designed with the objective of determining the strategic role of information and communication technology among insurance companies in Kenya. The data that was analyzed was provided by Information Technology and Strategy managers of the respective insurance companies. Out of the forty-two insurance companies, all of which were served with the questionnaires, only twenty-eight responded by returning filled questionnaires. This formed 66.7% response rate, which the study considered suitable for analysis.

The study used a semi structured questionnaire that was administered through mail to capture data from the respondents. To achieve the study objective, respondents were presented with statements describing the various areas in which information and communication technology could have a strategic role in their companies' business activities and were required to score on a 5-point likert scale the extent to which information and communication technology has played a strategic role in the respective organizations.

The major findings of the study were that information and communication technology has had a strategic role among insurance companies in most of the areas. It was established that ICT play a significant role in the development of most insurance companies' business strategy. This was rated high with a mean score of 4. Other areas in which ICT was found to have a far-reaching impact are the transformation of the value chain; provision of better product/service information to the customers and creating linkages with suppliers and customers through ICT. These were also rated high with a mean score of 4. Other areas where ICT was found to play a strategic role include restructuring of the companies, marketing of the companies' products, offer of services electronically, market research, tracking labour efficiency, and support to the companies' competitiveness among others.

It was however noted that insurance companies have not utilized ICT to attain full strategic potential in most of the areas. Specifically, the companies lowly (mean score of 2.9 and below) rated areas such as lessening buyer bargaining powers by introducing

switching costs, and creation of entry barriers to new entrants as areas in which they have not strategically positioned themselves in terms of ICT. Even in the other areas mentioned above where the companies have utilized ICT, the study noted that not all companies have strategically benefited from ICT. The study findings showed that a significant number of companies is yet to realize ICT's strategic potential.

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RBV	Resource Based View
BPR	Business Process Reengineering
IBO	Information Based Organization
HMO	Health Management Organizations
WWW	World Wide Web
DOS	Disk Operating System
ERP	Enterprise Resource Planning
CEO	Chief Executive Officer
CIO	Chief Information Officer
HR	Human Resources
R&D	Research and Development
US	United State of America
SPSS	Statistical Package for Social Science
IRR	Internal Rate of Return
ROI	Return on Investment

LIST OF ABBREVIATION

1.1 Background

ICT - Information, Communication and Technology

IT - Information Technology

RBV - Resource Based View

BPR - Business Process Reengineering

IBO - Information Based Organization

HMO - Health Management Organizations

WWW - World Wide Web

DOS - Disk Operating System

ERP - Enterprise Resource Planning

CEO - Chief Executive Officer

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CHAPTER ONE: INTRODUCTION

1.1 Background

A business strategy articulates the overall direction of the business. Johnson and Scholes (2002) define strategy as the direction and scope of an organization over the long-term, which achieves advantage for the organization through its configuration of resources within the changing environment and to fulfill stakeholder expectations. Collins and Montgomery (1998) see strategy as a carefully constructed system of independent parts of the organization that actively directs executives' decisions about the resources that the corporation will develop, the businesses the corporation will compete in, and the organization that will make it all come to life. For the strategy to be successful all these elements must be aligned to each other. An ICT strategy gives technological direction and purpose, organizes and deploys IT resources in the most effective manner, and coordinates the stream of decisions being made by different members of the organization and the IT function.

Strategy is about aligning every activity to create an offering that cannot easily be emulated by competitors. ICT is employed in the organization's relentless search for sustained uniqueness and out-performance in terms of value creation for customers, shareholders, and stakeholders. Porter's framework (Porter, 1980) and the Resource Based View (RBV) of the firm (Wernerfelt, 1984) basically perceive the primary role of strategy as achieving a unique competitive advantage. Thus, the objective of ICT strategy becomes the effective and efficient use of technology to beat the competition either by excelling in the activities of the firm's value chain that allows the firm to establish a

dominant position in the industry, or through the mobilization of unique resources and capabilities.

Strategy links the organization and its environment thereby matching the resources and capabilities of an organization to that environment (Johnson and Scholes, 2002). An ICT strategy should therefore be consistent with the technological environment and seek to capitalize on opportunities the environment offers. According to Porter (1998), for an organization to achieve a competitive advantage over competition, it has to tap this advantage through cost leadership, innovation, focus, and speed. Organizations are creating, sustaining, and compounding these advantages through ICT. ICT improves the organization's strategic capability thereby enabling organizations to provide product and service features that are valued by customers and by enhancing competitive performance.

Corporate strategy influences ICT through business strategies dictating the need for new information systems or other ICT capabilities. A business initiative can drive the need for new ICT projects that are required to realize the business objectives. However much a business becomes increasingly interconnected, ICT initiatives are becoming more synonymous to business initiatives. By offering new ways of doing business, new technology capabilities are influencing business strategies. While today e-commerce, and extranets are commonplace, a few years ago they were prime examples of technology-business initiatives, where technology was driving and changing the way in which business could be conducted. Draft (1993), contends that managers can also use IT for greater formalization, standardization and centralization.

1.1.1 Concept of Strategic Role of Information and Communication Technology

Information and Communication Technology (ICT) was in the past viewed as an automation tool for existing business processes. Existing business needs specifically drove ICT developments. It is now widely recognized that this will very often result in high investments and increased operating costs but in the anticipated improvements in performance. Today the central premise is that ICT is a lever for designing processes and therefore should not be simply overlaid on the existing organizational structure. Instead of treating the existing business processes as a constraint in the development of optimum ICT infrastructure, the basic logic of the processes itself is questioned (Kahigu, 2003).

The growth of IT systems and their pervasive use in business is a familiar development from the early 1980s. IT is fundamentally changing the nature of the workplace (Stebbins et al., 1995). Businesses are relying upon ICT to create competitive advantage thereby taking a new urgency to the business. ICT is being employed in the value adding activities; creating a new source of and means to sustainable competitive advantage. It is increasingly through IT that consumer attraction and loyalty are accomplished while competitor initiatives are muted. It is therefore not surprising that business strategy is more and more influenced, enabled, and dependent on the ICT strategy.

IT is central to the implementation of strategy and is closely and irrevocably linked with Business Process Reengineering (BPR). Weicher et al. (1995) cite Walmart and Ford as examples of this linkage. Using IT, Walmart reengineered the processes used to procure

and distribute mass-market retail goods; whilst Ford decreased its headcount in the procurement department by 75% by using IT in conjunction with BPR.

Business strategy should therefore lead ICT strategy with IT being a component of business just as much as other 'core functions' are. If IT is not in the service of the business strategy, then IT is just a technology in the business that falls short of translating business strategy into information technology. Conversely, the ICT strategy should influence the business creating a symbiotic relationship.

Over the years, development in information and communication technology (ICT) has played a significant role in the way we do business. Business entities have had to evolve their practices to cope with changes in information and communication technology. Those companies that successfully tap the powerful synergy resulting from the merger of technology and business strategy to transform their organizations are likely to experience an unparalleled competitive advantage, while the negative consequences for organizations that fail to act or whose efforts are unsuccessful will be far more significant than in the past.

It is evident that developments in information and communication technology have changed the way of doing business. Shultheis and Sumner (1995) point out that the organizational impacts of information technology are significant. They note that developments with regard to electronic mail systems, group and cooperative work systems, expert systems among others are bringing about the transition to the information

based organization (IBO). With such developments, organizations will be able to benefit from both internal expertise and the expertise of expert systems and external consultants. They further observe that information and communication technology has changed the nature of the industries in which firms operate in the terms of the products and services offered by altering the product development cycle or by increasing the delivery speed; production economics in which a firm with nationwide network of distribution centers can serve regional markets and also reallocate inventories to serve the national market; and lastly, with regard to markets, which have become more globalized and accessible. Consumers are becoming more informed and computer literate and thus accustomed to be electronically served. Organizations that are not able to offer electronic services to their customers may be at a competitive disadvantage.

1.1.2 The Insurance Industry in Kenya

Part one Section 2(1) of the Insurance Act, Cap 487 of the Laws of Kenya defines insurance business as business of undertaking liability by way of insurance (including reinsurance) in respect to any loss of life and personal injury and any loss or damage, including liability to pay damage or compensation, contingent upon the happening of a specified event, and includes: -

The effecting and carrying out by a person not carrying on a banking business, of contracts for fidelity bonds, performance bonds, administration bonds, bail bonds, or custom bonds or similar contracts of guarantee, being contracts effected by way of business (and merely incidental to some other business carried out by the person effecting them) in return for payment of one or more premiums. The effecting and carrying out of capital redemption contracts and

contracts to pay annuities on human life. Insurer means a person, whether registered under the Act or not, who carries on insurance business and includes re-insurer.

Basher (2002) observes that insurance is the most important form of risk management and defines it as the transfer of risk from one person (or party) to another for a specified premium. Insurance, he notes, plays an important role in political, social, and economic development of a society by offering diverse benefits to individuals, groups, countries, and the world in general.

Insurance in the modern form has been practiced in Europe for well over one thousand years with the earliest form being the marine insurance. However, like elsewhere in Africa, insurance in its modern form was unknown in Kenya until the early part of the 20th century. The early European settlers introduced modern insurance in Kenya. In 1904, the London and Lancashire Insurance Company appointed agents for fire business in Nairobi. In 1922, Royal Exchange Assurance opened a full branch office in Kenya and was followed by the commercial Union in 1929 (Wanjohi, 2002).

Until the late 1970s, the insurance industry in Kenya, which dates back to the establishment of the colonial rule, operated in a rather stable environment. There was little demand for services, the products offered were quite standardized, government supervision was minimal, and competition was relatively low. Little technological development was witnessed. However, following the issuance of the government directive in 1978 which required all foreign insurance companies to be incorporated in

Kenya by 1980 and the introduction of the Insurance Act Cap 487 of the Laws of Kenya, the industry has since experienced tremendous challenges. The number of insurance companies has continued to increase. Many new companies sprung up in the 1980s which exhibited entrepreneurial behavior and many more companies were incorporated in the 1990s following the liberalization of the economy. This move has seen the number of registered companies grow from 15 in 1978 to 42 in March 2006. This growth coupled with the collapse of the giant state owned Kenya National Assurance in 1996 has intensified competition in the industry.

Competition has further been aggravated by the springing up of many micro-insurance companies such as the Health Management Organizations (HMOs) and Pension Administration Schemes that provide services that traditionally were the domain of the insurers. Following the opening up of the Tanzania and Uganda insurance markets and the increased emphasis on globalization and regionalization, the industry now also faces greater competition from its neighbors. Further still, due to the unfavorable economic conditions prevailing in Kenya and lack of awareness of insurance as a substantial market, it is still not fully tapped. Thus, also since 1987 (other than in 1997 and 1998) the industry has registered continued growth with premiums for general insurance growing from Shs. 2.7 billion in 1987 to Shs.15 billion by 1998 (Insurance Annual Report 1998) with 1993 recording the highest growth rate of 41% due to inflationary pressures.

The introduction of the Retirement Benefits Act 1997 has not spared the industry. It has allowed new competitors and increased regulation in the insurance industry. Under the

Act, insurance companies were required to increase their paid up capital to safeguard the large sums of money in pensions. Further, the Act also stipulates that other than the fund administrator, pension schemes have to appoint a fund's manager and custodian, thus causing the cost of running the schemes to go up considerably. Consequently, small pension schemes have had to wind up. This is a loss of business to insurance companies.

McFarlane (1984) observed that one or two years ago, IT belonged to the IT industry, IT. Nevertheless, in spite of these challenges that insurance companies face today, the companies continue to lay great emphasis on growth (premium income), competition based on undercutting of premiums and imitation of competitor action, and operational efficiency. The role of insurance companies cannot be downplayed. Insurance continues to play an important role in the development of the economy hence the survival of the industry should not be left to chance. According to Irukwu (1975), insurance plays two vital roles in the national economy: First, it is an economic device which is vital to the survival of other businesses. By accepting to bear the financial loss of the insured persons and institutions, insurance provides stability to individuals, industrial, and commercial undertaking. Second, it is through insurance that financial institutions accumulate funds which they invest in the economy, government and privately-owned industrial projects.

Mwaniki (2001) notes that the propensity to save among most Kenyans is eroded while the number of insurance companies continues to increase as others are placed under statutory management. As the competition intensifies, many organizations are resorting to restructuring, rightsizing, downsizing, reengineering; whatever the terminology is used, the use of IT is high on the agenda of these firms. McFarlane (1984) point out that new

companies are entering into the market with systems that are already computerized and are hence able to take advantage of the speed of the computer systems. The new companies are taking advantage of gaps the older companies have not been able to spot and these are mainly within the health maintenance organizations and public transport.

McFarlane (1984) observes that one or two years ago, IT belonged to the IT industry, IT managers, Systems engineers, Support staff, and box pushers. Today, IT is quickly joining the mainstream of business strategy. Everyone and every department are taking it up. IT is no longer just another cog in the enterprise. Instead, it is one of the core components in any organization. According to Otieno (1999), the business benefits of using information systems technology include among others: rehabilitation and maintenance of the systems, experimenting with new technology and attain competitive advantage.

Insurance companies in Kenya, whether foreign or locally owned; public or private, destined to thrive will of necessity be companies that are constantly learning and changing. These will be the companies that maximize the use of knowledge and information, and deploy it faster and to better advantage than their competitors. Successful organizations will be characterized by their ability to use information better, learn faster, and be dynamic rather than static, and faster in innovation while managing risk. All of those outcomes will require significant organizational transformations in the companies.

Further, these organizations inherit a unique mix of traditions and cultures from their diverse parentage and heritage. As resources and public expectations continue to shift and change, there is a compelling need to now, more than ever before, challenge the unwritten traditions, norms, and paradigms and to ask penetrating questions about what modern insurance companies in Kenya ought to be and what they are strategically positioned to contribute now and in the future. To this end, their resort to embrace the use of IT as a business strategy would imply their desire to reap optimum strategic potential and where they position IT within their business strategies will matter a great deal, which this study purposes to investigate.

1.2 Statement of the Research Problem

Collis and Montgomery (1995) observe that with great speed, the sharp reduction in the cost of information systems technology (i.e. computers, remote devices, and telecommunications) has allowed IT systems to move from applications for the back office support to those offering competitive advantage. A study by Abwao (2003) noted that the insurance industry is usually bogged with long tedious and monotonous calculation of assessing the risk prior to underwriting the business, tactical evaluation of where to invest the pooled resources for better productivity especially after the government set conditionality for investment in this sector and finally how fast they can pay claims in order to retain the customer living in a depressed economy. The study further pointed out that delay in delivering quotations or getting response from the re-insurer is a major bottleneck in delivering prompt and efficient service.

In today's business environment, competitive advantage goes to those companies most able to mobilize information and create systems to use knowledge effectively. Accurate, timely information allows organizational members to monitor progress and take corrective action promptly. Innovative, state-of-the-art support systems can be a basis for competitive advantage if they give a firm capabilities that rivals cannot match. Companies everywhere are rushing to install the support systems they need to participate in one or more segments of the rapidly expanding Internet economy and enable better execution of their business strategies. Well-conceived, state-of-the-art support systems can not only facilitate better strategy execution but also strengthen organizational capabilities enough to provide a competitive edge over rivals (Thompson and Strickland, 2003).

Whereas a number of studies have been done on organizational utilization of IT in business: Kariuki (2004); Owour (2003); Njogu (2003); Kahigu (2003); Abwao (2002); Nyambati (2001); and Nyambane (1996) among others, no study has looked at the strategic role of ICT in organizations. For instance, Kariuki (2004) studied IT strategy and organizational structure relationship among companies listed at the Nairobi stock Exchange while Owuor (2003) looked at the use of IT as a facilitator of BPR in the vegetable oil industry. The other studies have focused on different aspects of IT in organizations other than assessing its strategic role. Abwao's (2002) study on IT applications in business management within insurance firms in Nairobi found out that insurance companies in Kenya have actually embraced the use of IT in carrying out their business. However, his study never investigated into IT's strategic role in these

companies. This study takes this perspective to bridge the existing gap and answer the question: What is the strategic role of ICT among insurance companies in Kenya?

1.3 Objective of the Study

To determine the strategic role of Information and Communication Technology among insurance companies in Kenya.

1.4 Significance of the Study

The findings of this study will contribute immensely towards the understanding and appreciation of the strategic value of IT not only in the insurance industry but also in other companies that have embraced the use of IT. The study will also contribute towards narrowing the existing knowledge gap in the field of information technology as a strategic resource and its strategic role among insurance companies. Finally, this study will be used by academicians as a point of reference for further academic research in the field of information technology and its strategic importance in organizations.

CHAPTER TWO: LITERATURE REVIEW

2.1 Developments in Information Technology and Business Management

Over the past decades, a number of business developments have taken place in business management. The transformation of the value chain; influences of the global competition into the way business is done and the effects of liberalization of the economy; changing patterns of employment; and changes in the organizational structure due to developments in IT are among the salient developments in business management. Each of these developments necessitates the strategic positioning of IT in an organization and hence the need for an IT strategy in such an organization. Recent developments in information technology have transformed the way organizations conduct business. Today, companies are slashing costs using real-time electronic communications, improving customer intimacy by leveraging the Internet, and taking advantage of new business models such as distributed auctions and trading hubs. Yet many senior leaders lack the tools to assess and communicate the business impact that information technology can bring to their organization (Stanford School of Business on Executive Education on Strategic Uses of Information Technology, 2006).

According to Porter (1985), competitive advantage grows out of the way an enterprise organizes and performs discrete activities. By performing these activities, the insurance company creates value for the policyholder and the ultimate value is measured in terms of the amount of premium that the policyholders are willing to pay for the risk. An insurance firm is profitable if this value exceeds the collective cost of performing all of

the required activities. To gain competitive advantage over its rivals, an insurance firm must either provide comparable value to the policyholder, but perform activities more efficiently than its competitors (lower cost), or perform activities in a unique way that creates greater policyholder value and commands a price premium (differentiation). The operations of any insurance company could be divided into a series of activities such as sales people making sales calls, underwriting of risk, intimation and settling of claims, and accessions of the risk to the re-insurer.

IT is permeating the value chain at every point transforming the way value activities are performed and the nature of the linkages among them. It is also affecting competitive scope and reshaping the way products meet buyer needs. The basic effects explain why information technology has strategic significance and are different from many other technologies businesses use (Porter, 1985). ICT is applicable in all the value adding activities in organizations' value chain; from linking the value adding activities through processes to management and administration of the various activities. This is evidenced in Porter (1998) who shows IT as being pervasive in the value chain; observable and used in every generic category of value activity in the chain.

Jarillo (1997) notes that the flow of money and information is now global and corporations of every nationality are buying, selling, and investing in each growth region of the world. Unlike earlier times, this does not mean relocating 'armies of professionals' for years on end. These same professionals can now control and respond to events and deploy their expertise from central computer hubs located where they live. Consumer

buying habits are also changing. According to Hope and Hope (1997), global marketing is leading to more homogenous buying patterns. Most firms are gearing towards coming up with world-class products. Global shopping via the Internet is creating huge marketing opportunities for any enterprising organization that can display its goods on the World Wide Web (WWW) and deliver products directly to the consumer.

Martin et al. (1995) point out that in an increasing competitive world, IT is critical to the development of more effective operational and management processes. To serve customers well, companies need to be proficient in half a dozen key areas: reduced cycle time, reduced asset levels (e.g. in inventory and people), faster development of new products, improved customer service, increasing empowerment of employees, and increased knowledge sharing and learning. IT is a critical resource for accomplishing all these goals.

The spawning of new regions of economic prosperity primarily in Eastern Europe is bringing the new world order with it accounting for 25% of the world economic output as compared to 4% in the 1960s. What matters at the moment is where the global corporations invest and not where they are headquartered or where they pay taxes. Knowledge can be deployed from anywhere at any time by any person or organization. Moreover, knowledge has no respect for place, history, or tradition (Hope and Hope, 1997). Jarillo (1997) asserts that as many skills are computer based and more easily transferable, corporate loyalty to a particular place or region will decline. In the intensity

of competitive environment, global organizations will seek out the lowest costs and the highest productivity wherever this can be achieved.

A survey of a wide range of industries by Porter (1998) revealed that IT is changing the rules of competition in three ways: First, advances in IT are changing the industry structure. Second, IT is an increasingly important lever that companies can use to create competitive advantage. A company's search for competitive advantage through IT often also spreads to affect the industry as competitors imitate the leader's strategic innovations. Finally, information evolution is spawning completely new businesses. These three effects are critical for understanding the impact and hence the strategic role of IT in a particular company and in a particular industry and for formulating effective IT strategy and strategic responses. Porter (1988) further points out that the information revolution is giving birth to completely new industries in three distinct ways: First, it makes new businesses technologically feasible. Second, IT can also spawn new businesses by creating derived demand for new products, and third, IT creates new businesses within old ones. A company with IT processing embedded in its value chain may have excess capacity or skills that can be sold outside.

On the changing pattern of employment, Rifkin (1997) notes that the primary driving force is the reengineering of work and displacement by technology of routine jobs. Anderson Consulting estimates that in just one service, commercial banking and thrift institutions, reengineering will mean a loss of 30% to 40 % of jobs over seven years. Hope and Hope (1997) also assert that not only are jobs disappearing but the way the

remaining work is performed is also changing. The traditional worlds of career-based jobs, with contract employment, holiday and pensions entitlements and clear defined promotions structures is giving ways to part time work, contract work, project teams, self employment, and other types of independent workgroup activity - often separated from the apron of the organization itself.

Malone and Laubacher (1998) point out that even within large corporations, traditional Employees who are not connected to the core task of the business will soon find themselves in a new relationship with their former employers. They will become more or less independent actors of business's contractual support network jobbers, pieceworkers, consultants, accommodators, 'temps' of all sorts and degree, all plying their different trades and skills (Handy, 1997).

As communication technologies advance and become more efficient, Malone and Laubacher (1998) observe that the dominant business organization of the future may not be a stable, permanent corporation but rather an elastic network that may sometimes exist for not more than a day or two. When projects need to be undertaken, requests for proposals will be transmitted or electronic want ads posted, individuals or small teams will respond, a network will be formed and new workers will be brought on as their particular skills are needed. Once the project is done, the network will be disbanded.

Hope and Hope (1997) note that many leading edge companies have now reorganized around group-wise networks focusing particularly on how work is performed. This is essentially a horizontal model with business processes at its heart, teams as its

implementers, and a clear focus on highly skilled, creative workforce that consistently delivers profitable products and services to profitable customers. Perception of status and work has also changed and team members now work for customers not for superiors and their authority derives from what they know rather than what they are.

Malone and Laubacher (1998) point out that even within large corporations, traditional command-and-control management is becoming less common. Decisions are increasingly being pushed lower down in the organizations. Workers are being rewarded not for efficiently carrying out orders but for figuring out what needs to be done and then doing it. In one sense, they note, the new coordination technologies enable us to return to the pre-industrial organization model of tiny, autonomous businesses. Businesses of one or more organizations are now conducting transactions with one another in a market. Electronic networks allow micro businesses to tap into the global reservoir of information, expertise, and financing that used to be available only to large corporations.

2.2 Information and Communication Technology in Organizations

The introduction of client-server architecture reduced the cost of implementing systems that were originally implemented on the mainframe. This design also increased the appealingness of Graphical User Interface and made it user-friendlier since more users were already familiar with such interfaces for Windows, Macintosh, and Disk Operating System (DOS) (Haeckel et al., 1993). Robson (1997) notes that the processing speed of the computers increased and the computer vendors also invested a lot of time in developing applications that would take advantage of the speed. This meant that there

were more and more graphic and other multi-media effects that were incorporated to make the systems user-friendlier.

Martin et al. (1995) point out that the capabilities and potential of technology are increasing more rapidly than ever before. During the past three decades consumers have received about 30% more computer power each year for the same price. Competition among microprocessor companies and new advances in technology are accelerating the rate. In communication, the story is similar if not more striking as worldwide deregulation, optical fiber, digitization of networks, and the opening up of more of the wireless spectrum are generating even greater increase in cost-effectiveness and capability.

Developments in IT have seen the enhancement of communication technology. The use of Internet, Enterprise Resource Planning (ERP) Solution, Business Process Reengineering (BPR), and the common trend of Outsourcing of IT services are among IT's applications in organizations' businesses. Malone and Laubacher (1998) observe that the Internet is the greatest model of network organization that has yet to emerge and it reveals a startling truth: in an e-lance economy, the role of the traditional business manager changes dramatically and sometimes disappears completely. The work of the temporary company is coordinated by centralized direction or control.

Economic and competitive pressures have focused managers' attention on white-collar productivity. As a result, information technology is replacing people in some aspects of

information processing. Networks enable people to share information efficiently, to send and receive documents and proposals, to schedule meetings and to vote on proposals (Bensaou and Earl, 1998). Robson (1999) points out that the use of IT varies according to the hierarchy. As we go up the hierarchy, the type of information changes from structured to unstructured or from programmable to un-programmable. The type of system also varies from transaction-based system through decision support systems for middle management and finally the executive information system.

The Internet has helped more use of e-commerce to do business all over the world and this has subsequently reduced the cost of marketing and general office operations costs. Observing that business has never been the same since the introduction of personal computers, Intel president and CEO Andy Grove outlined the company's direction to a group of business leaders. Basic to the strategy is Grove's belief that stand-alone computing is forever gone. All computing in future will be networking (Makau, 1997).

Davenport (1998) notes enterprise systems appear to be a dream come true. These commercial software packages promise the seamless integration of all information flowing through a company - financial and accounting information, human resource information, supply chain information and customer information among others. For managers who have struggled, at great expense with great frustration, with inconsistent operating practices, the promise of an off-the-shelf solution to the business problem has been so enticing. He observes that maintaining many different computer systems leads to increase of enormous costs for storing and rationalizing redundant data for re-keying and

reformatting data from one system or use to another, for upgrading and debugging obsolete software code, for programming of communication links between systems to automate the transfer of data.

Implementation of enterprise planning solution provides a real time access to operating and financial data; the system allows companies to streamline their management structures, creating flatter, more flexible and democratic organizations. On the other hand, they also involve the centralization of control over information and the standardization of processes, which are qualities more consistent with hierarchical command-and-control organizations with uniform culture (Davenport, 1998).

Davenport further notes that the implication of enterprise planning should be viewed as an opportunity to re-look at the company's strategy and organization and not as a technological exercise. Due to the implication involved in implementing enterprise system (ES), the top management must be involved in making decisions for instance on which module to implement, which areas of the organization should be computerized and what trade offs should be allowed. But Davenport contends that most CEOs, however, continue to view the installation of an ES as primarily a technological challenge. They push the responsibility for it down to their IT departments because of an ES's profound business implications and in particular, the risk that technology itself might undermine a company's strategy - offloading responsibility to technologists is particularly very dangerous.

Hammer (1990) considers IT as the key enabler of BPR, which he considers as radical change. He prescribes the use of IT to challenge the assumptions inherent in the work processes that have existed since long before the advent of modern computer and communications technology. He argues that at the heart of reengineering is the notion of discontinuous thinking - or recognizing and breaking away from outdated rules and fundamental assumptions underlying operations. These rules of work design are organizational goals that no longer hold. He suggests the following principles of reengineering: organize around outcomes, not tasks; have those who use the output of the processes perform the processes; subsume information processing work into real work that produces the information; treat geographically dispersed resources as though they were centralized; link parallel activities instead of integrating their results; put the decision where the work is performed and build control into the process; and capture information once and at the source.

Bentley (1998) observes that while a Chief Information Officer might spend time trying BPR requires taking a broader view of both IT and business activity, and of the relationships between them. IT should be viewed as more than just an automating or mechanizing force to fundamentally reshape the way business is done. BPR should be viewed as more than just a collection of individual or even functional tasks but rather in a process view for maximizing effectiveness. IT and BPR have a recursive relationship. IT capabilities should support business processes and business processes should be in terms of capabilities IT can provide. Davenport and Short (1990) refer to this broadened, recursive view of IT and BPR as the new industrial engineering.

Lacity et al. (1995), out of their survey of 40 US and European companies that grappled with the issue of outsourcing, came to a conclusion that the strategic versus commodity approach led to disappointments. It is worth considering whether an IT system could be critical and not strategic. That is, a system could be crucially important without differentiating a firm from its competitors prior to making the decision to outsource. Outsourcing will ensure that a company maintains an edge by implementing that latest state-of-the-art systems while it has been proven that in-house IT departments tend to contend with their in-house capability by maintaining the status quo. This, coupled with the high staff turnover in the IT departments, is making most top management think of adopting outsourcing as a cheaper option of maintaining a sustainable competitive advantage. Lacity et al. point out that just because a system was business critical or strategic does not mean that all its elements had to be kept in-house.

Bensaou (1998) observes that while a Chief Information Officer might spend time trying to develop an IT strategy that perfectly mirrors the company's strategy, a Japanese executive would skip that step and base IT investment decisions on simple and quantified performance improvement goals.

Martin et al. (1995) note that today IT plays a role in most aspects of the company's business, from the development of new products to the sales and service, from providing market intelligence to supplying tools for decision analysis. For a global company, the ability to take information from multiple systems and make it broadly accessible to managers and employees is critical. Many observers believe that this fact, along with the

increased opportunities for using IT to achieve strategic advantage, requires CEOs to re-examine what they need to know about this resource to manage it effectively. They further note that we are moving away from processing systems that give weekly or bi-weekly reports towards technologies that help us move information to our associates faster. In other words, we are moving away from systems that stand beside our business to technologies that are more integrated with the work of our associates. We are aware that managers have to ensure that information is accessible across the business. This requires companies to integrate their systems that have long been isolated from one another.

2.3 Information Technology and Organizational Strategy

An organization relies on the external environment for its input resources (human, physical, and financial etc), transforms them into outputs, which go back to the environment (market) as outputs (goods and services). The external environment influences a firm's choice of direction and action and its change interrupt the cycle. Understanding the trends characterizing the external environment helps in formulating strategy. The external environment forces include among others changing consumer needs, economic conditions, natural weather phenomena, trading blocks, competition, socio-cultural and politico-legal, and technological (Pearce and Robinson, 2003).

The success of organizations lies on how well they recognize and adequately respond to these factors and their changing impact. These organizations are able to re-organize easily, quickly and build timely and adequate strategies that ensure an upper edge to the

competitors and that their products/services attract the market. With the environmental changes becoming more turbulent, strategy is increasingly becoming more useful.

Organizations need strategies to give direction and purpose, and deploy

Chandler (1962) defines strategy as the determination of the long-run goals and objectives of an enterprise, and the adoption of courses of action and the allocation of resources necessary for carrying out these goals. Johnson and Scholes (2002) define strategy as being about direction and scope of an organization over the long term. Therefore, strategy is a unifying theme that gives coherence and direction to the actions and decisions of individuals or organizations.

Strategy will focus on the impact of technology change in the environment and the development of appropriate ICT capabilities thereby

Business strategy focuses on building new advantages, which increase customer satisfaction and create distance from competitors, maintaining existing advantages and compressing or eliminating the advantages of competitors (Boar, 1998). Boar further classifies all advantages into five generic categories and in consistent with Porter's sources of competitive advantage (Porter, 1998): cost advantages - being able to provide products and services more cheaply; differentiation advantages - create a product or service offering highly desirable features/functionality; focus advantage - meeting the specific needs of a particular customer; execution advantage - permitting an organization to serve customer needs in a more superior manner than others; and maneuverability advantage - permitting an organization to adapt changing requirements more quickly than others. Being maneuverable permits an organization to constantly refresh the other types of advantages.

Collis and Montgomery (1995) assert that competitive advantage can be attributed to the ownership of a valuable resource that enables a company to perform better than competitors. Organizations need strategies to give direction and purpose, and deploy resources in the most effective manner, and to coordinate the stream of decisions being made by different members of the organization. Success of the business strategy is attained if the company achieves its strategic objectives and targeted levels of financial performance.

From the foregoing, it follows that an ICT strategy will focus on the impact of technology change in the environment and the development of appropriate ICT capabilities thereby ensuring that the company is positioned to take better advantage of technological opportunities available thereby using critical resources optimally. It is through the ICT strategy that organizations become aware of and plan for changing technologies. The implementation of the ICT strategy is the responsibility of the executive management assisted by ICT steering committee (De Haes and Van Grembergen, 2004).

ICT strategy contains the technology scope (how IT creates business opportunities), vision, the competences (how IT creates business advantages) the governance structure (what external relationships IT depends on), security structure (how to mitigate risks inherent in the technology), infrastructure architecture and skills. IT governance is the responsibility of the Board of Directors and executive management and an integral part of enterprise governance and consists of the leadership and organizational structures and

processes that ensure that the organization's strategy and objective are achieved (De Haes and Van Grembergen, 2004).

IT governance disciplines are more likely to lead to the effective use of technology to enable and support the business. The pervasiveness of IT and the importance of information as an enterprise asset imply that the enterprise's IT governance processes need to be identified and assessed (Guldentops, 2003). Recently, Lion of Kenya Insurance Company set up an ICT strategy committee to oversee IT investment and related decisions. IT governance challenges lies in controlling and managing IT risks while maximizing return to business. IT governance also provides a fusion between IT and business and helps to obtain needed IT involvement of senior management.

Because all resources depreciate, Collis and Montgomery (1995) note that an effective ICT strategy requires continual investment in order to maintain and build valuable resources. The ICT development plan (a critical component of ICT strategy) is a representation of the current and the planned ICT systems in the time roster, in the organizational and technical context and in their mutual linkage. Thus, an ICT development plan is the reference for all ICT investments of an organization and forms an input to strategy implementation through the budgeting process. It further ensures that the adoption of ICT is systematic, planned, coordinated, and controlled within the strategy.

ICT training and skill development program should be developed in conjunction with the Human Resource function. This ensures that employees have the necessary skills and competences to make use of the resources within an IT policy and guidelines on the use of deployed systems (Braswell and Harmon, 2003). An IT organizational structure delivers the information capital asset, supports and operationalizes the business and ICT strategies. The positioning of the IT function in the organization and supportive IT structure is critical to the successful implementation of the ICT strategy and thereby aligning the business and ICT strategies in pursuant to organizational goals and objectives (Gold, 2003). Dixon and John (1989) group IT functions as Management of Technology (computer operations, communications/networking, emerging technologies, planning - technology) and Management of use of Technology (systems development, end-user computing support and planning applications).

IT/ICT strategy is one of the functional strategies necessary for a company especially one that utilizes IT for its core business functions in addition to other supporting functions. Companies that intend to embrace IT for core function need to formulate comprehensive ICT strategies. Hogbin et al. (1994) observe that companies today face a variety of new challenges that demand focus on IT strategies. Markets continue to change more rapidly than ever, requiring enhanced flexibility within the organization. In order to remain competitive, companies must gather and utilize better information about customers in order to market to them successfully and to optimize products and services. Global markets are opening up and IT is allowing companies to have a broader geographic reach just as customers are gaining global tastes. The result of these changes is greater need for

IT to be more responsive to the long-range needs of business strategy and for other business functions to make better use of IT to stay competitive.

Essentially, optimizing this interaction between IT and other business functions is what 'IT alignment' is all about and a variety of factors make this quite a complicated task. First, what may appear to be a one-way process of designing information systems to enable the pre-defined corporate strategy is actually much more integrated. Marketing and operating strategies today depend heavily on the current state of IT. Business reengineering plans are usually dependent on the available technology and must be redesigned when new functionality becomes available. Marketing strategies today must take into account technologies such as data warehousing and mining as well as the Internet. However, because these technologies are still emerging, developments would require significant strategic changes, lest other companies will use technologies faster to gain a superior competitive position (Mankin et al., 1996).

Neumann (1994) notes that as a result, not only is IT strategy dependent on corporate marketing and operating strategies, but also marketing and operating strategies are dependent on IT. This circular dependency requires tight integration between the developments of these strategies. The most successful companies are those that find and use methods to analyze the current and likely future state of technology and to utilize this knowledge throughout the entire strategy development process. Furthermore, they need techniques to ensure that the implementation of these strategies stays aligned in the face

of technological developments and a changing consumer and competitive environment. Without aligned strategies, companies will not act as competitively as possible.

Boar (1997) outlines four central issues that should be analyzed in the development of an IT strategy. First is the business scope (essential characteristics of business- idea, concept, formula). Second is the alignment i.e. balancing purpose and activities across organizational groups (HR, R&D, marketing, production, among others) to achieve business goals, but cannot seek perfect harmony because this eliminates creativity and thereby competitiveness. Third is the directives and assumptions i.e. IT planning should be responsive to company needs. Planning should occur in a staggered but parallel manner to the business planning activity. Finally, fourth is the position i.e. that which covers the analysis of current situation across multiple strategic dimensions.

The need for alignment between the ICT and business strategies cannot be understood. The business needs to take full advantage of its ICT capability while at the same time the ICT capability should be able to support the business strategy. A lack of alignment between the IT and the business could lead to sub-optimal use of resources and cause the organization to loose out on the synergistic benefits thereof. According to Waruingi (2003), the alignment of IT and business strategies contributes to the development of long-term sustainable competitive advantage. This alignment is a necessary condition for organizational effectiveness (Luftman, 1996). Neumann (1994) points out that lack of alignment between the IT and business strategies affects a company's competitiveness whereby the company will not be positioned to use critical resources optimally and

therefore may be sidelined by companies that are taking better advantage of technological opportunities.

According to Kariuki (2004), the traditional approach to structuring the organization has been to construct the model around the components in such a way so as to maximize the effectiveness by which strategic goals and objectives are translated into business results. Consequently, the structure of the organization will be different from those businesses operating in different markets, those utilizing different technologies and those facing different competitive and legislative pressures.

Karmarkar (2004) notes that reorganization of processes necessitates change. IT has enabled organizations to reconstitute in an effective and efficient manner. Its differing use in each organization coupled with its changing role in the business has led to a continual replacement within the organization structure. A change in the environment requires a change in the strategy of the organization, which in turn requires a supporting organizational structure for operationalization. IT and the cultural values assumptions drive and influence all the decisions made in the organization. As such, ICT seen from the view of technology (an environmental factor) and/or as a strategy, has a direct effect on how the organization is structured to be able to support strategy.

Porter and Millar (1985) observe that ICT's influence on communication and collaboration has seen the traditional hierarchies within the organizations falling apart resulting in flatter organizations and horizontal departments becoming common. ICT has

facilitated various structures for improved and optimal performance and efficiencies. These include matrix structures, decentralized structures, global/divisional/group structures and wider span. IT's evolution has another consequences: where the old EDP department only had one 'client' within the organization, the later IT department suddenly has every employee having a PC connected to the network. This called for an IT structure and strategy to that supports, controls and coordinates the function's activities. Service organizations' (banking, insurance, publishing etc.) non-material products cannot exist without ICT. In many organizations, this is reflected by the presence of an IT representative in the senior management team acting as the link between the business and ICT. The placement of the representative and the IT function in the organizational structure has equally changed with the changing role of IT.

Collis and Montgomery (1995) point out that a company will be positioned to succeed if it has the best and most appropriate stocks of resources for its business and strategy. Businesses that have high dependence on IT and their processes and products are IT intensive have strategically positioned IT in the organization structure. ICT sustains and extends the organization's strategy and objectives. Reyhold (1995) notes that the value attached to IT varies from company to company and even among different organizations within the same industry. For some, IT is perceived as a tool to improve organizational effectiveness and profitability. For others, however, such technology is viewed as merely an administrative convenience, or worse, a necessary evil. Senior managers often feel that the company should receive greater benefits from its investment in IT. To increase the return on investment, IT must be tied into the business strategy of the organization.

Successful companies within a given industry attempt to position themselves relative to their competition by: becoming the lowest cost producer or service provider within the industry; or developing specialized services or products that set the company apart from others in the industry; or concentrate on selling to particular market or occupying a specific product niche. As well as ensuring IT supports corporate strategy, managers must be able to identify opportunities to seize a competitive advantage (Reyhould, 1995).

2.4 The Strategic Role of Information Technology in Organizations

Luftman et al. (2005) point out that the strategic use of information technology is now and has been a fundamental issue for every business. In essence, IT can alter the basic nature of an industry. The effective and efficient utilization of information technology requires the alignment of the IT strategies with the business strategies, something that was not done successfully in the past with traditional approaches. New methods and approaches are now available. The strategic alignment framework applies the Strategic Alignment Model to reflect the view that business success depends on the linkage of business strategy, information technology strategy, organizational infrastructure and processes, and/or infrastructure and processes. According to Bunnister and Remenyi (2005), strategic uses of Information Technology take a strategic, business-focused approach to information technology. This is non-technical and emphasizes frameworks for maximizing the value of an organization's existing information technology assets, as well as using information systems to reshape organizational strategy and culture.

Unwala (2004) points out that a successful implementation of a good ICT strategy delivers great value to the business. Investments in ICT such as information, knowledge and skill, processes and software are intangible assets that create future benefits to an organization. They are employed in conjunction with the tangible assets. Realizing this characteristic offers an important view of ICT by business managers and investors and how they make decisions about it. ICT should add value to the business and be able to be clearly seen to do so by all stakeholders.

ICT's role to the business is a soft issue attracting different views and values being placed on it. The value amassed from ICT can be defined as the added value that an organization enjoys with the adoption of ICT in one or entire part of its business activities. This value is categorized based on perception of and/or the actual/true value that ICT brings to the business. Perception is the dynamic psychological process responsible for attending to, organizing and interpreting sensory data. It is a process by which individuals organize and interpret their sensory impressions in order to give meaning to their environment. The perceiver, the target and the situation influence perception. Ignorance of the perceiver and exposure to a situation hinder the ability of the perceiver to respond and act in an effective way to the situation. Similarly, the corporate management's perception of the value of ICT is hindered by their perception of IT (Huczynski and Buchanan, 2001).

The perceived value of ICT and thereof the placement of ICT in organizations is partly based on the individual or management or collective beliefs. Disparities in the level of

prior learning and experiences by individuals and organizations have led to different perceptions of the same situation. Functions such as ICT are perceived differently in organizations due to different attributions about them. Often, many individuals and organizations don't see reality but interpret what they see/perceive and call it reality (Heider, 1958).

ICT has been blamed fairly or unfairly so for many business failures. On the contrary, the offerings of ICT to business have been underestimated. Selective perception where people selectively interpret what they see based on their interests, background, experience, and attitudes are amongst other errors identified. Much of the perception can be described as classification or categorization. Through perception, ICT can be categorized as strategic, important or non-core activity of the organization and thereby being positioned accordingly (Heider, 1958; Huczynski and Buchanan, 2001).

Being a soft issue, ICT's value is difficult to measure with different weights being given by different people depending on their knowledge ability and/or perception of ICT. Like other intangible assets, valuation of the true worth/value of ICT has relied on perception. Since perception is hard to quantify/measure, and is subject to bias on the basis of ignorance, IT is seen as a center of costs instead of the value center that it actually is. ICT decisions are made to improve business performance, and with a demonstrable ROI in mind. Organizations are now employing the use of IT from a cost center to a value center (Hamaker and Hulton, 2004).

The strategic role of ICT can be seen as the true measurable value/worth of ICT to the business and is realized through the successful implementation of ICT strategy. Executive management should be focused on measuring gain from ICT investments. The large amount of money spent on IT, and the strategic opportunities and risks those investments present; necessitate board-level risk management and governance activities for IT. According to Changepoint Corporation (a US based IT business management company), studies conducted show that enterprises that implement effective IT Governance and Board-level IT oversight frameworks such as the IT Board Committee realize significantly greater returns on IT investments and 20% higher profits than profits with poor IT Governance. According to Weill et al. (2004), businesses with superior governance practices generate 20% greater profits on average than other companies that share similar goals of making IT spending more effective and better aligning technology resources with business needs.

Feeny and Willcocks (1998) note that as IT penetrates to the core of operations, so its reliability, the speed with which IT solutions can be delivered, and understanding of new technologies and their potential application became business critical. The growth of business process re-engineering has also concentrated minds. Research has shown that IT is regarded as a key enabler of the process - based organization within these trends, IT delivery and support become key performance indicators for the IS function. Secondly, successive recessions, allied with intensive competition across sectors have led to pressures for cost containment and headcount reductions together with more concern for IT to demonstrate the business value it represents. Thirdly, there is evidence of a long-

term shift in the way organizations are configured and managed. In pursuit of “core competence” strategies, an increasing number of firms look to apply the principles embedded in a core-periphery model of functioning. A related fourth trend has the growing number, size and maturity of external IT service providers. Senior executives have been attracted by the outsourcing potential for IT driven by supplier promises of up to 40% IT cost reductions, the “bandwagon” effect, disappointment with in-house performance and/or the desire to focus on core activities in difficult economic and competitive climates.

Through ICT, countless suppliers, vendors and partners are connected to organizations’ systems, some on the periphery, some so tightly integrated that they have direct access to/or are part of the organization’s processes giving the organization the power to think faster, share more easily and react together as one. As an on demand business, it is the organization’s point of strength. E-business/Internet backed by back-to-back systems has enabled many organizations to enjoy the benefits of ICT. Using its world-class manufacturing infrastructure leveraged on IT, Dell has managed to operate on no more than two hours inventory at a time. This program paid itself in the first twelve months of operation and has allowed Dell to adapt more quickly to rapidly changing technologies and maintain its position as a high-performance business (Harvard Business Review, Nov. 2003 pg 6).

To fully appreciate the value of ICT investments, organizations must fully and in totality analyze the reasons for spending in ICT before any investment is made. This analysis

must be done in comparison to other business projects and appraised accordingly as business projects. According to Weill et al. (2004), effective IT governance tends to have joint decision-making between business and IT managers on prioritizing technology projects. Evaluation of ICT investments/projects against other opportunities the company can pursue or the company's IRR ensures that only viable ICT investments are undertaken. With this understanding, the way ICT is treated in accounting thereof must be identified; whether it represents a long-term platform and so be amortized over the extent of its useful life or an expense.

For an organization to enjoy the strategic value of ICT, a strategic alignment between the business and ICT strategies must be present. IT should be integrated into the business strategy forming the basis of the ICT strategy. Through this alignment, IT is able to support and anchor the business's competitive strategies. IT personnel must be fluent in both the business and technology, and make investments based on a solid understanding of the technologies involved and how they will support the business strategy. Waruingi (2003) quotes one of the respondents as saying that "the IT directors are expected to be part of the strategic think tank of the organization owing to the importance and amount of IT investment in our organization". IT should, thus, be viewed in the context of the competitive landscape and how it can forge the company ahead.

Porter and Millar (1985) observe that information technology is generating more data as a company performs its activities and is permitting it to collect or capture information that was not available before. Such technology also makes room for a more comprehensive

analysis and use of the expanded data. The number of variables that a company can analyze or control has grown dramatically. They also note that information technology has a powerful effect on competitive scope. Information systems allow companies to coordinate value activities in far-flung geographic locations.

Porter and Millar's (1985) of the value chain helps explain the role of information

In any company, Porter and Millar (1985) further note that information technology has a powerful effect on competitive advantage in either cost or differentiation. The technology affects value activities themselves or allows companies to gain competitive advantage by exploiting changes in competitive scope. In lowering cost, information technology can alter a company's costs in any part of the value chain. The technology's historical impact on cost was confined to activities in which repetitive information processing played a large part. In addition to playing a direct role in cost, information technology often alters the cost drivers of activities in ways that can improve (or erode) a company's relative cost position. The impact of information technology on differentiation strategies is equally dramatic. As noted earlier, the role of a company and its product in the buyer's value chain is the key determinant of differentiation. The new information technology makes it possible to customize products.

Information technology can alter the relationship between competitive scope and competitive advantage. The technology increases a company's ability to coordinate its activities regionally, nationally, and globally. It can unlock the power of broader geographic scope to create competitive advantage. The information revolution is creating interrelationships among industries that were previously separate. The merging of

computer and telecommunications technologies is an important example. This convergence has profound effects on the structure of both industries (Porter and Millar, 1985).

Porter and Millar's (1985) of the value chain helps explain the role of information technology in supporting business activities and how they are continually transformed as technology develops; developments which have seen even products/services and markets getting transformed. In Porter's view, the value chain is a system of interdependent linkages. In other words, the way one activity is performed may affect the performance of others. The value chain of a particular industry works within a larger system of activities called the value system. The value system includes the value chains of suppliers, of the firm, of the channels through which the firm distributes its products and services, and of the ultimate buyer.

Information technology has an effect on the value chain by transforming the way value activities are performed. Each activity in the value chain has a physical component and an information-processing component. The physical component encompasses the physical tasks needed to perform the activity, and the information-processing component includes the steps involved in capturing, manipulating, and channeling the data necessary to carry out the activity. The information processing component of each value activity is being increasingly supported by information technology. The support and hence strategic role of IT explained here can be presented in Figure I below.

Support activities

Organization: Office automation
Human resources: Skills database
Technology: Computer aided design and manufacturing
Purchasing: On-line links to suppliers

Primary activities

Inbound logistics	Operations	Outbound logistics	Marketing and sales	Service
Automated warehouse systems	Process control Manufacturing Control systems	On-line order entry systems	Market analysis Product profitability	Remote machine diagnosis

Figure I: Information technology supporting value activities, *Porter and Millar, 1985.*

Schultheis and Sumner (1995) note that new information technology is fostering new business opportunities. Videoconferencing, a technology that makes it possible to hold electronic meetings, could present enormous avenues for firms to access new markets. Once information technology is in place, companies can market new products and services via existing networks and databases. Companies with excess computing capacity are able to market information services as a new business opportunity. In addition, inter-organizational systems have evolved to facilitate the timely exchange of information in a highly competitive marketplace. Information partnering or forming strategic alliances is the driving force behind the emerging electronic marketplace. These information partnering are representative of the new marketing environment. In most cases, an information facilitator provides the network through which the various participants can interact. Electronic sales channels reduce the costs of locating suppliers, ordering

merchandise and reconciling errors. Customers can save money by ordering just-in-time inventory via electronic marketplace.

As information technology becomes more widespread, Bunnister and Remenyi (2005) observe that the opportunities to take advantage of a new competitive scope will only increase. The benefits of scope (and the achievement of linkages), however, can accrue only when the information technology spread throughout the organization can communicate. Completely decentralized organizational design and application of information technology will thwart these possibilities, because the information technology introduced in various parts of a company will not be compatible.

Bunnister and Remenyi (2005) conclude that information technology has become the generally accepted term that encompasses the rapidly expanding range of equipment (computers, data storage devices, network and communications devices), applications and services (e.g., end-user computing, help desk, application development) used by organizations to deliver data, information, and knowledge. Information technology (IT) provides strategic value to all parts of the business. Support of the administrative infrastructure (responsibilities and authority structure of the enterprise), key business processes (how important business functions operate or flow), and operational skills (day-to-day support of staff) represent three significant areas. IT is used to reduce costs, enhance product and service quality, improve customer service, integrate supplier and customer operations, and enable organizational learning. Information technology is also used to create new marketing opportunities. The strategic use of information technology

makes a powerful impact on a business as it is transformed. Companies capturing and applying information at each point of contact with customers will be better off than those that do so only at one or a few points.

3.1 Research Design

The study was conducted using a quantitative research design involving all the interviewees. The study was designed to collect data on the impact of digital marketing on business strategy. The data was collected through a series of interviews with business owners and managers. The data was then analyzed using statistical software to identify trends and patterns. The results of the study are presented in the following sections.

3.2 The Population of Study

The population of study was defined as all business owners and managers in the study area. The number of the population was estimated to be 200. The study was conducted using a series of interviews with business owners and managers. The data was then analyzed using statistical software to identify trends and patterns. The results of the study are presented in the following sections.

3.3 Data Collection

The study used primary data collection through a series of interviews with business owners and managers. The questionnaire was designed to collect data on the impact of digital marketing on business strategy. The data was collected through a series of interviews with business owners and managers. The data was then analyzed using statistical software to identify trends and patterns. The results of the study are presented in the following sections.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Research Design

The study was conducted through a cross-sectional census survey involving all the insurance companies in Nairobi. The design was deemed appropriate because it proved useful in describing the characteristics of companies and determining the frequency of key attributes of the study.

3.2 The Population of Study

The population of interest in this study consisted of all insurance companies in Kenya. The number of the companies was forty two as at March 2006 according to the list that was obtained from the Commissioner of Insurance (Appendix II). All the insurance companies in the country are located within Nairobi.

3.3 Data Collection Method

The study used primary data which was collected using a semi-structured questionnaire. The questionnaire was divided into four sections. Section one sought general information about the company (Organizational profile); section two solicited data on organizational business strategy; section three focused on the organization's ICT strategy; and section four laid focus on the strategic role of ICT. The study targeted IT and strategy managers in the respective companies. The questionnaire was administered through mail and/or 'drop and pick' later method.

3.4 Data Analysis

Data collected was edited for completeness and consistency, coded, labeled, and keyed into the SPSS program for analysis. The data was then analyzed using descriptive statistical tools of analysis (means, frequencies, percentages). To achieve the objective of determining the strategic role of IT, the study used mean scores for each of the role. These were generated together with the frequencies and percentages which helped determine the proportion of respondents for each of the strategic role statements. The findings were then presented in frequency tables.

To achieve the study objective, the respondents were required to respond to general organizational profile and strategic planning issues in their companies. They were then presented with statements describing the strategic role of ICT in their organizations on which they were to indicate the extent to which the companies have used ICT for each of the strategic role described: not at all, very little extent, moderate extent, great extent, and very great extent as applicable in their respective organizations, by scoring on a 5-point Likert scale. This chapter covers analysis of the research findings and discussions in line with the objective of the study.

4.2 Organizational Profile

The aspects which were considered under organizational profile include those which could determine the extent of organizational use of ICT in business operations. These

CHAPTER FOUR: DATA ANALYSIS AND DISCUSSION

of the study are explained and discussed below.

4.1 Introduction

The study was designed with the objective of determining the strategic role of information and communication technology among insurance companies in Kenya. The data that was analyzed was provided by Information Technology and Strategy managers of the respective insurance companies. Out of the forty-two insurance companies, all of which were served with the questionnaires, only twenty-eight responded by returning filled questionnaires. This formed 66.7% response rate, which the study considered suitable for analysis.

	Frequency	Percent
Local	22	78.6
Total	28	100.0

To achieve the study objective, the respondents were required to respond to general organizational profile and strategic planning issues in their companies. They were then presented with statements describing the strategic role of ICT in their organizations on which they were to indicate the extent to which the companies have used ICT for each of the strategic role described: not at all; very little extent; moderate extent; great extent; and very great extent as applicable in their respective organizations, by scoring on a 5-point Likert scale. This chapter covers analysis of the research findings and discussions in line with the objective of the study.

which are subsidiaries of multinational companies.

4.2 Organizational Profile

The aspects which were considered under organizational profile include those which could determine the extent of organizational use of ICT in business operations. These

include ownership structure, organizational size, and geographical coverage. The findings of the study are explained and discussed below.

Under ownership structure, the study considered two aspects viz. local ownership and a company being a subsidiary of multinational company with public shareholding. These perspectives will determine the level of inter-company networking that will be required to ensure that organizations' operations are run efficiently. A locally owned company will not require an elaborate networking as a subsidiary of a multinational company will. The findings of the study are presented in Table 1a below.

Table 1a: Ownership structure

	Frequency	Percent
Local	22	78.6
Subsidiary	6	21.4
Total	28	100.0

Source: Research Data

The results show that of the 28 respondents, 78.6% are locally owned while 21.4% are subsidiaries of multinational companies. It is therefore evident that most of the companies operating in the industry are locally owned and their adoption and use of information and communication technology would be for reasons other than inter-company networking with other subsidiaries and head offices as would be for companies which are subsidiaries of multinational companies.

Organizational size by number of employees in the companies was sought for purposes of having the general view of the extent of down sizing as a result of embracing the use of

ICT and also as a measure of how large the organization is. Table 1b presents the research findings, which indicate that most organizations 29 (96.7%) have less than 500 employees with only one (3.3%) having between 501 and 1000 employees.

Table 1b: Organizational Size (Number of Employees)

	Frequency	Percent
Below 500	27	96.4
501-1000	1	3.6
Total	28	100.0

Source: Research Data

The results indicate that most of the organizations have maintained a low number of employees possibly due to their bid to downsize and instead have utilized technology to do most of the business operations.

Lastly, under organizational profile, the research looked at the organizations' dispersion in terms of geographical coverage, that is, the markets that the organizations serve looking at three main perspectives: local, regional, and international. This aspect hinge and/or relate, to some extent, the ownership structure in terms of information and communication technology requirements. The study findings are presented in Table 1c.

Geographical Coverage			
	Local	Regional	International
	24	2	2
Total	26	2	2

Table 1c: Geographical Coverage

	Frequency	Percent
Local	24	85.8
Regional	2	7.1
International	2	7.1
Total	28	100.0

Source: Research Data

ICT and also as a measure of how large the organization is. Table 1b presents the research findings, which indicate that most organizations 29 (96.7%) have less than 500 employees with only one (3.3%) having between 501 and 1000 employees.

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Table 1c: Geographical Coverage

	Frequency	Percent
Local	24	85.8
Regional	2	7.1
International	2	7.1
Total	28	100.0

Source: Research Data

The results indicate that of the 28 respondents that participated in the study, majority of them (85.8%) serve the local market, that is operate only within Kenya, 7.1% of them serve regional markets (East African Region), while the other 7.1% serve international (worldwide) markets. The results are in line with those of the ownership structure as most of the companies are locally owned, hence serving the local market. Similarly, their information and communication technology requirements will be for other reasons other than foreign branches and inter-company networking.

Table 1c: Organizational Size - Geographical coverage cross tabulation

Geographical Coverage

Cross tabulated results indicated that 90.9% of the 22 insurance companies that are fully locally owned also serve the local market while the remaining 9.1% serve the regional markets. Further, the results indicate that 66.7% of companies that are subsidiaries of multinational companies serve the local market while remaining 33.3% serve internal markets. These results underscore the reasons why some insurance would embrace the use of information and communication technology in a more extensive scale than others coupled with the capability of the individual company to invest in such undertaking. The cross tabulated results are presented in Table 1d below.

was necessary. The findings of the study are shown in Table 2a below

Table 1d: Ownership-Geographical Coverage Cross tabulation.

Ownership		Geographical Coverage			Total
		Local	Regional	International	
Yes	Local	20	2		22
	Subsidiary	4		2	6
	Total	24	2	2	28

Source: Research Data

The market coverage of the insurance companies was also cross tabulated against organizational size and results indicate that 85.2% of the companies which are smaller in size serve entirely the local market while very few, 7.4% each serve the regional and international markets respectively. The results further indicate that the one company whose size is relative large serves the local market. Table 1e presents the findings as shown below.

Table 1e: Organizational Size - Geographical coverage cross tabulation

Organizational Size		Geographical Coverage			Total
		Local	Regional	International	
	Below 500	23	2	2	27
	501-1000	1			1
	Total	24	2	2	28

Source: Research Data

4.3 Organizational Business Strategy

An organization’s business strategy is the pathway through which its vision and mission are achieved. For the research to achieve the overall research objective, the need to establish whether the companies have clearly articulated vision and mission statements was necessary. The findings of the study are shown in Table 2a below.

Table 2a: Vision and Mission statements

	Frequency	Percent
Yes	26	92.9
No	2	7.1
Total	28	100.0

Source: Research Data

The results generally indicate that most companies have clearly articulated vision and mission statements. Of the 28 companies that participated in the study, 26 (92.9%) indicated presence of company vision and mission statements while only 2 (7.1%) indicated absence of such statements. The general indication of the results is that most companies are engaging in strategic planning and for them to be competitive in the industry, business strategies that are crafted to compete derive the strategic intent and the product market scope defined in the vision and mission statements. The same results were duplicated upon enquiry of the existence of business strategy in the companies. The results are as shown in Table 2b below.

Table 2b: Presence of Business strategy

	Frequency	Percent
Yes	26	92.9
No	2	7.1
Total	28	100.0

Source: Research Data

The company vision and mission that lead to the development of the various business strategies are not results of just a one-time event but of a coordinated process. This is the strategic management or planning process and various organizations adopt different modes to undertake this process. An organization’s strategy becomes a product of such a process whose degree of formality lies between two extremes: highly formal and highly informal. The findings of the study regarding the degree of formality or the kind of planning followed by insurance companies are shown in Table 2c below.

Table 2c: Degree of formality in strategic planning

	Frequency	Percent
Highly formal	9	32.1
Formal	14	50
Semi formal	5	17.9
Total	28	100.0

Source: Research Data

Results of the research indicate that a significant proportion (32.1%) of the companies (follow a highly formalized strategic planning process in coming up with their strategies. Majority (50%) of the companies follow an ordinary formal process while 17.9% of them follow a semi formal strategic planning process.

Closely linked to the degree of formality in strategic planning is the period for which the resulting plans cover. Plans that cover up to a maximum of five (5) years were considered as long-term plans. Table 2d below presents the study findings with regard to the planning period among insurance companies.

Table 2d: Companies' planning period

	Frequency	Percent
0-1 Yr	5	17.9
1-3 Yrs	9	32.1
3-5 Yrs	14	50
Total	28	100.0

Source: Research Data

The findings show that half (50%) of the companies come up with plans that cover between 3 and 5 years. However, a significant proportion of companies (17.9%) have plans that are short term covering a period of less than one year with 32.1% having their

plans covering periods between 1 and 3 years. The tendency of companies developing plans that cover short periods could be attributed to the nature of the business environment in which they are operating so much so that long-term plans are broken down into shorter period action plans.

The strategy development in organizations is an exercise that is undertaken through extensive consultations with various stakeholders. The study intended to establish whether insurance companies develop their strategies within themselves without involving external parties like consultants, and if so the mode that is adopted. It was the feeling of the researcher that the implemented strategy of any organization has to be owned by the implementers, hence the way and/or where such strategy is developed determines its success or failure. The findings of the study are shown in Table 2e below.

Table 2(e): In-house development of the company’s business strategy

	Frequency	Percent
Yes	25	89.3
Partly	3	10.7
Total	28	100.0

Source: Research Data

According to the study findings, 25 companies out of the 28 studied companies (89.3%) were found to have their strategies developed in-house. This is in contrast with the 3 (10.7%) companies that have their strategies partly developed with external parties. The findings confirm commonly held expectations that a strategy largely developed by the companies to assess success or failure of their implementation. Upon asking to find out the management groups that carry out the review exercise, it was found out that those imposed on them, hence bound to fail at implementation stage.

reviews (71.4%) are done by the senior management while the rest 28.6% are done by the

The strategic planning process is ever continuous and for the developed strategies to be successfully implemented, milestones have to be determined through reviews that are carried out at certain times during the implementation period. Study findings shown in Table 2(f) below indicate that 50% of the companies that participated in the study review their strategies once a year; 35.7% review their strategies frequently while 14.3% of the companies review theirs twice a year. For the organizations that develop their strategies in-house, the most commonly mode is by way of management retreats which involve senior and middle management teams; others do it through executive retreats which involve only senior management group, while others review their strategies through consultative workshops which bring on board all levels of management (Senior, Middle, and Line Managers).

Table 2(f): Review of the companies' business strategy

	Frequency	Percent
Once a year	14	50
Twice a year	4	14.3
Frequently	10	35.7
Total	28	100.0

Source: Research Data

4.4 Information and Communication Technology Strategy

The results indicate that companies attach great importance to the review of their strategies, a process which feeds back information that is equally important to the organization for purposes of containing deviations from the expected results and enable the companies to assess success or failure of their implementation. Upon seeking to find out the management groups that carry out the review exercise, it was found out that most

reviews (71.4%) are done by the senior management while the rest 28.6% are done by the Board of Directors as shown in the table below.

Table 2(g): Composition of company business strategy review

	Frequency	Percent
Board of Directors	8	28.6
Senior Management	20	71.4
Total	28	100.0

Source: Research Data

It is evident from the above results that most insurance companies have extensively engaged in strategic planning. Further, the results epitomize the fact that the strategic planning process in these companies is to a large extent formal. These findings form the basis on which subsequent research findings will be interpreted and discussed. It was pivotal for the study to establish the existence of ICT strategy among the studied companies in order to pave way for evidenced and fact-precedented interpretation and discussion of the strategic role of information and communication technology in the companies. Pertinent issues regarding ICT strategy are handled in the following section.

4.4 Information and Communication Technology Strategy

Strategy is about aligning every activity to create an offering that cannot easily be emulated by competitors. An ICT strategy gives technological direction and purpose, organizes and deploys ICT resources in the most effective manner, and coordinates the stream of decisions being made by different members of the organization and the ICT function. ICT is employed in the organization’s relentless search for sustained uniqueness and out-performance in terms of value creation for customers, shareholders, and

stakeholders. An ICT strategy should therefore be consistent with the technological environment and seek to capitalize on opportunities the environment offers.

In the current business environment, a number of changes in the various environmental variables have led organizations to consider ICT as the norm rather than an option. It is on this premise that the study sought to establish the existence a full-fledged IT department in the insurance companies. It was found out that of the 28 companies, 85.7% of them have fully-fledged IT departments while the rest 14.3% have not established a full-fledged IT department. However, the absence of such a department in the 4 companies does not rule out the adoption and use of ICT in carrying out their business.

Table 3(a) below shows the study findings.

	Frequency	Percent
Under 1 year	3	10.7
1-5 years	6	21.4
Over 10 years	21	74.9
Table 3(a): Existence of Information Technology department		
	Frequency	Percent
Yes	24	85.7
No	4	14.3
Total	28	100.0

Source: Research Data

From the study findings in Table 3(b) above, it is evident that 46.9% of the companies

The results underscore the fact that for an organization to achieve a competitive advantage over competition, it has to tap this advantage through cost leadership, innovation, focus, and speed. Organizations are creating, sustaining, and compounding these advantages through ICT. ICT improves the organization's strategic capability thereby enabling organizations to provide product and service features that are valued by customers and by enhancing competitive performance. Hence existence of a fully-fledged

coordinates the stream of decisions being made by different members of the organization

IT department in majority of the organizations could be motivated by their need to not only achieve competitive advantage but also be able to sustain it.

The companies that participated in the study were found to have had varied periods of existence in the Kenyan business environment. Some have been in existence for more than two decades while others have only a few years of existence. It was then presupposed that the more years a company has been in existence, the more is the likelihood of the company having had its IT department in existence for considerably a longer period as well. The research findings are shown below.

Table 3(b): Period of existence of Information Technology department

	Frequency	Percent
Under 1 year	3	10.7
1-5 years	6	21.4
5-10 years	6	21.4
Over 10 years	13	46.5
Total	28	100.0

Source: Research Data

From the study findings in Table 3(b) above, it is evident that 46.5% of the companies have had fully-fledged IT departments for over 10 years. An equal proportion of 21.4% each have had fully-fledged IT departments for 1-5 years and 5-10 years respectively while 10.7% of the companies have had their IT departments for less than one year.

As earlier observed, an organization’s ICT strategy gives technological direction and purpose, organizes and deploys IT resources in the most effective manner, and coordinates the stream of decisions being made by different members of the organization

and the IT function. Research findings on whether the companies have explicitly crafted ICT strategy are shown below.

Table 3(c): Information Technology Strategy among companies

	Frequency	Percent
Yes	23	82.1
No	5	17.9
Total	28	100.0

Source: Research Data

The findings indicate that 82.1% of the companies that participated in the study have ICT strategy, while the rest 17.9% of the companies indicated that they did not have the strategy. The results are in line with the widely embraced expectation that business strategy should lead ICT strategy with IT being a component of business just as much as other ‘core functions’ are. If IT is not in the service of the business strategy, then IT is just a technology in the business that falls short of translating business strategy into information technology. Conversely, the ICT strategy should influence the business creating a symbiotic relationship.

Just as the development of a company’s business strategy, the development of ICT could be equally done either fully in-house or partly in consultation with external parties. Respondents were asked to state whether their companies’ ICT strategy is developed in-house or otherwise and the findings are as shown in Table 3(d) below.

Table 3(d): In-house development of Information Technology strategy

	Frequency	Percent
Yes	21	75
No	2	7.1
Partly	5	17.9
Total	28	100.0

Source: Research Data

The results indicate that 75% of the companies have their ICT strategy fully developed in-house, 17.9% have theirs developed partly with external parties while 7.1% of the companies never develop their ICT strategy in-house. The findings show that most companies would like to own the ICT strategy development process because of their unique ICT requirements and for purposes of not being tied to any external parties who might hold them at ransom and who might not have a comprehensive understanding of their needs. However, the number of those companies whose ICT strategy is partly developed by external parties is equally significant and cannot be ignored. This indicates the move by these companies to seek to outsource such services.

Any strategy development process leads to a plan of some sort which is eventually implemented as a firm's strategy. The period covered by such a plan varies depending on the developments in the business environment, which might necessitate review and or change of the strategy to match the changes in the environment. It was the intention of the study to establish the period which the companies' ICT strategy covers. The findings are presented in Table 3(e) below.

Table 3(e): Information Technology strategy planning period

	Frequency	Percent
1 Year	8	28.6
3 years	12	42.9
5 years	7	25
Over 5 years	1	3.5
Total	28	100.0

Source: Research Data

The results indicate that 42.9% of the companies studied had ICT plans that cover 3 years; 25% had their plans covering a period of 5 years; 28.6% had plans covering less than one year while 3.5 % had plans covering over 5 years. The results show that most companies had their ICT plans covering relatively shorter periods because of the rate at which technological changes take place and any changes necessary could be accommodated without straining the companies.

The technological changes and subsequent changes that will be necessary would call for review of the companies ICT strategy. As the findings in Table 3(f) below show, 46.4% of the companies review their ICT strategies once a year, 14.3% carry out review twice a year, 10.7% carry out quarterly reviews while 28.6% review their ICT strategies frequently.

Table 3(f): Review of Information Technology strategy

	Frequency	Percent
Once a Yr	13	46.4
Twice a Yr	4	14.3
Quarterly	3	10.7
Frequently	8	28.6
Total	28	100.0

Source: Research Data

...are part of the organization's processes giving the organization the power to think

All organizations in general have various departments (human resource and administration, sales and marketing, accounting etc) with different IT requirements and hence the need for the development of IT systems which will meet the various needs of the departments. Insurance companies are not exempt and they have some other unique departments over and above the general departments. It is generally expected that the IT systems in these departments ought to be linked with one another for the organization to derive optimum benefit in carrying out its operations. The research findings however revealed the following.

	Frequency	Percent
Yes	5	17.9
No	23	82.1
		100.0

Table 3(g): Integration of information systems

	Frequency	Percent
Yes	22	78.6
No	6	21.4
Total	28	100.0

Source: Research Data

Of the 28 studied companies, 78.6% of them have their information systems integrated and/or linked with one another while 21.4% do not have them integrated and/or linked. The results indicate that most insurance companies are utilizing full potential of ICT by having their various departments' IT systems linked and/or integrated. This increases the level of coordination and collaboration in ensuring efficient service delivery. However, some companies have not utilized this potential to the maximum.

Through ICT, countless suppliers, vendors and partners are connected to organizations' systems, some on the periphery, some so tightly integrated that they have direct access

to/or are part of the organization's processes giving the organization the power to think faster, share more easily and react together as one. As an on demand business, it is the organization's point of strength. On this premise, companies are expected to exploit the integration and/or linkage in carrying out its activities in dealing with their customers and/or suppliers. However, the findings of the study show contrary results with majority of the companies having no linkages and/or integration with their customers and/or suppliers. Table 3(h) presents the findings of the study.

Table 3(h): Integration of Information Technology systems with customers/suppliers

	Frequency	Percent
Yes	5	17.9
No	23	82.1
Total	28	100.0

Source: Research Data

The results indicate that 17.9% of the companies have their IT systems linked and/or integrated with those of their customers and/or suppliers while 82.1% are not linked and/or integrated with their customers and/or suppliers.

Investments in information and communications technology such as information, knowledge and skill, processes and software are intangible assets that create future benefits to an organization. They are employed in conjunction with the tangible assets. Realizing this characteristic offers an important view of ICT by business managers and investors and how they make decisions about it. The study's findings on how insurance companies fund their investments in ICT revealed the following.

Table 3(i): Funding of Information Technology investments

	Frequency	Percent
Purchase	21	75
Mixed	7	25
Total	28	100.0

Source: Research Data

The results indicate that 75% of the companies fund their ICT investments through direct purchase from vendors while 25% fund their investments through both purchase and other means (outsourcing, leasing). It could be concluded that most insurance companies take on themselves the responsibility of funding ICT investments through direct purchase and other means are secondary.

It was the intention of the study to establish the symbiotic relationship that exists between organizational business strategy and ICT strategy because the two are believed to be supportive of each other in the ultimate realization of organizational goal. Cross tabulated results of this relationship show that 88.5% of the companies with formerly crafted business strategy also have ICT strategy. It was further established that while 40% of the companies with no ICT strategy also don't have business strategy, 60% of them have business strategy but not ICT strategy. These results are summarized in the table below.

Table 3j: Business Strategy and Information Technology Strategy Cross Tabulation

		ICT Strategy		
Business Strategy		Yes	No	Total
	Yes	23	3	26
	No		2	2
Total		23	5	28

Source: Research Data

Table 4(a): Business strategy development

	Frequency	Percent
Very little extent	1	12.5
A little extent	2	25
A moderate extent	3	37.5
A great extent	4	25
A very great extent	5	12.5

4.5 Strategic Role of Information and Communication Technology

The objective of the study was to determine the strategic role of information and communication technology among insurance companies in Kenya. To achieve this, respondents were presented with statements describing the various strategic roles that ICT can play in their companies. They were then required to rate in a scale of 1-5 to indicate the extent to which ICT has played such role in their companies. The findings of the study are presented and discussed in this section.

a) Development of the companies’ business strategy

The study intended to establish the extent to which information technology has facilitated the development of the companies’ business strategy, which focuses on building new advantages for the companies. It is increasingly through IT that consumer attraction and loyalty are accomplished while competitor initiatives are muted. Therefore, it is not surprising that business strategy is more and more influenced, enabled, and dependent on the ICT strategy. Research findings on the role ICT plays in the development of business strategy are shown in Table 4(a) below.

Table 4(a): Business strategy development

	Frequency	Percent
Very little extent	4	14.3
Moderate extent	6	21.4
Great extent	11	39.3
Very great extent	7	25
Total	28	100.0

Mean Score: 4

Source: Research Data

With the mean score of 4, 14.3% of the companies indicated that ICT plays a role in the development of their business strategy to a very little extent. The findings further show that 21.4%, 39.3% and 25% of the companies indicated that ICT play a role in the development of their business strategy to a moderate, great and very great extents respectively.

Source: Research Data

The results are indicative of the strategic role of ICT in the development of the companies' business strategy to a significantly great extent. This agrees with an observation by Martin et al., (1995) that in an increasingly competitive world, IT is critical to the development of more effective operational and management processes. To serve customers well, companies need to be proficient in half a dozen key areas: reduced cycle time, reduced asset levels (e.g. in inventory and people), faster development of new products, improved customer service, increasing empowerment of employees, and increased knowledge sharing and learning. IT is a critical resource for accomplishing all these goals.

b) Organizational restructuring

The primary driving force in restructuring is the re-engineering of work and displacement by technology of routine jobs. The study undertook to establish ICT's role in eliminating hierarchical relationships in organization and transform them into flatter structures. Findings of the study are presented in Table 4(b) below.

Table 4(b): Information Technology in organizational restructuring

	Frequency	Percent
Very little extent	4	14.3
Moderate extent	7	25
Great extent	10	35.7
Very great extent	7	25
Total	28	100.0

Mean Score: 3

Source: Research Data

The findings show that ICT has had a role in the organizational restructuring to a very little extent in 14.3% of the companies and to a moderate extent in 25% of the companies. It has had the restructuring role to a great extent in 35.7% of the companies and to a very great extent in 25% of the companies. Generally, ICT has played a role in organizational restructuring to a commendable extent with a mean score of 3.

The results indicate that ICT has facilitated various structures for improved and optimal performance and efficiencies and offer empirical ground to forecast that with continued developments in technology, future organizations shall have undergone enormous restructuring as they embrace the use of ICT more and more. This is in line with Porter and Millar's (1985) observation that ICT's influence on communication and collaboration

has seen the traditional hierarchies within the organizations falling apart resulting in flatter organizations and horizontal departments becoming common.

c) Information Technology as an effective marketing tool

Markets continue to change more rapidly than ever, requiring enhanced flexibility within the organization. In order to remain competitive, companies must gather and utilize better information about customers in order to market to them successfully and to optimize products and services offered. Marketing and operating strategies today depend heavily on the current state of IT. Insurance companies in Kenya also serve markets that are changing as times change and their use of ICT to market their products to the emerging information-age markets becomes inevitable. The study findings on the ICT's role in marketing the companies' products are presented in Table 4 (c) below.

Table 4(c) Marketing companies' products

	Frequency	Percent
Very little extent	4	14.3
Moderate extent	11	39.3
Great extent	8	28.6
Very great extent	5	17.8
Total	28	100.0

Mean Score: 3

Source: Research Data

With the mean score of 4, the findings show that ICT is an effective tool to a very little extent in 14.3% of the companies, and an effective marketing tool to a moderate extent in 39.3% of the companies. The results further indicate that ICT is an effective marketing tool to great extent and to a very great extent in 28.6% and 17.8% of the companies respectively. The results are a confirmation to the general expectation that global markets

are opening up and ICT is allowing companies to have a broader geographic reach just as customers are gaining global tastes. The result of these changes is a greater need for ICT to be more responsive to the long-range needs of business strategy and for other business functions to make better use of ICT to stay competitive.

e) Neutralization of buyer bargaining power

d) Electronic service delivery by companies

Consumers are becoming more informed and computer literate and thus accustomed to be electronically served. Organizations that are not able to offer electronic services to their customers may be at a competitive disadvantage. The study was to establish whether ICT has enabled insurance companies to serve their customers electronically. The findings show that it has a mean score of 3, implying that on average, insurance companies are offering services to their customers electronically. Specifically, the findings, as shown in Table 4(d) below show that ICT has had some minimum role in 10.7% of the companies in electronic service delivery and to moderate extent in 35.7% of the companies. The findings further indicate that ICT has led to serving customers electronically to a great extent and very great extent in 39.3% and 14.3% of the companies respectively.

	Frequency	Percent
Very little extent	3	10.7
Moderate extent	10	35.7
Great extent	11	39.3
Very great extent	4	14.3
Total	28	100.0

Mean Score: 2

Table 4(d): Electronic service delivery

	Frequency	Percent
Very little extent	3	10.7
Moderate extent	10	35.7
Great extent	11	39.3
Very great extent	4	14.3
Total	28	100.0

Mean Score: 3

Source: Research Data

The above results lead to a general conclusion that information and communication technology has changed the nature of the industries in which firms operate in terms of the products and services offered.

1) Analysis of buyer profitability

e) Neutralization of buyer bargaining power

Like most other industries, the insurance industry is expected to experience the impact of competitive forces that shape its structure. One of such factors is the bargaining power of customer so much so that when their bargaining power is high, the industry is said to be unattractive to new entrants and very unfavorable to the players. Players in the industry more often than not strive to reduce this power by making switching cost to competitors by their customers as high as possible. Investigation into ICT's role in achieving this goal found out the following findings as shown in Table 4(e) below.

Table 4(f): Analyzing buyer profitability

	Frequency	Percent
Not at all	17	60.7
Very little extent	3	10.7
Moderate extent	6	21.5
Great extent	2	7.1
Total	28	100.0

Mean Score: 2
Source: Research Data

The results indicate that majority of the companies (60.7%) have utilized ICT in the analysis of buyer profitability to a moderate extent, 14.3% and 10.7% of the companies have utilized ICT to a very little extent, 10.7% of the companies, to a moderate extent in 21.5% of the companies and to a great extent in only 7.1% of the companies. The results imply that the bargaining power of customers in the results are in contrast of the expected high rate of utilization of ICT in market research.

insurance industry is a strong force and insurance companies have not been able to realize significant strategic role of ICT in trying to neutralize this force and remain competitive.

providing market analysts with the tools they need to analyze buyer profitability.

f) Analysis of buyer profitability

Insurance companies serve different groups of customers with varied needs. Serving certain markets or types of customers may either prove profitable for the companies to continue serving them or unprofitable and the companies could be forced to discontinue them. ICT provides market analysts with the tools they need to analyze buyer profitability and insurance companies could resort to use ICT to provide such information that could be of strategic value to them. The study findings on the extent to which ICT has been utilized for such strategic course are presented in Table 4(f) below.

Table 4(f): Analyzing buyer profitability

	Frequency	Percent
Not at all	6	21.4
Very little extent	4	14.3
Moderate extent	11	39.3
Great extent	4	14.3
Very great extent	3	10.7
Total	28	100.0

Mean Score: 3
Source: Research Data

The results indicate that majority of the companies (39.3%) have utilized ICT in the analysis of buyer profitability to a moderate extent. 14.3% and 10.7% of the companies have utilized ICT for such a role to a great extent and very great extent respectively while 21.4% of the companies do not use it at all and 14.3% use it to a very little extent. The results are in contrast of the expected high rate of utilization of ICT in market research.

However, the mean score of 3 indicate that insurance companies are utilizing ICT to a significantly great extent in reducing the impact of policy holders (customers) by providing market analysts with the tools they need to analyze buyer profitability.

g) Tracking labor efficiency

In most organizations, labor efficiency is measured by the rate at which set targets are achieved. The targets are set using different performance indicators which are later used to measure performance. To a larger extent, labor efficiency is tied to reward systems. ICT can be used by an organization to track the efficiency levels and base the reward systems on the outcomes. Insurance companies are not exempt of organizations that could use ICT for such role and the study found out the following results.

Table 4(g): Tracking labor efficiency

	Frequency	Percent
Not at all	3	10.8
Very little extent	2	7.1
Moderate extent	6	21.4
Great extent	13	46.4
Very great extent	4	14.3
Total	28	100.0

Mean Score: 3

Source: Research Data

With a mean score of 3, 46.4% and 14.3% of the companies use ICT to track labor efficiency to a great extent and to a very great extent respectively. The findings further show that 10.8% of the companies make no use at all of ICT in tracking labor efficiency while 7.1% of them have utilized it to a very little extent and 21.4% of them utilize it to a moderate extent.

h) **Deterring customers from buying substitute products**

Substitute products are one of the competitive forces that shape any industry structure. The force is strong when customers find it easy to buy substitute products and make the purchase of the mainstream products go down and the producers of such products are hence faced with threat in terms of losing their market shares. Players in the insurance industry like any other industry will make competitive moves to deter their customers from buying substitute products. The study set to establish whether the use of ICT gives insurance companies a strategic edge in deterring customers from buying substitute products by, for instance, lowering the cost of their services/products or by improving their perceived value. Research findings on this issue are presented in Table 4(h) below.

Table 4(h): Deterring customers from buying substitute products

	Frequency	Percent
Not at all	5	17.9
Very little extent	7	25
Moderate extent	8	28.6
Great extent	6	21.4
Very great extent	2	7.1
Total	28	100.0

Mean Score: 3

Source: Research Data

The findings of the study show an almost fairly uniform distribution of the responses with regard to the extent to which ICT's role in deterring customers from buying substitute products. The results indicate a mean score of 3 with ICT having no role at all in 17.9% of the companies and to a little extent in 25% of the companies. It plays such a role in

28.6% of the companies to a moderate extent and to a great extent and very great extent in 21.4% and 7.1% of the companies respectively. The fairly uniform distribution of the responses implies that the threat of substitute products among the players in the insurance industry is not such strong.

i) Erection of entry barriers to new entrants

An industry may prove to be very attractive to an extent that the number of new entrants increases from time to time. Players in such an industry would automatically feel threatened because the new entrants are likely to make competition very stiff and even threaten the existence of some old players. The player may decide to erect entry barriers to the new entrants into the industry via several ways. Of particular interest to this study was to establish the role of ICT in the erection of entry barriers by the players to new entrants into the insurance industry. Insurance companies could create entry barriers by constructing on-line telecommunications networks linking sales agents to main office databases with information about policies and claims. Table 4(i) shows the research findings.

Table 4(i): Erecting entry barriers to new entrants

	Frequency	Percent
Not at all	9	32.1
Very little extent	12	42.9
Moderate extent	4	14.3
Great extent	3	10.7
Total	28	100.0

Mean Score: 2
Source: Research Data

Of the 28 companies that participated in the study, the findings indicate that 14.3% and 10.7% of the companies use ICT to erect entry barriers to a great extent and very great extent respectively. However, ICT has no role at all in 32.1% of the companies and 42.9% of the companies utilize it to a very little extent to erect entry barriers. The results lead to a very low mean score of 2 indicating that in general, very few insurance companies have found ICT useful in barring new entrants into the industry. The results also indicate that insurance companies could be erecting entry barriers through other means other than the use of ICT.

j) Handling rivalry in the industry

The single most competitive force that is experienced in almost every industry is the rivalry among the existing players in the industry. To gain and sustain competitive advantage, a particular firm has to understand its competitors and know when and how to make exceptionally well conceived moves. One of the ways a firm could handle competition is through ICT more especially in obtaining information for analyzing competitor strengths and likely strategic moves. The study findings generally indicate that ICT plays this role to a great extent among the insurance companies. Table 4(j) shows the respective responses.

Table 4(j): Handling of rivalry in the industry

	Frequency	Percent
Very little extent	5	17.9
Moderate extent	5	17.9
Great extent	13	46.3
Very great extent	5	17.9
Total	28	100.0

Mean Score: 3

Source: Research Data

From the table, results indicate that 46.3% and 17.9% of the companies utilize ICT to a great extent and to a very great extent respectively to handle rivalry in the industry. Also, 17.9% of the companies each have used ICT to a little extent and to a moderate extent.

With a mean score of 3, the research findings generally implies that insurance firms utilize ICT for obtaining competitor information and general industry trends in order to form the basis for their response.

k) Supporting low cost leadership strategy

Successful companies within a given industry attempt to position themselves relative to their competition by becoming the lowest cost producer or service provider within the industry. In lowering cost, information technology can alter a company's costs in any part of the value chain. In addition to playing a direct role in cost, information technology often alters the cost drivers of activities in ways that can improve (or erode) a company's relative cost position. The role of ICT in supporting low cost strategy among insurance companies could include the introduction of office automation systems that mechanize office paperwork and cut administrative costs among other costs. Research findings on ICT's support of low cost leadership are as shown in Table 4(k) below.

from ICT in differentiating their products by, for instance, adding value or unique

Table 4(k): Using Information Technology to support low cost leadership strategy

	Frequency	Percent
Very little extent	5	17.9
Moderate extent	7	25
Great extent	9	32.1
Very great extent	7	25
Total	28	100.0

Mean Score: 3

Source: Research Data

	Frequency	Percent
Not at all	3	10.7

The results show that ICT’s support for cost leadership strategy among insurance companies is to a relatively great extent. ICT has had support to low cost strategy to very little extent and moderate extent in 17.9% and 25% of the companies respectively. The findings further show that ICT has supported low cost strategy in 32.1% and 25% of the companies to a great extent and very great extent respectively.

and to a very great extent in 28.6% and 32.1% of the companies respectively. 28.6% of

The mean score for this variable was 3 implying that insurance companies have found ICT useful in supporting their cost leadership strategy to a significantly large extent. The results are, to a significant extent, supportive of Porter and Millar’s (1985) observation that a company only achieves low cost leadership when it offers services to customers at a lower cost than competitors can.

generally show the increasing rate at which ICT’s role is getting appreciated within the

I) Supporting differentiation strategy

The impact of information technology on differentiation strategies is equally dramatic. The role of a company and its product in the buyer’s value chain is the key determinant of differentiation. The new information technology makes it possible to customize products. The study intended to establish the extent to which insurance companies have benefited

from ICT in differentiating their products by, for instance, adding value or unique features to their products in order to improve their quality e.g. giving customers electronic access to an online service network. Research findings to this effect are shown in Table 4(l) below.

Table 4(l): Information Technology’s support of differentiation strategy

	Frequency	Percent
Not at all	3	10.7
Very little extent	8	28.6
Moderate extent	8	28.6
Great extent	9	32.1
Total	28	100.0

Mean Score: 3

Source: Research Data

The results indicate that ICT has supported differentiation strategy to a moderate extent and to a very great extent in 28.6% and 32.1% of the companies respectively. 28.6% of the companies indicated that ICT has supported differentiation strategy to a very little extent. It has not supported differentiation strategy at all in 10.7% of the companies. With a mean score of 3, the results generally indicate that more than 50% of the companies that were studied have had ICT supporting their differentiation strategy. However the proportion of the companies which indicated otherwise is equally significant. The results generally show the increasing rate at which ICT’s role is getting appreciated within the service industry in supporting differentiation strategies.

m) Provision of better product information to customers

Companies capturing and applying information at each point of contact with customers will be better off than those that do so only at one or a few points. Customers are

increasingly interested to be informed on the variety of insurance products that insurance companies are offering and provision of adequate and accurate information regarding the various products on offer for them to make informed decisions during their purchase decision making processes. The study intended to establish the extent of ICT's role in the provision of better product information to customers and the findings are as shown in Table 4(m) below.

Table 4(m): Provision of better product information to customers

	Frequency	Percent
Moderate extent	9	32.1
Great extent	12	42.9
Very great extent	7	25
Total	28	100.0

Mean Score: 4

Source: Research Data

Results of the study show a high mean score of 4 with 42.9% and 25% of the companies using ICT to provide better product information to the customers to a great and very great extent respectively. 32.1% of the companies have utilized ICT for the purpose to a moderate extent. These results vindicate the importance of providing adequate and better product information to customers using the most appropriate media and ICT's role becomes central in this respect.

n) Provision of reliable service and quick response to customer concerns

The need for companies to remain competitive and build confidence in the mind of customers requires a concerted effort from the companies to provide highly reliable service and be responsive to customer concerns as much as possible. Sometimes this is

not possible because of the nature of the existing infrastructural facilities, procedures and other structural makeup in organizations. The nature of products and services offered by insurance companies and the kinds of markets served require a high degree of service reliability and quick response to customer concerns. The role of ICT in such dispensation among insurance companies is called for and the study intended to find out the extent to which ICT has been of help. The findings are shown in Table 4(n) below.

Table 4(n): Provision of reliable service and quick response to customer concerns

	Frequency	Percent
Very little extent	2	7.1
Moderate extent	4	14.3
Great extent	14	50
Very great extent	8	28.6
Total	28	100.0

Mean Score: 4

Source: Research Data

As indicated in the table above, the variable mean score was 4, meaning that ICT has played a commendable role in the provision of reliable service and quick response to customer concerns among most insurance companies. This can be deduced from the findings as 50% of the companies responded having utilized ICT for such purpose to a great extent and 28.6% of them to a very great extent. 14.3% of the companies have utilized it to a moderate extent while 7.1% of the companies have utilized it to a very little extent. The results of the study are supportive of the fact that ICT has boosted insurance companies' quest to provide highly reliable service and improved the rate of response to customer concerns with regard to additional services on offer.

o) Supporting sales and service levels of specialization

E-business/Internet backed by back-to-back systems has enabled many organizations to enjoy the benefits of ICT. Organizational performance is in most cases measured by the level of turnover and this is a translation of the quantity of products sold or quality of services offered. The study laid focus on ICT’s role in supporting insurance companies’ sales and service levels e.g. through on-line pricing, promotion and delivery of information among others. Table 4(o) shows the findings of the study

Table 4(o): Support of sales and service levels Findings on the extent to which ICT has

	Frequency	Percent
Not at all	3	10.7
Very little extent	7	25
Moderate extent	8	28.5
Great extent	5	17.9
Very great extent	5	17.9
Total	28	100.0

Mean Score: 3

Source: Research Data

The results indicate that ICT has not been extensively utilized to support sales and service levels in the insurance industry. However, 28.6%, 17.9%, and 17.9% of the companies indicated that they have utilized ICT to a moderate extent, great extent, and very great extent respectively in the support of their service sand sales levels. 25% and 10.7% of the companies have utilized ICT to a little extent and to no extent at all respectively. The almost uniform distribution led to a mean score of 3 meaning that generally, insurance companies have utilized ICT to obtain information that has boosted their service and sales levels even though not as extensively as could be expected.

p) Information Technology and market specialization

Successful companies within a given industry attempt to position themselves relative to their competition by concentrating on selling to a particular market or occupying a specific product niche. Organizations may craft a strategy that will enable them focus on satisfying the needs of a particular market. This leads them to tailor their services towards meeting the specific needs of that particular market, hence market specialization. Insurance products on offer are many and the markets served are also varied so much so that insurance companies could decide to make use of ICT to identify market segments and meet their unique requirements. The study’s findings on the extent to which ICT has enabled insurance companies to achieve market specialization are presented in Table 4(p) below.

Table 4(p): Achievement of market specialization using Technology

	Frequency	Percent
Not at all	5	17.9
Very little extent	6	21.4
Moderate extent	7	25
Great extent	8	28.6
Very great extent	2	7.1
Total	28	100.0

Mean Score: 3
Source: Research Data

Findings show that ICT has fostered new business opportunities to a fairly great extent. The findings indicate that 17.9% of the companies do not use ICT to achieve market specialization, 21.4% have used it to a very little extent while 25% have used it to a moderate extent. 28.6 and 7.1% of the companies have used ICT to achieve market specialization to a great extent and to a very great extent respectively. The mean score for the variable was 3 implying that even though a significant number of companies have not

realized the role played by ICT to segment the market and concentrate on satisfying the needs of a particular market, an equally significant number have utilized ICT to achieve market/product specialization.

The results in general are indicative of the move toward the fulfillment of Schulltheis and

q) Information Technology and business opportunities

As information technology becomes more widespread, opportunities to take advantage of a new competitive scope will only increase. The benefits of scope (and the achievement of linkages), however, can accrue only when the information technology spread throughout the organization can communicate. Table 4(q) below shows the study findings on the extent to which insurance companies consider ICT to have fostered new business opportunities that they have either exploited or intend to exploit.

Items that can be marketed to current customers through established channels. The study

Table 4(q): Fostering new business opportunities using Information Technology

	Frequency	Percent
Not at all	7	25
Very little extent	5	17.9
Moderate extent	5	17.9
Great extent	6	21.3
Very great extent	5	17.9
Total	28	100.0

Mean Score: 3

Source: Research Data

Findings show that ICT has fostered new business opportunities to a fairly great extent. However a significant number of the companies indicated that ICT has either not fostered new business opportunities or has done so to a very little extent. With a mean score of 3, the percentage of companies where ICT has fostered new business opportunities to a very great extent was 17.9%, in 21.3% of them to a great extent, and 17.9% to a moderate

extent. ICT has not fostered new opportunities at all in 25% of the companies and has done so to a very little extent in 17.9% of the companies.

	Frequency	Percent
Very little extent	7	25
Moderate extent	9	32.1
Great extent	6	21.4
Total	28	100.0

The results in general are indicative of the move toward the fulfillment of Schultheis and Sumner (1995)’s observation that new information technology is fostering new business opportunities. Videoconferencing, a technology that makes it possible to hold electronic meetings, could present enormous avenues for insurance firms to access new business opportunities which they might consider exploiting.

significant number have not utilized such potential. According to Schultheis and Sumner

r) Information Technology and product development strategy

This involves substantial modification of existing products or creation of new but related items that can be marketed to current customers through established channels. The study intended to find out the extent to which insurance companies have made use of ICT to develop new products and offer them to current markets. Findings of the study are as shown in Table 4(r) below.

The results indicate that 7.1% of the companies have not made use of ICT at all to offer new products to its current customers, 25% of them have done so to a very little extent while 32.1% have made use of ICT to offer new products to its existing customers to a moderate extent. 21.3% and 14.3% of the companies have to a great extent and very great extent respectively made use of ICT to market new products to the existing customers via existing channels.

Table 4(r): Supporting product development strategy

	Frequency	Percent
Not at all	2	7.1
Very little extent	7	25
Moderate extent	9	32.1
Great extent	6	21.4
Very great extent	4	14.3
Total	28	100.0

Mean Score: 3

Source: Research Data

The results show a mean score of 3 meaning that in general, insurance companies utilize ICT to a fairly great extent to market new products to their existing customers while a significant number have not utilized such potential. According to Schultheis and Sumner (1995), once information technology is in place, insurance companies can market new products and services via existing networks and databases.

s) Building of excess computing capacity

New information technology is fostering new business opportunities and companies could be able to build excess computing capacity and thus be able to market information services as a new business opportunity. In addition, inter-organizational systems have evolved to facilitate the timely exchange of information in a highly competitive marketplace. The findings on the extent to which insurance companies built excess computing capacity through ICT are shown in Table 4(s) below.

Table 4(s): Building excess computing capacity through Information Technology

	Frequency	Percent
Not at all	3	10.7
Very little extent	9	32.1
Moderate extent	4	14.2
Great extent	9	32.1
Very great extent	3	10.7
Total	28	100.0

Mean Score: 3

Source: Research Data

The results above show that 10.7% of the companies have built no excess computing capacity, 32.1% have built it to very little extent while 14.2% have done it to a moderate extent. Those that have built excess computing capacity to a great extent form 32.1% of the studied companies while those that have built such a capacity to a very great extent form 10.7%. The mean score of 3, however, provide evidence to generally say that insurance companies are using ICT to build excess computing capacity to a relatively great extent.

t) Creating linkages with suppliers and customers using Information Technology

Videoconferencing technology that is as result of extensive use of ICT, Internet among other technologies, make it possible to hold electronic meetings with both suppliers and customers and could present enormous avenues for firms to access new markets. ICT is used to enhance product and service quality, improve customer service, integrate supplier and customer operations, and enable organizational learning. The research intended to establish the extent to which ICT has enabled insurance companies to create strong and profitable linkages with suppliers and customers. The findings with respect to this concern are presented in Table 4(t) next page

have not found ICT useful at all while 10% have found ICT useful to a very little extent in the creation of strong supplier/customer linkages.

Table 4(t): Creating linkages with suppliers and customers

	Frequency	Percent
Very little extent	6	21.4
Moderate extent	4	14.3
Great extent	8	28.6
Very great extent	10	35.7
Total	28	100.0

Mean Score: 4
Source: Research Data

Table 4(u): Information Technology and strategic alliances

The results show that most insurance companies do not operate on arms length with their suppliers and customers and the potential of ICT in creating strong and profitable linkages with them has been tapped significantly. This is so because the results indicate that 35.7% of the companies have utilized ICT to a very great extent for the creation of strong supplier-customer linkages and another significant proportion of 28.6% of the companies have utilized it to a great extent. The results show a mean score of 4, which is significant enough to indicate that ICT’s role in creating strong and profitable linkages with suppliers and customers is on the increase.

u) Information Technology and strategic alliances

Information partnering or forming strategic alliances is the driving force behind the emerging electronic marketplace. These information partnering are representative of the new marketing environment. The study findings regarding ICT as a basis for such partnering among insurance companies reveal that not all the companies have found it useful. This is supported by the findings in Table 4(u) in which 23.3% of the companies

have not found ICT useful at all while 10% have found ICT useful to a very little extent in the creation of strong supplier/customer linkages.

However, other companies (30%, 23.3% and 10%) have found ICT useful in the creation of supplier/customer linkages to a moderate extent, great extent, and very great extent respectively.

Table 4(u): Information Technology and strategic alliances

	Frequency	Percent
Not at all	6	21.4
Very little extent	3	10.7
Moderate extent	9	32.2
Great extent	7	25
Very great extent	3	10.7
Total	28	100.0

Mean Score: 3

Source: Research Data

With a mean score of 3, the results generally support the view that in most cases, an information facilitator provides the network through which the various participants can interact. Electronic sales channels reduce the costs of locating suppliers, ordering merchandise and reconciling errors. Customers can save money by ordering just-in-time inventory via electronic marketplace.

Mean Score: 4

Source: Research Data

The results underscore Porter and Millar's (1985) explanations on the role of information technology in supporting business activities and how they are continually transformed as technology develops; developments which have seen even products/services and markets getting transformed. In Porter's view, the value chain is a system of interdependent

v) Information Technology and transformation of the value chain

Information technology has an effect on the value chain by transforming the way value activities are performed. ICT has permeated in every activity of the value chain both in support activities and primary activities. The value chain activities are unique to particular industries and such uniqueness is inevitable in the insurance industry, and hence the effect ICT will have will also vary. The study intended to find out the extent to which ICT has transformed the value among insurance companies and results are as shown in Table 4(v) next page.

The results indicate that ICT has had a far-reaching impact in the value chain activities in most of the insurance companies. With a mean score of 4, the results indicate that ICT has led to the transformation of the value chain to a very great extent, great extent, and to moderate extent in 25%, 50% and 14.3% of the companies respectively.

Table 4(v): Role of Information Technology in value chain transformation

	Frequency	Percent
Very little extent	3	10.7
Moderate extent	4	14.3
Great extent	14	50
Very great extent	7	25
Total	28	100.0

Mean Score: 4
Source: Research Data

The results underscore Porter and Millar’s (1985) explanations on the role of information technology in supporting business activities and how they are continually transformed as technology develops; developments which have seen even products/services and markets getting transformed. In Porter’s view, the value chain is a system of interdependent

linkages with each activity in the value chain having a physical component and an information-processing component. The information-processing component of each value activity is being increasingly supported by information and communication technology (ICT). ICT is applicable in all the value adding activities in organizations' value chain; from linking the value adding activities through processes to management and administration of the various activities. This is evidenced by Porter (1998) who shows IT as being pervasive in the value chain; observable and used in every generic category of value activity in the chain.

5.2 Summary

To achieve the study objective and answer the study question adequately, it was considered necessary for the study to look at general aspects of strategic planning in order to form the basis of seeking information to achieve the study objective and answer the study question. Aspects of strategic planning that were considered include vision and mission statements of the companies; business and ICT strategies; the kind of strategic planning followed; planning periods; rate of review of the strategies and those charged with the responsibility to carry out such reviews. These strategic planning aspects then

CHAPTER FIVE: SUMMARY AND CONCLUSIONS

5.1 Introduction

In an increasingly competitive world, ICT is critical to the development of more effective operational and management processes. The objective of this study was to determine the strategic role of ICT among insurance companies in Kenya. The study looked at the aspects of strategic planning in which it sought to establish the existence of business and ICT strategies among the studied companies. These laid ground for the study of the strategic role of ICT among the insurance companies. In this chapter the findings of the study are summarized and discussed in relation to the objective of the study. Also included in this chapter are the conclusions, limitations of the study and recommendations for further research.

5.2 Summary

To achieve the study objective and answer the study question adequately, it was considered necessary for the study to look at general aspects of strategic planning in order to form the basis of seeking information to achieve the study objective and answer the study question. Aspects of strategic planning that were considered include vision and mission statements of the companies; business and ICT strategies; the kind of strategic planning followed; planning periods; rate of review of the strategies and those charged with the responsibility to carry out such reviews. These strategic planning aspects then set

precedent for the study to lay focus on determining the strategic role of ICT among the insurance companies, hence answer the study question.

With respect to the study objective, it was established that in general, information and communication technology has had a strategic role among insurance companies in most of the areas. It was established that ICT play a significant role in the development of most insurance companies' business strategy. This was rated high with a mean score of 4. Other areas in which ICT was found to have a far-reaching impact are the transformation of the value chain; provision of better product/service information to the customers and creating linkages with suppliers and customers through ICT. These were also rated high with a mean score of 4. Other areas where ICT was found to play a strategic role include restructuring of the companies, marketing of the companies' products, offering of services electronically, market research, tracking labor efficiency, and support to the companies' competitiveness among others.

However, the study noted that insurance companies have not utilized ICT to attain full strategic potential in most of the areas. Specifically, the companies lowly rated areas such as lessening buyer bargaining powers by introducing switching costs, and creation of entry barriers to new entrants as areas in which they have not strategically positioned themselves in terms of ICT. Even in the other areas mentioned above where the companies have utilized ICT, the study noted that not all companies have strategically benefited from ICT. The study findings showed that significant number of companies is yet to realize ICT's strategic potential.

5.3 Conclusions

The findings of this research have unearthed a number of issues regarding strategic role of ICT among insurance companies in Kenya. The overall results show that insurance companies practice formal strategic planning to a great extent and ICT strategy development has also taken centre stage. The findings indicate that insurance companies recognize the strategic role of ICT in their businesses and most of them have embraced it and are making it the cornerstone for achieving and sustaining competitive advantage. Although most insurance companies indicated high dependence on ICT in doing business, it should be noted the companies have not utilized ICT to its full strategic potential.

It is evident from the study that insurance companies are moving towards taking full advantage ICT capability while at the same time the ICT capability and ensuring that ICT supports the business strategy. It is also apparent that developments in ICT are transforming most aspects of the organization including organizational structure and design, the value chain and the nature of products/services offered and the markets served among others. ICT is also redefining the relations between the companies and its customers and suppliers and changing the whole industry structure.

5.4 Limitations of the Study

The findings of this study should be interpreted with the following limitations in mind.

First, it was not possible to get 100% response rate due to the busy schedule for some of the respondents who never found time to fill and mail back the questionnaires.

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Secondly, there is a limitation of authenticity of the data received. It was not easy to establish whether or not the targeted respondents are the ones who participated in offering the data that was analyzed. Given that the questionnaires were mailed to the respective companies, it was not possible to be present to ensure that the right respondents participated in the study.

Thirdly, the study was limited to insurance companies and may not apply to the entire service industry organizations given that insurance companies offer unique services in which case ICT requirements and its strategic role would be different.

5.5 Recommendations for Further Research

In connection with further research, the researcher recommends the following: first since this study adopted a census research design yet it was not possible for all insurance companies to participate in the research, a case by case study would help bring out some of the unique findings about specific companies because such studies are in-depth and hence very detailed. This will also increase the chances of getting qualitative data which was not captured during this study.

It is also recommended that studies on other dimensions of ICT be carried out among insurance companies. For instance one might be interested in investigating the challenges of implementing the ICT strategy among insurance companies.

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APPENDICES

Appendix I: Questionnaire

Section One: Organizational Profile

1. Name of the Company_____

2. Year of incorporation_____

3. Ownership structure: (Tick)

Wholly locally owned with public shareholding []

Subsidiary of multinational with public shareholding []

4. Number of employees (Tick)

Below 500 []

500-1000 []

Over 1000 []

5. Geographical coverage of the company's operations (Tick)

Local (within Kenya) []

Regional(East African Region) []

International (World wide) []

Section Two: Business Strategy

6. Does your company have clearly articulated vision and mission statements? (Tick)

Yes ☐ No ☐ Don't Know ☐

Other (please specify) _____

7. Does your company have a business strategy? (Tick)

Yes ☐ No ☐ Don't Know ☐

organization's business strategy? (Specify) _____

8. What kind of strategic planning does your organization follow? (Tick)

Highly formal ☐

Formal (structured process) ☐

Semi-formal (low degree of formality, high degree of informality) ☐

No process, no planning ☐

Frequently ☐

9. What is your organization's planning period? (Tick)

0-1 Yr ☐

1-3 Yrs ☐

3-5 Yrs ☐

Over 5 Yrs ☐

Middle Management ☐

10. Is your business strategy developed in-house? (Tick)

Yes ☐ No ☐ Partly ☐ Don't Know ☐

11. If Yes in 10 above, what is the mode of its development? (Tick)

Executive Retreats (Senior Mgt) []

Management Retreats (Senior and Middle Mgt) []

Consultative Workshops (Senior, Middle and Line Mgt) []

Other (please specify) _____

12. If No and Partly in 10 above, which external parties are involved in developing the organization's business strategy? (Specify) _____

13. How often does your organization review its business strategy? (Tick)

Once a year []

Twice a year []

Frequently []

Never []

14. Who are involved in the review of the organization's business strategy? (Tick)

Board of Directors []

Senior Management (Dept'l/Div'l heads and CEO) []

Middle Management []

Head of IT []

Line Management []

15. What are the sources of your organization’s competitive advantage? (Tick all that apply)

- 17. ☐ Cost Leadership (pricing) ☐
- ☐ Focus (meeting specific customer needs) ☐
- ☐ Speed ☐
- 18. ☐ Innovation (delivery of unique service/product) ☐
- ☐ Execution (superior customer service) ☐
- ☐ Maneuverability (adaptability to change requirements) ☐

19. To whom does the above named head (if any) report to? (Give title)

16. The following are environmental factors that influence your business strategy. Rank them from 1-the most influencing factor to 8-the least influencing one.

- 20. ☐ Competition ☐
- ☐ Changing market/customer needs ☐
- ☐ Changes in technology (ICT included) ☐
- ☐ Political/legal factors ☐
- ☐ Social/cultural factors ☐
- ☐ Economic conditions and trading blocks ☐
- ☐ Natural phenomena (e.g weather) ☐
- 21. ☐ Globalization ☐

Yes ☐ No ☐ Don't Know ☐

22. Is the ICT strategy developed in-house? (Tick)

Yes ☐ No ☐ Partly ☐ Don't Know ☐

Section Three: Information Communication and Technology Strategy

23. If No and Partly in 22 above, which external parties are involved in developing the

17. Does your company have a fully-fledged IT department? (Tick)

Yes [] No [] Don't Know []

18. If Yes in 17 above, who heads the IT department? (Give Title)

IT Strategy Board Committee []

19. To whom does the above named head (if any) report to? (Give title)

Senior Management []

IT Management []

20. For how long has your organization had IT department/division? (Tick)

Department	Division		
	Under 1 Yr.	[]	[]
	1-5 Yrs	[]	[]
	5-10 Yrs	[]	[]
	Over 10 Yrs	[]	[]

21. Does your organization have an ICT strategy? (Tick)

Yes [] No [] Don't Know []

Other (Specify) _____

22. Is the ICT strategy developed in-house? (Tick)

Yes [] No [] Partly [] Don't Know []

26. What is the organization's ICT strategy planning period? (Tick)

23. If No and Partly in 22 above, which external parties are involved in developing the organization's ICT strategy? (Specify)_____

27. How often is the ICT strategy reviewed? (Tick)

Once a year

24. Who in the organization are involved in the development of the organization's ICT strategy? (Tick all that apply)

IT strategy Board Committee []

CEO []

Senior Management []

28. Does your organization use the following ICT systems? (Tick those that apply)

IT Management []

Others (Specify)_____

Enterprise Resource Planning System []

25. Who takes responsibility for the effective and efficient implementation of the ICT strategy? (Tick)

IT Strategy Board Committee []

CEO []

Executive Management []

29. Are the ICT systems in your organization integrated or linked with each other? (Tick)

IT Management []

Others (Specify)_____

26. What is the organization's ICT strategy planning period? (Tick)

1 Yr [] 3Yrs [] 5Yrs [] Over 5Yrs []

Yes [] No [] Don't Know []

27. How often is the ICT strategy reviewed? (Tick)

Once a year []

Twice a year []

Quarterly []

Frequently []

Never []

28. What IT systems does your organization have? (Tick those that apply)

Communication and Collaboration Systems (e-Mail, Internet Site etc) []

Human Resource Management system []

Enterprise Resource Planning System []

Financial System []

Customer Relationship Management System []

Others (Please specify) _____

29. Are the IT systems in your organization integrated or linked with each other? (Tick)

Yes [] No [] Don't Know []

30. Is any of your organization's IT systems integrated or linked with your customers or suppliers? (Tick)

Yes [] No [] Don't Know []

31. How does your organization fund its investments in ICT? (Tick)

Purchase []

Lease []

Mixed []

Don't Know []

Section Four: Strategic Role of Information and Communication Technology in the Organization

The following statements describe the strategic role of ICT in an organization. Indicate the extent to which your organization uses ICT for each of the strategic role described.

Use the scale below.

- 1- Not at all; 2- Very little extent; 3- Moderate extent
4- Great extent 5- Very great extent

32. ICT is very involved in the development of business strategy {1} {2} {3} {4} {5}

33. The embracing of ICT has led to far reaching restructuring in the organization {1} {2} {3} {4} {5}
34. ICT has been used as an effective tool in marketing insurance plans. {1} {2} {3} {4} {5}
35. ICT has enabled the organization to offer electronic services to customers {1} {2} {3} {4} {5}
36. The organization has used IT to lessen the power buyers (policy holders) have by introducing switching costs {1} {2} {3} {4} {5}
37. The organization has used ICT to reduce the impact of buyers (policy holders) by providing market analysts with the tools they need to analyze buyer profitability. {1} {2} {3} {4} {5}
38. ICT has been used in the organization to track labor efficiency which is then tied to wage incentive systems. {1} {2} {3} {4} {5}
39. The organization has used ICT to deter customers from buying substitutes by lowering the cost of your products/services or by improving their perceived value. {1} {2} {3} {4} {5}

40. The organization has utilized ICT to create an entry barrier to new entrants by constructing on-line telecommunications networks linking sales agents to main office databases with information about policies and claims. {1} {2} {3} {4} {5}
41. ICT has made it possible for the organization to deal effectively with its rivals. {1} {2} {3} {4} {5}
42. ICT has enabled the organization to support its low-cost leadership strategy by introducing office automation systems that mechanize office paperwork and cut administrative costs. {1} {2} {3} {4} {5}
43. ICT has supported the organization's product differentiation strategy by adding value or unique features to the product to improve its quality e.g. giving customers electronic access to an on-line service network. {1} {2} {3} {4} {5}
44. ICT has enabled the organization to provide customers with better service/product information. {1} {2} {3} {4} {5}

45. The organization has utilized ICT to provide customers with reliable service, quick response to their questions and additional product features. {1} {2} {3} {4} {5}
46. The organization has used ICT to support its sales and service levels e.g. on-line access to pricing, promotion and delivery information. {1} {2} {3} {4} {5}
47. The organization has utilized ICT to achieve market specialization – concentrating on a particular market/product niche. {1} {2} {3} {4} {5}
48. ICT has fostered new business opportunities that the organization has exploited or intends to exploit. {1} {2} {3} {4} {5}
49. The organization has utilized ICT to market its new products and services via existing networks and databases. {1} {2} {3} {4} {5}
50. ICT has enabled the organization build excess computing capacity that it could use to market information services as a new business opportunity. {1} {2} {3} {4} {5}

Thank you for your cooperation

51. ICT has enabled the organization to create strong and profitable linkages with its suppliers and customers due to accelerated exchange of information.

{1} {2} {3} {4} {5}

52. ICT has formed the basis for the organization to enter into strategic alliances.

{1} {2} {3} {4} {5}

53. ICT has greatly transformed the organization's value chain leading to efficiency in service delivery.

{1} {2} {3} {4} {5}

54. Any other strategic role of ICT in your organization (specify)

Thank you for your cooperation

Appendix II: List of Insurance Companies in Kenya

1. African Merchants Assurance Company (K) Limited
2. Apollo Life Insurance Company Limited
3. Blue Shield Insurance Company Limited
4. British American Insurance Company of Kenya (Ltd)
5. Cannon Assurance Company Limited
6. Direct Line Assurance Co
7. Concord Insurance Company Limited
8. Co-operative Insurance Company of Kenya Limited
9. Corporate Insurance Company Limited
10. Fidelity Shield Insurance Company Limited
11. First Assurance Company Limited
12. Gateway Insurance Company Limited
13. Geminia Insurance Company Limited
14. General Accident Insurance Company
15. Heritage A.I.I. Insurance Company Limited
16. Insurance Company of East Africa Limited
17. Intra Africa Assurance Company Limited
18. Invesco Assurance Company Limited
19. Jubilee Assurance Company Limited
20. Kenindia Assurance Company Limited
21. Kenya Orient Insurance Company Limited
22. Kenyan Alliance Insurance Company Limited

23. Lion of Kenya Insurance Company Limited
24. Mayfair Insurance Ltd
25. Madison Insurance Company Limited
26. Mercantile Life and General Assurance Company Ltd
27. Occidental Insurance Company Limited
28. Old Mutual Life Assurance Company
29. Pan Africa Life Insurance Company Limited
30. Pacis Insurance Co Ltd
31. Phoenix of East Africa Assurance Company Limited
32. Pioneer Life and General Assurance Company Limited
33. Royal Insurance Company of E.A. Limited
34. Standard Assurance Company Limited
35. Tausi Assurance Company Limited
36. The Monarch Insurance Company Limited
37. Trident Insurance Company Limited
38. UAP Provincial Insurance Company Limited
39. APA Insurance Company Limited
40. AIG Kenya Insurance Company Limited
41. CFC Assurance Company Limited
42. Trinity Life Assurance