Information Technology Applications in Business Management within Kenyan Companies: A survey of Insurance firms in Nairobi, Kenya

BY

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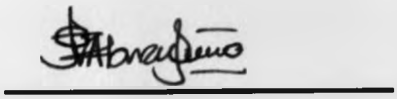
DECLARATION

This management project proposal is my original work and has not been presented for a degree in any other University



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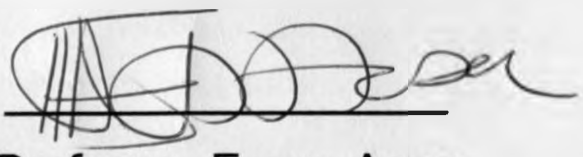
This management project has been submitted for examination with my approval as University supervisor



Professor Evans Aosa

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Date: 1/11/2002

DEDICATION

In loving memory of my late father Mr. Richard Abwao

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ABSTRACT

This study has been conducted to find out the extent to which computers are applied in business management in the private sector with the focus being on the Insurance industry in Kenya.

The literature review discussed the utilization of computer based information systems in management. The management task has been looked at from the decision making point of view, the hierarchical levels within the management and the functional areas. The literature review gives a justification of the role of information technology in the different level of management and advancements of information technology over the last decade or so.

A questionnaire was employed as the data collection instrument and was administered to the population of 39 Insurance companies, out of which 31 responded positively. Information technology usage was prevalent in all the firms sampled and majority of the firms had had computers over the last fifteen years or so.

The findings of the study revealed that the widest application in business management was at middle level where the systems were used for tactical control followed by the lower management level where it was used for operational purpose. The use of IT at the strategic level was encouraging but relatively low. In the functional areas, IT usage within underwriting department was the highest and hence giving us an indication that the use of IT has moved from the back office (Accounting/historical) to the front office. The functional areas in order of intensity (from highest to lowest) include Accounting, claims, reinsurance and administration.

There was concurrence as to why firms adopted information technology and this included efficiencies, increase in data volume, need for improvement in customer care, need to increase processing speed and using IT to re-engineer old products and innovating new products. Inspite of the limitations, the findings of this study provide an interesting synopsis of the management areas in which computer based information systems are used. The findings can also act as indicators of the actual and potential demand for computer products and the producer of the products would be wise to keep pace with such studies.

Recommendation for increasing IT usage in business management have been discussed and include an impetus in user training especially at the top management level. Suggestions for further in-depth research and a comparative study across different sectors have also been made.

CHAPTER ONE: INTRODUCTION

1.1 Introduction

The rapid pace of technological change is creating a wide array of new business opportunities. The development of the Internet, for example with its global reach and tens of millions of users is opening up possibilities for electronic banking, education on demand, digital photography, virtual shopping, and virtual factories; ultimately it has the potential to change almost every aspect of business life (Robson, 1997).

Technology is also changing economic and trading relationships and creating new forms of organization. Managers have always compared the cost of making their own products and providing services with the cost of buying these services in the market place. Such was the cost advantage in pursuing the former approach that most managers built their businesses on the basis of extended ownership. The result was the proliferation of mergers and takeovers, an extension of vertical and horizontal integration and creation of multidivisional enterprises. But information based networks have changed the economic equation. Transaction costs between independent firms have plummeted as they integrate their information systems. This realization has resulted in the explosion of outsourcing, the breakup of conglomerates, and development of alliances and economic webs. Its ultimate expression is being found in virtual corporation, which uses these technology links to coordinate its supply and marketing activities without owning them (Hope and Hope, 1997).

One outcome of these developments is the just-in-time inventory systems that have helped reduce the manufacturing inventories, so retailers are evolving new delivery systems that preclude the need for on-site inventory. Existing industries are being transformed. The pace of technological change is shortening product life cycle and creating new opportunities for mass customization (Robson 1997).

Technology has rewritten business rules; it has transformed stand alone environments into connected entities and created networks that dramatically optimize operations and step up the pace of business. Hence, in this dynamic environment, technology is a key business enabler. It allows businesses to address and accommodate global customers, vendors, suppliers and customers on a common ground. It is the evolving technology that has forced enterprises to be proactive and look at solutions that evolve too. Anticipating shifts, managing them and turning them into effective business solutions that change, scale and deliver at all times is the only way to maintain competitive advantage in the market place (Robson, 1997).

Oesterle (1991) argues that there is the implicit assumption that business needs drive Information technology and information strategy. There is evidence, however, that, in some organizations, Information technology strategy is driving corporate planning, and that information technology can actively assist in the creation of business opportunities, rather than just support them.

Information technology (IT) risks are becoming increasingly entangled with business risks and it is the chief executive officer's (CEO's) responsibility to distinguish between them. The CEO cannot afford to delegate these decisions to the Information systems managers alone (Martin et al, 1995).

Over the past decades, we have witnessed amazing business change through reengineering, optimizing supply chains and building total quality programs. Bursts of technological change, component-based development, client/server architectures, and the Internet responded to realize the business vision. Business strategy created a vision; technologists then crafted systems to realize it. But today is different: business and technology are fusing into a single, simultaneous revolutionary thrust. The application and the business are intertwined and hence the application is the business (Robson, 1997).

Martin et al (1995) notes that we are placing in the hands of our associates more information that ever in order for them to make decisions closer to the customer and respond quickly to competitive situations. Every company that has empowered a broader number of employees to make greater number of decisions knows that this process entail changes in how, when, and where decisions get made as well as challenges in managing the associated risk. CEO's are increasingly recognizing the impact that technology decisions have on their business and their corporate culture. As a result, they are becoming less comfortable delegating technology decisions to others.

One or two years ago, Information technology belonged to the IT industry, IT managers, systems engineers, support staff and box pushers. Today, IT is quickly joining the mainstream of business strategy. It is being taken up by everyone and every department in the organization. IT is no longer just another cog in the enterprise. Instead, it is one of the core components in any organization (Otieno, 1999).

For many business organizations that have acquired systems, among which are business organizations, IT has certainly brought some benefits. This is indicated by the high and increasing level of demand in the country, which is an indication of the extent to which IT has infiltrated the Kenyan market (Otieno 1999). The business benefits of using Information systems technology include; rehabilitation and maintenance of the systems, experiment with new technology and attain competitive advantage (McFarlane, 1984)

With great speed, the sharp reduction in the cost of information systems (IS) technology (i.e., computers, remote devices and telecommunications) has allowed IT systems to move from applications for the back office support to those offering significant competitive advantage. 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 delay in delivering quotations or getting response from the reinsurer is a major bottleneck in delivering prompt and efficient service (McFarlane, 1984).

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, right-sizing, downsizing, reengineering; whatever the terminology is used the use of Information technology is high on the agenda of these firms (McFarlane, 1984).

New companies are entering 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 that the older companies have not been able to spot and these are mainly within the health maintenance organization and public transport (Mwaniki, 2001).

The Government has also been very active of late in ensuring that the investments of its citizens are well protected by increasing the capitalization within the sector in order to raise the barrier to entry. The total investment in this sector is Kshs 50 billion as per the annual Insurance report of 1998 and hence this confirms the intensity of the competition (Awori, 2001).

1.11 The Insurance Industry in Kenya

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

Insurance promotes financial stability of individuals, families, and organization by indemnifying those who suffer loss or harm. Business failure without insurance leads to reductions in shareholders wealth and many kinds of negative externalities. Higher unemployment, loss of business, higher prices of products and services, less government tax revenue and rising government responsibilities are few negative externalities associated with uninsured loss. This therefore implies that insurance promote financial stability by ensuring continuity in the face of adversity (Bashir, 2002).

Insurance is an important substitute (or at least relieves) for state pension, social welfare systems, and government programs for recovery of business following disaster. Life Insurance for instance, substantially reduces pressure on government programs and many countries recognize this fact by giving tax relief to policyholders (Bashir, 2002).

As we venture into business in the borderless world due to globalization, most of the trade is generally insured and hence insurance could rightly be referred to a lubricant of commerce. The more developed economically a country is the greater the proportion of its total wealth in financial instruments such as savings, accounts, bonds, shares of stock and long insurance. As a financial intermediary, insurance channels savings into domestic investment. The industry collects small amounts from thousands of individual savers to build large pools of funds that can attract long term borrowers and earn better returns. This way, the insurer enables funds to flow to the most productive sectors of the economy, which in turn implies possibility of larger productivity gains for individual savers. Insurance enhances financial system efficiency in three ways, first by reducing transaction cost of bringing together savers and borrowers. Secondly, by creating liquidity by borrowing short-term and lending long term and finally by facilitating economies of scale in investment.

Insurance allows risks to be managed more efficiently through risk pricing, risk transformation, risk pooling and risk reduction. The better a nation's financial system provides these various risk management services, the greater the savings and investment stimulation and the more efficiently resources are allocated (Bashir, 2002).

Individual savers and investors may lack the time, resources and ability to undertake the data collection necessary for efficient capital allocation. Insurance firms have an advantage here because they can choose to insure and provide funds to the most attractive firms, projects and managers in the market. Insurers can also monitor projects to reduce the chances that they will engage in an unacceptable risk increasing behaviour (Bashir, 2002).

The insurance market has been shrinking overtime and at the moment the industry is set to experience a spate of mergers at its best, while some players are threatened with being sent into liquidation altogether. Under the current act companies underwriting non-life business will require a minimum capital of Kshs 100 million while life would require Kshs 50million. Such required capital is by no means adequate for a company that needs to expand and deliver good service (Awori, 2001).

Harnessing IT for greater benefit in business is the other priority area that the commissioner of Insurance will address. In this respect, the commissioner intends to set deadline for handing over statutory reports, failure to which shall firms might have their licenses revoked (Nganga, 2001). There are currently forty one insurance companies that are currently competing within the country. All of them are involve in non-life operations while sixty percent are involved in life business.

The economic problems, in which an insurer is involved directly or indirectly, are for most of the time, long-term nature. That is why an insurer is concerned about

investment spread as well as whether the investment policy reflects prudence and safety. In an economic downturn such as we have been experiencing in this country, insurance companies have had a downslide of their non-life business against worsening claims ratios. Under these circumstances, it is only investment income that enables an insurer balance his operational equation. But this income has been greatly eroded by low returns experienced from our economy and non-performance of many assets. All this has meant that insurance companies have had to resort to their reserves to remain afloat (Ng'aru, 2001).

Table 1-1 1998 figures for private and commercial vehicles aggregated

	Market Share	Net Premiums written in Kshs	Underwritten profits (losses)
United Insurance	9.3	742M	(23.5)M
Kenindia	7.8	623M	16M
Stallion Insurance	3.9	314M	(36)M
Jubilee Insurance	3.6	288M	4.5M
Occidental	3.3	261M	2.3M
Blue Shield	3.3	261M	(34)M
UAP Provincial	3.0	242M	33M
Heritage All	2.3	225M	17M
ICEA	2.3	185M	(17)M
Industrial Total		7,956M	(163M)

Source: commission of Insurance report 1998

From table 3-1, it is evident that in 1998 whole industry made losses and if the trend continued unabated companies/investors are going to look for diversifications strategies our of the industry.

Companies have emerging with friendlier and more flexible financial instruments in the insurance industry in giving hope to the small savers in Kenya. But the

successes of the sector lies in the ability of the insurance companies adapting to the changing needs of the insurance buying public. Many insurance companies are preoccupied with selling the products they have designed thus lacking the flexibility to respond to the needs of the markets, specifically the consumers (Kungu 2002).

1.2 Statement of the Problem

Kenya has continued to experience an economic downturn since the early 1990s coupled with the liberalization of our economy. The resultant competition within the insurance industry has also intensified with new companies joining the already congested industry year in year out while on the other hand others are collapsing. The industry has 39 players in the 23 billion shilling sector while the South African economy which is more than ten times larger than ours has only ten insurance companies, hence giving the indication of the intensity of competition.

The intensification of competition, bad underwriting practice, negative publicity from the collapsed insurance firms, poor management, competition based on pricing and fraudulent claims have so far led to the collapse of three insurance companies over the last ten years. The companies that collapsed include Access Insurance (1994), Stallion Insurance (1998) and the giant Kenya National Assurance company (1996). There is also Lakestar Insurance that was placed under statutory management on July 25, 2002.

From above, most insurance companies have resorted to rightsizing, down sizing, retrenching, re-engineering, mergers and acquisitions in order to meet the statutory requirements set by the Insurance act and also gain competitive advantage over the others firms. The tool which most of the firms had put to use is Information Technology.

Inspite of the problems highlighted, companies within the sector still continue to register huge profits and investors have also continued to eye this sector. It would therefore be worth identifying the reasons why top companies gain a sustainable competitive advantage in this crowded sector. The competitive advantage could be gained in underwriting business, settling claims, handling reinsurance among others. This study will focus in establishing the use of information technology in business management within the insurance sector.

1.3 Objectives of the Study

- To find out the extent of information technology use in business management in insurance companies in Nairobi.
- To identify the reasons for the adoption of information technology in insurance companies in Nairobi.
- To identify the constraints and challenges in the use information technology in insurance companies in Nairobi.

1.4 Importance of the Study

The project findings would be important to several stakeholders, Firstly, to the managers of the organizations; the approach to the competitive market (external) and approach to the operations (internal) can both offer two types of strategic opportunity, either by significantly improving the traditional ways of operating or by making significant changes to the ways of doing business. IT can be used for strategic purpose either in the competitive market place or in the internal operations. Uses of IT could focus upon improving traditional ways or upon creating new ways (Robson, 1997).

Secondly, to the producers of IT products; it would help the manufacturers identify the type of software and hardware that is used at different functional levels. This helps focus efforts towards this given area. This would subsequently assist the IT firms to focus their attention to marketing these products to the

specific target group. To assist in further development of the decision support systems (DSS) and the executive information systems (EIS) (Robson, 1997).

Thirdly, to the academics, the study will shed some light into the new field of strategic information systems and business management in general. It will also give an appreciation of the level of infiltration of IT into business management over the years across the departments. Highlight the changes that have taken place in the internal structures of most companies over the years due to the influence of information technology. It would also help the academicians develop appropriate syllabus for students as they prepare students for the job market since most students join organizations at different managerial levels. It would also assist academicians in judging the pace of adaptation of information technology in Kenya.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This section gives an insight into the recent developments in management, and information technology.

2.2 Developments in Business Management

This section gives an insight into the developments that have taken place in business management over the past decades. It opens by looking at the transformation of the value chain, then addresses the influence of global competition into the way business is done and the effects of liberalization of the economy. The effects of changing competition and the patterns of employment are also addressed in detail. Finally, the section closes by looking into the changes within the organization structure due to developments in information technology.

2.2.1 Transformation of the Value Chain

According to Porter (1985), competitive advantage grows out of the way an enterprise organizes and performs discrete activities. The operations of any insurance company could be divided into a series of activities such as salespeople making sales calls, underwriting of risk, intimation and settling of claims, and cessioning the risk to reinsurer.

By performing these activities, the insurance create value for the policyholder and the ultimate value is measured in terms of the amount of premium that the policy holders 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 policy holder, but perform activities more efficiently than its competitors (lower cost), or perform activities in a unique way that creates

greater policy holder value and commands a premium price (differentiation) (Porter, 1985).

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. These basic effects explain why information technology has acquired strategic significance and are different from many other technologies businesses use (Porter, 1985).

2.2.2 The Global Markets

The flow of money and information is now global. Corporations of every nationality are buying, selling and investing in each growth region of the world, but 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 (Jarillo, 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. Amazon's on-line bookshop now has the largest stock of books in the world but such stock is only virtual - the company buys in to match customer orders. Dell is now selling computers over the Internet at an estimated rate of $1 Million per day and over 80 percent of its buyers are new to the company. According to the CEO Michael Dell, It's like a zero-variable-cost transaction (Hope and Hope,1997).

In an increasing competitive world, information technology (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 (for example, in inventory and people), faster development of new products, improved customer service, increasing empowerment of employees, and increased knowledge sharing and learning. Information technology is a critical resource for accomplishing all these goals (Martin et al, 1995).

The spawning of new regions of economic prosperity primarily in Eastern Europe is bringing the new world order with it accounting for 25 percent of the world economic output as compared to 4 percent in the 1960. What matters at the moment is where the global corporations invest not where they are headquartered or where they pay taxes. Knowledge can be deployed from anywhere at any time by any person or organizations. Moreover, knowledge has no respect for place, history or tradition (Hope and Hope, 1997).

As many skills are computer based and more easily transferable, corporate loyalty to a particular place or region will decline. In the intensely competitive environment, global organizations will seek out the lowest costs and the highest productivity wherever this can be achieved (Jarillo, 1997).

2.2.3 Government-Driven Changes

In the past ten years or so, much of the established world order has crumbled. We have witness, for example, the collapse of communism in Eastern Europe; the explosion of China as an economic power; the emergence of East Asia as the most dynamic trading bloc in the world; the privatization of state-owned industries; and deregulation in airlines, telecommunication and utilities. The combined force of these changes has been twofold: to unleash a wave of competition onto the world economy, the like of which has never been seen before, and to open up huge new markets in East Asia, India and Eastern Europe, where billions of new consumers are eager for the products and services (Hope and Hope, 1997).

To some companies, the release from state control has offered new opportunities to establish a strong international position such as British Airways, it has demonstrated this to great extent. For others, however, deregulation has come as a profound shock, as they see just how quickly dissatisfied customers can defect without fanfare from firms that have serviced their needs in some cases for decades (Hope and Hope, 1997).

2.2.4 The Changing Face of Competition

After surveying a wide range of industries, we find that information technology is changing the rules of competition in three ways. First, advances in information technology are changing the industry structure. Second, information technology is an increasingly important lever that companies can use to create competitive advantage. A company's search for competitive advantage through information technology 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 of information technology on a particular industry and for formulating effective strategic responses (Porter, 1998).

The structure of an industry is embodied in five competitive forces that collectively determine industry profitability: the power of buyers, the power of suppliers, the threat of new entrants, the threat of substitutes, and the rivalry among existing competitors. The collective strength of the five forces varies from industry to industry, as does the average profitability. The strength of each of five forces can only change, either improving or eroding the attractiveness of an industry (Porter 1998).

In any company, information technology has a powerful effect on competitive advantage in either cost or differentiation. Information technology affects value

activities themselves or allows companies to gain competitive advantage by exploiting changes in competitive scope (Porter, 1998).

The information revolution is giving birth to completely new industries in three distinct ways. First, it makes new businesses technologically feasible. Second, information technology can also spawn new businesses by creating derived demand for new products. Third, Information technology creates new businesses within old ones. A company with information processing embedded in its value chain may have excess capacity or skills that can be sold outside (Porter, 1998).

IT can alter each of the five forces and hence industry attractiveness as well. The technology is unfreezing the structure of many industries, creating need and opportunity for change (Porter, 1998).

Many companies now span multiple industrial categories and join forces with partners with equally wide sphere of activity. Indeed, some firms simultaneously compete and corporate with each other. Through this new forms of alliances, variously known as ecosystem or economic webs (Jarillio, 1993).

2.2.5 The Changing Pattern of Employment

The primary driving force is the reengineering of work and displacement by technology of routine jobs. Andersen Consulting estimates that in just one service industry, commercial banking and thrift institutions, reengineering will mean a loss of 30 to 40 percent of jobs over seven years (Rifkin, 1997).

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 strings of the organization itself (Hope and Hope, 1997).

Employees who are not connected to the core task of the business will soon find themselves in a new relationship, if any, to 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).

2.2.6 The Rise of Knowledge as the Key Economic Resource

Whereas the traditional companies were built around the availability and use of land, labor and money, the new generation of companies will be deployed based on knowledge and imaginative use of technology. These intangible or intellectual assets are based on the skills and capabilities of their so called knowledge workers, who will within few years outnumber blue collar workers at their highest historical level of employment (Hope and Hope,1997).

New performance measures must be found to support the knowledge-based organization. Neither the use of return-on-capital and sales per employee, nor the comparison of accounting results with preset budgets will measure success. Neither is there any reliable relationship between knowledge investment and financial results (Hope and Hope,1997).

2.2.7 Changes in Organizational Structure

Many leading edge companies have now reorganized around group-wide networks focusing particularly on how work is performed. This is essentially a horizontal model with business process 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 team members now work for customers, not for superior, and their authority derives from what they know rather than who they are (Hope and Hope, 1997).

As communication technologies advance and become more efficient, the dominant business organization of the future may not be a stable, permanent corporation but rather elastic network that may sometimes exist for not more than a day or two. When projects need to be undertaken, requests for proposal 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 (Malone and Laubacher, 1998).

Malone and Laubacher (1998) note 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, the new coordination technologies enable us return to the pre-industrial organization model of tiny, autonomous businesses. Businesses of one or more are now conducting transactions with one another in a market. Electronic networks allow micro business to tap into the global reservoir of information, expertise, and financing that used to be available only to large corporation (Malone and Laubacher, 1998).

2.3 Recent Developments in Information Technology

The introduction of client-server architecture reduced the cost of implementing systems that were originally implemented on the mainframe computers (Haeckel et at, 1993). This design also increased the appealingness of Graphical user interfaces and made it more user-friendly since more users were already familiar with such interfaces for Windows, Macintosh and Disk Operating system (DOS).

The processing speed of the computer 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 more user-friendly (Robson, 1997).

The capabilities and potential of technology are increasing more rapidly that ever before. During the past three decades, consumers have received about 30% more computer power each year for the same price. Competition among microprocessors 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 increases in cost effectiveness and capability (Martin et al, 1995).

The following sections discuss in details the recent developments in information technology. It first looks at how the communication technology has been enhanced by the use of the Internet then draws a closer look at the rising level of computer literacy. Enterprise Resource Planning (ERP) solution and Business Process Reengineering are critically addressed before looking at the common trend now of out sourcing of non-core activities.

2.3.1 Internet/Extranets/Intranets

Economic and competitive pressures have focused manager's attention on white-collar productivity. As a result, technology is replacing people in some aspects of information processing. Networks enable people to share information more efficiently, to send and receive documents and proposals, to schedule meetings and to vote on proposals (Bensaou and Earl 1998)

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 (Malone and Laubacher, 1998).

The use of IT varies according to the hierarchy. As we go up the hierarchy the type on information changes from structured to unstructured or from programmable to un-programmable. The type of the system also vary from transaction based system through decision support system for the middle management and finally the executive information system (Robson, 1999)

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 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).

2.3.2 Computer Literacy

In Japan, managers spend two or three years usually against their wish in an IT department as part of job rotation scheme. The posting helps them develop knowledge that will prove useful in subsequent jobs. They provide the managers not only with technological know-how but also knowledge about how to get things done in IT and on who can help with what (Bensaou and Earl, 1998).

We have also noted that most job advertisements locally for senior positions have a mandatory prerequisite of computer literacy further confirming the importance of information technology as a strategic tool within the Kenyan job market unlike a decade ago where IT was left to the specialist (Makau, 1998).

There has also been a move from having computer departments that specialize in offering other department's services and the departments themselves

undertaking the computing task. This is unlike in the past where computers were generally used for storing historical data (Data Processing) and most staff working in the data processing center were the so called computer specialist (Robson, 1997).

2.3.3 Enterprise Resource Planning Solution

Enterprise systems appear to be a dream come true. These commercial software packages promise the seamless integration of all information flowing though a company – financial and accounting information, human resource information, supply chain information and customer Information. For managers who have struggled, at great expense with great frustration, with incompatible information systems and inconsistent operating practices, the promise of an off-the-shelf solution to the business problem has been so enticing (Davenport, 1998).

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 for use to another, for updating and debugging obsolete software code, for programming communication links between systems to automate the transfer of data (Davenport, 1998)

Implementation of enterprise solution provide 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. Other companies like Union Carbide according to Davenport (1998) gave low level managers, workers, and even customers and suppliers much broader access to operating information. Standardizing transaction made Union Carbide more efficient; sharing real-time information and made it more creative.

Davenport (1980) notes that the implication of enterprise 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 decision 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 Chief Executive, however, continue to view the installation of an ES as primarily a technological challenge. They push the responsibility for it down to their information technology department because of an ES's profound business implications and in particular, the risk that technology itself might undermine a company's strategy –off loading responsibility to technologist is particularly very dangerous.

2.3.4 Business Process Reengineering (BPR)

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 the outdated rules and fundamental assumptions underlying operations. These rules of work design are based on assumptions about technology, people, and 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 process perform the process;
- Subsume information processing work into the 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 point where the work is performed, and build control into the process; and
- Capture information once and at the source.

Davenport and Short (1990) argue that 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 an automating or mechanizing force: to fundamentally reshape the way business is done.

Business activities should be viewed as more than a collection of individual or even functional tasks: in a process view for maximizing effectiveness. IT and BPR have recursive relationship. IT capabilities should support business processes, and business processes should be in terms of the capabilities IT can provide. Davenport and Short (1990) refer to this broadened, recursive view of IT and BPR as the new industrial engineering.

2.3.5 Outsourcing of IT Services

Lacity, et al (1995) carried a survey of 40 US and European companies that grappled with the issue of outsourcing and led to the 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 department tend to contend with their in-house capability by maintaining the status quo. This coupled with the high staff turn-over within the IT department is making most top management think of adopting outsourcing as a cheaper option of maintaining a sustainable competitive advantage. Lacity et al notes 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) notes that 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.

CEOs routinely face questions about investment trade-offs. In the case of IT investment, however, the context for making decisions has changed in the past few years. Once, senior executive could expect their information system managers to oversee the core processing applications of the business and to help the CEO and the line managers make decisions about new IT investments. 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 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 that CEOs reexamine what they need to know about this resource to manage it effectively (Martin et al, 1995).

Information technology risks are becoming increasingly entangled with business risks, and it is the CEO's responsibility to distinguish between them. The CEO cannot afford to delegate these decisions to the Information Systems Managers alone (Martin et al, 1995).

Martin et al (1995) further notes that we are moving away from processing systems that give us weekly or bi-weekly reports towards technologies that help us move information out 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.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes the methods used in the collection of data or information pertinent to answering the research question. It is divided into research design, population of study, sample plan, data collection and finally data analysis.

3.2 Research Design

This was a descriptive study meant to establish the extent of use of information technology in business management; the reasons for adapting information technology and the types of software applications used. Churchill (1991) notes that descriptive study is used when the objective of the study is to estimate the proportion of persons in a specified population who behave in a certain way and describe their characteristics.

The research design used for collecting data was the cross-sectional survey carried at a single point in time (August 2002) involving all the insurance companies in Nairobi. The design is useful in describing the characteristics of companies and determining the frequency of key attribute study.

3.3 The Population

The population of interest in this study consisted of all insurance companies in Nairobi. The number of the companies is currently thirty nine as per the list compiled by the Commissioner of Insurance (Appendix 3). All the insurance companies in the country are located within Nairobi.

3.4 The Sampling Plan

Due to the low response rate all the insurance companies were surveyed as the population was manageable. The complete list of the companies included in Appendix 3. The questionnaires were strictly addressed to the IT manager or to the general manager in situations where the firm did not have an IT Manager.

3.4 Data Collection Method

In line with suggestion of Saunders et al (1997) for cross - section studies, a self reporting, structured, undisguised questionnaire was used to gather primary data. The questionnaire was made up of some closed and open ended questions. These questions were based on the previous researches conducted and further enhanced with the changes cited within the literature review. The questionnaire (Appendix 1) was divided into three sections, section A contained questions on general information on the firm, section B sought answers on management related questions while the last section C dealt with IT related issues.

The structured questions were used to generate quantitative data for statistical analysis while the open questions were used for providing qualitative data for purpose of recording manager's attitude and suggestions regarding the use of information technology. A drop –and-pick method was used.

3.5 Data Analysis

Data collected was tabulated and analyzed using descriptive statistics and non-parametric test. Descriptive statistics was used to analyse data on the Likert Scale due to the qualitative nature of the data. Other studies that have used similar analysis are Kinyua (2000), Nzule (1999), Osewe (1998) and Anita (1990). Mean, median are some measures of central tendencies that were used to analyze questions, frequency table. Percentages were used to describe the profile of the company.

CHAPTER FOUR: DATA ANALYSIS AND FINDINGS

4.1 Introduction

In this section, data from the completed questionnaires are summarized and presented in the form of tables and percentages.

Corresponding to the objectives of the study, this chapter is divided into three parts. The first part is a summary and analysis of general company data and management issues and identifies characteristics of the firms using Information technology, which are the target of this research. The second part analyzes data on aspects of computerization and the extent of usage of computers at each management level and in each functional area while the third section covers both IT and management issues. The factors that led to computerization and a list of the computer software applications used by the respondents will also be covered in this section 4.6.

4.2 Overview of Data

The first step in the analysis was used to give an overview of the data. This involves the tabulation of the returns of the questionnaire as presented in table format.

Table 4-1: The Summary of Questionnaires Returned

Line of Business	Successfully Completed		Regrets		No Response		Total	
	No	%	No	%	No	%	No	%
Life	2	50	1	25	1	25	4	100
Non-life	15	83	1	6	2	11	18	100
Composite	14	82	1	6	2	12	17	100
Total	31		3		5		39	

Source: Research Data

As can be seen from Table 4-1, 31 questionnaires out of the total 39 distributed were successfully completed. This represented 82% of the total questionnaires distributed and were considered sufficient to facilitate the completion of the study. Of the 39 questionnaires distributed, 21% or 8 questionnaires were either not completed or there was no response.

Of the 31 insurance firms that responded, 6% were involved in Life business, 48 percent were involved in non-Life (General Business) while 45 percent were involved in both life and non-life (Composite) product lines. It is important to reiterate at this point that all the firms sampled use computers in one way or another and the major difference is the intensity of use. It is worth noting that general business in Kenya is worth Kshs 16.1 billion as compared to life business 7.1 billion (Orina 2002)

4.2.1 General Characteristic of the Firms Sampled

The data summarized in the following table is on the characteristics of the companies sampled.

a) The following table shows a summary of data on the characteristics of companies sampled

Table 4-3: When the Firms were Established In Kenya

When Established in Years	Life		Non-life		Composite		Total	
	No	%	No	%	No	%	No	%
1-5	0	0	2	13	1	7	3	9.5
6-10	0	0	1	7	2	15	3	9.5
11-15	0	0	4	27	1	7	5	16
16-20	0	0	3	20	3	21	6	20
Over 20	2	100	5	33	7	50	14	45
Total	2	100	15	100	14	100	31	100

Source: Research Data

9.5% of the companies sampled were less than 5 years old while another 9.5% were between 6 and 10 years. 16 % are between 11 and 15 years while 20% are between 16 and 20 years old. The bulk of the companies sampled, that is, 45% were more than 20 years old. This was made up of 100% of the life oriented firms, 33% of the non-life (highest in the group) and 50% of the composite group.

It is worth noting that in the past ten years there have been a total of six firms established and three have collapsed as the country continues to experience a harsh economic down turn. The government has also been more strict on the insurance sector during the same period. The increase in the number of firms could be attributed to the liberalization of our economy which has subsequently created more competition and increased innovation of the existing products.

b) Number of Branches

Table 4-4: Number of Branches

Number of Branches	Life		Non-life		Composite		Total	
	No	%	No	%	No	%	No	%
1-3	0	0	9	60	4	29	13	42
4-6	1	50	5	33	6	42	12	39
Over 6	1	50	1	7	4	29	6	19
Total	2	100	15	100	14	100	31	100

Source: Research data

42% of the companies sampled had between 1 and 3 branches; this indicated that a good number of firms still focused most of their business at their head offices. 39% of the companies had between 4 and 6 branches and therefore implying that 81% of the firms surveyed had less than six branches. Only 19% of the firms sampled had more than 6 branches. From the foregoing, it is evident that all the firms sampled were less geographically dispersed. Activities at the branches focused on the front office operations, that is, underwriting and sales

while other tasks were still performed at the head office which is inline with the literature review (Jarillio 1997).

C) Establishment Details

i) Number of Employee within the Establishments

Table 4-5: The Number of Employees in the Company

Number of Staff	Life		Non-life		Composite		Total	
	No	%	No	%	No	%	No	%
1-50	0	0	4	26.5	1	8	5	16
51-75	1	50	4	26.5	4	28	9	29
76-100	0	0	3	20	4	28	7	23
101-125	1	50	3	20	1	8	5	16
Over 125	0	0	1	7	4	28	5	16
Total	2	100	15	100	14	100	31	100

Source: Research Data

16% of the firms sampled had a workforce of between 1 and 50 employees and 29% had employed between 51 and 75 employees. 23% of the firms sampled employ between 76-100 while 16% were employed between 101 and 125. There were only 16% of the firms employing over 125 members of staff. It was notable that most of the newer firms sampled had a smaller number of staff members may be due to the intense use of information technology. Some of the more established firms on the other hand had also been involved in downsizing (right sizing) and hence the lower number of staff employed.

ii) Number of Staff within the IT Departments

Table 4-6: The Number of IT Staff in IT Department

Number of Staff	Life		Non-life		Composite		Total	
	No	%	No	%	No	%	No	%
1-3	0	0	3	20	4	29	7	23
4-6	2	100	11	73	6	43	19	61
7-9	0	0	1	7	2	14	3	10
10 and Above	0	0	0	0	2	14	2	6
Total	2	100	15	100	14	100	31	100

Source: Research Data

23% of the firms sampled had between 1 and 3 IT personnel within the departments. Of these, there were none from life oriented firm, 20% were from non-life and 29% from the composite oriented firm. 61% of the firms sampled had 4 to 6 employees working in the IT department. This was composed of 100% life oriented firm, 73% non-life and 43% composite oriented firm. 10% of the firms had between 7 and 9 while 6% had employed ten and above in their IT department.

d) The presence of Mission, Vision Statement and IT Strategy

i) Presence of Mission Statement

Table 4-7: The Presence of Vision Statements

Presence of Vision	Life		Non-life		Composite		Total	
	No	%	No	%	No	%	No	%
Without Vision	0	0	1	7	3	21	4	13
Vision	2	100	14	93	11	79	27	87
Total	2	100	15	100	14	100	31	100

Source: Research Data

87% of the companies sampled had vision statements while 13% did not have visions statements. Of the ones with visions, it was evident that most of the vision statements were all pinned somewhere in the CEO's office or placed in a file and hence could not be remembered by most of the staff interviewed.

ii) Presence of Mission Statements

Table 4-8: The Presence of Mission Statements

Presence of Mission statement	Life		Non-life		Composite		Total	
	No	%	No	%	No	%	No	%
Without Mission	0	0	2	13	4	29	6	19
Mission	2	100	13	87	10	71	25	81
Total	2	100	15	100	14	100	31	100

Source: Research Data

Virtually all the firms sampled that had vision statements also had mission statements. From table 4-8 above, 81 % of the firms sampled had mission statements as compared to 87% that had vision statements. Of the 81% that had mission statements, 100% were life oriented firms, 87% were non-life oriented firms while 72% of the composite oriented firms.

19% of the firms interviewed had no mission statements, this was composed of none from life oriented firms, 13% from non-life and 29% of composite oriented firms belonged to this category.

iii) Presence of IT Strategy

Table 4-9: Presence of IT Strategies

Presence of IT Strategy	Life		Non-life		Composite		Total	
	No	%	No	%	No	%	No	%
Without IT Strategy	2	100	3	20	3	21	8	26
IT Strategy	0	0	12	80	11	79	23	74
Total	2	100	15	100	14	100	31	100

Source: Research Data

74% of the firms interviewed had IT strategies in place which was composed of none from life oriented firms, 80% of the non-life oriented and 79% of the composite firms. 26% of the firms sampled did not have IT strategy; this was composed of 100% or 2 from the life oriented companies, 20% from non-life oriented firms and 21% from the composite firms.

4.2.2 Management Issues

This section deals with analysis of the structure and management of the companies sampled. This was in regard to the tiers of management and functional areas that were prevalent in the firms sampled. The decision making tasks within the organization was also summarized.

a) Organization Structure

i) Management Structure

All the 31 insurance firms were organized into the tiers identified in the literature review, namely the top, middle and lower levels of management. The following is a summary of the decision making tasks at each management level as provided by the respondents.

Table 4-9a: The List of Decision Making tasks Performed

Management Level	Decision Making Tasks Performed
Top Level management (Strategic Control)	↓ Marketing and Debt collection ↓ Company Wide Decisions ↓ Policy Issues ↓ Financial Decisions ↓ Technical Decisions ↓ Changing of system, Upgrades and employment ↓ Long term strategic Decisions
Middle Level (Tactical Control)	↓ Debt Collection (Credit Control) ↓ Departmental decisions and Budgets ↓ Graduated Authority Levels ↓ Business Actual purchasing of the hardware or software
Lower management (Operational Control)	↓ Information technology ↓ Sections Decisions ↓ Day to days operations

All the respondents differentiated the hierarchy in terms of top, middle and low level of management. The task also performed at this level were all the same with the top performing strategic task, the middle performing tactical while the lower management performing operational tasks.

ii) Degree of Centralization

Table 4-10: The Degree of Centralization of the Organization

Level of Centralization	Life		Non-life		Composite		Total	
	No	%	No	%	No	%	No	%
1 – Very Centralized	0	0	5	33	1	7	6	19
2	0	0	3	20	7	50	10	32.5
3	1	50	5	33	4	29	10	32.5
4	0	0	2	14	2	14	4	13
5-Very Decentralized	1	50	0	0	0	0	1	3
Total	2	100	15	100	14	100	31	100

Source: Research Data

From Table 4-10 above, 19% of the firms sampled were very centralized while 32.5 percent were not very centralized and compared to option 1. On the other hand only 3% are very decentralized. The mean score for the sample was 2.483 therefore indicating that the degree of centralization of the industry was high since it was below the expected mean of 3.

iii) Reporting Structure of the IT Manager

Table 4-11: Reporting structure of the IT Manager

Reporting to Head of Finance	Life		Non-life		Composite		Total	
	No	%	No	%	No	%	No	%
Not Reporting to FM	2	100	4	27	7	50	13	42
Reporting to FM	0	0	11	73	7	50	18	58
Total	2	100	15	100	14	100	31	100

Source: Research Data

58% of the firms sampled had their IT manager reporting to the finance manager and therefore implying that IT was viewed as a function of Finance while 42% of the firms had their IT Manager reporting either to the

General Manager or Managing Director. This implied that in this type of company IT was recognized as a department on its own as compared to it being a function of the finance department.

iv) Summary of the Type of Functional Departments in the firms

There was total concurrence in regard to the departments that exist within the insurance companies. 100% of the firms surveyed had underwriting, claims, reinsurance, accounting and administration departments. The observation was seen across the life, non-life and composite insurance companies. There was no process based structure in existence within the companies sampled.

B) Ways of Doing Business during the Harsh Economic Period

There was concurrence among the respondents with regards to the answers to this question. The responses from the respondents have been summarized below with one with highest frequency being at the top of the list and percentages have also been calculated.

Table 4-11a: Ways of Doing Business during the Harsh Economic Period

Ways of Doing Business during the Harsh Economic Period	Frequency	Percent
Implementation of IT system was used to cut-down cost and enhance efficiency. The firms sampled reported that IT was being used to repackage the existing products and invent new products. The underwriting process was quite laborious and hence automating this process allowed members of staff to focus on other functions	4	13

Ways of Doing Business during the Harsh Economic Period	Frequency	Percent
Expansion towards untapped markets: Most of the Kenyan companies focused on the Uganda and Tanzania market. They had also been doing business across the borders by issuing the PTA covers.	3	10
Strict credit and budget control policies.	3	10
Improving of the treatment accorded to Agents: Agents are generally the intermediaries between customers and the insurance companies. Most of the firms sampled have introduced education and incentive for their agents. The incentive include: gifts to the agent of the month, having their picture appearing/displayed on the print media and within.	2	6
Niche marketing: This involves the companies focusing on certain markets and avoiding the high risk high return business such as motor commercial.	2	6
Focusing on the core business and improving the product mix: Most of the companies sampled have reduced the amount of business they obtain from non-profit making products such as motor commercial	2	6
Involvement of financial intermediaries for customers who are not able to pay the fully premium. The introduction of credit companies or in other words premium financing companies has assisted the insurance firm during this period.	2	6

Ways of Doing Business during the Harsh Economic Period	Frequency	Percent
Strategic Partnership is evident within the insurance industry as companies cooperate to share risks, work together to fight fraudulent claims and avoid undercutting one another while underwriting business. The companies have also invested jointly in the creation of East Africa Reinsurance, the first locally owned reinsurance company.	2	6
IT has been used for Improvement of existing business by reengineering the business processes during this period to lower the cost of the processes. This has assisted in cutting down the fixed and recurrent costs incurred by the companies.	2	6
Closer monitoring of all the business aspects staying very close to the customers. According to Porter (1985) as competition increases most of the firms are always jostling for position and profitability can only be determined by the collective strength of the five forces and therefore the firms have to stay close to their customers.	1	3
Capitalizing on both internal and external expertise: This is by involving the members of staff in undertaking more than one function.	1	3
Improvement of Marketing strategies and advertising: Most companies spent huge amounts of money advertising in the print and electronic media which was not the case in the past.	1	3

Ways of Doing Business during the Harsh Economic Period	Frequency	Percent
Training customers on product options available and the criteria of choosing. This ensures that the members of staff spend less time after taking cover. This has assisted the customers is choosing the right product mix for themselves	1	3
Not replacing staff who leave the organization	1	3

13% of the respondents reported that their firms used IT first to cut down costs, secondly to re-package the existing products and also to invent use ones as was argued by Martin et al (1995). 10% of the respondents indicated that their firms were using IT to position themselves strategically within the newer markets of the East African region. These markets that are less congested and the profitability tends to be higher (Hope and Hope, 1997).

c) Presence of the Application of Business Process Re-engineering (BPR)

i) Presence of BPR

Table 4-12: The Presence of the Application (BPR)

Application of BPR	Life		Non-life		Composite		Total	
	No	%	No	%	No	%	No	%
No BPR Used	0	0	6	40	5	36	11	35
Use BPR	2	100	9	60	9	64	20	65
Total	2	100	15	100	14	100	31	100

Source: Research Data

The awareness of Business Process Re-engineering as a tool of restructuring the business was appreciated by 65% of the respondents while 35% of the respondents were not aware of it. After stating whether

they were aware of BPR the respondents went a head to state some of the areas where BPR has been applied in the firms. Despite the low usage of Business Processes Re-engineering (BPR), a summary of the frequency of occurrence of the areas BPR could be used is shown below.

Table 4-12: The Areas BPR has been Applied

The Areas BPR has been Applied	Frequency	Percent
Re-designing the underwriting and claims processes	12	39
During computerization, most processes were re-engineered.	5	16
Used in re-designing products with the aim of re-launching them.	3	10
Designing of new products.	3	10

From above, it is evident 39% of the firms reportedly used BPR in challenging the assumptions inherent in the underwriting, claims, reinsurance and customer care (Hammer, 1990). 16% used BPR during computerization while 10% used them in re-designing the products. This implies that at least 51% of the insurance companies applied BPR.

ii) Potential Areas for the Application of IT in BPR

Table 4-13: Use of IT as a Tool for Business Process Re-engineering

Role of IT in BPR	Life		Non-life		Composite		Total	
	No	%	No	%	No	%	No	%
No Role of IT	1	50	1	11	5	56	7	35
Role of IT	1	50	8	89	4	44	13	65
Total	2	100	9	100	9	100	20	100

Source: Research Data

With the respondents stated above that were aware of business process re-engineering, the researcher went on to analyse the role of IT in BPR. 35% of the firms sampled reported that IT did not have any role in BPR while 65% reported that IT had some role. The respondents went further to state some of the potential areas that IT would be used in Business Process Reengineering as stated hereunder.

Table 4-13a: Summary of the Potential Benefits of Use of IT in BPR

Potential Benefits of Use of IT in BPR	Frequency	Percent
Reduce paper work.	11	35
Reduce the lengthy underwriting process.	6	19
Used to gain competitive advantage in the market place.	4	13
Used to make strategic decision on whether to drop or retain a product.	2	7
Increase operational efficiency.	1	3

From Table 4-13 above, 65% of the respondents recognized the potential use of BPR and viewed it from both an IT and a business angle and the relationship between them. They viewed IT from more than an automating or mechanizing force: to reshape the way the business is done. 35% of the respondents reported that BPR helped reduce the amount of paper work while 19% indicated that the length of underwriting process was reduced and 13% reported that the firms competitive advantage.

d) **The Strategies Applied in Business Management**

i) **The Presence of Joint Venture**

Table 4-14: Presence of Joint Ventures

Presence of Joint Venture	Life		Non-life		Composite		Total	
	No	%	No	%	No	%	No	%
No	1	50	13	87	6	43	20	65
Yes	1	50	2	13	8	57	11	35
Total	2	100	15	100	14	100	31	100

Source: Research Data

From table 4-14 above, 65% of the firms sampled did not enter into joint ventures with others while 35% entered into a joint venture. It was revealed that all the firms that entered into joint ventures were generally to share risk especially within the reinsurance area of business.

ii) The Presence of Diversification Strategies

Table 4-15: The Presence of Diversification Strategies

Diversification Strategy	Life		Non-life		Composite		Total	
	No	%	No	%	No	%	No	%
No	1	50	8	53	6	43	15	49
Yes	1	50	7	47	8	57	16	51
Total	2	100	15	100	14	100	31	100

Source: Research Data

From table 4-15 above, only 51% of the firms sampled used diversification strategy while the other 49% did not diversify. The strategy that most companies used was to start undertaking life business after establishing themselves as non-life oriented firm and hence becoming a composite

firm. Most recently as noted by most respondents, their companies viewed the Heath Medical Insurance as the most lucrative area of business. It was difficult to understand how firms were taking advantage of this area despite the increase in HIV aids which has crippled government hospitals. The main reason according to the respondents was the use of IT to monitor costs and assist in making tactical decisions with regard to particular medical schemes.

iii) The Existence of Mergers within the Industry

Table 4-16: The Extent of Mergers within the Industry

Existence of Mergers	Life		Non-life		Composite		Total	
	No	%	No	%	No	%	No	%
No	2	100	14	93	14	100	30	97
Yes	0	0	1	7	0	0	1	3
Total	2	100	15	100	14	100	31	100

Source: Research Data

From table 4-16 above, over the last ten years, it was only one company, that is, 3% that had merged, and this implied that the merger strategy was not popular among the insurance firms. Take note that this might only be a sign of what is to be expected in future. It was stated within the literature review that the government increased the minimum paid up capital for non-life to Kshs 50 Million, 100 Million for life business and 150 Million for a composite insurance company and hence there will be need for the firms to merge if they cannot meet the target.

iv) The Number Acquisitions within the Industry

Table 4-17: The Extent of Acquisition within the Industry

Acquisition Strategy	Life		Non-life		Composite		Total	
	No	%	No	%	No	%	No	%
No	1	50	15	100	12	86	28	90
Yes	1	50	0	0	2	14	3	10
Total	2	100	15	100	14	100	31	100

Source: Research Data

As also stated in table 18, only 1 life firm, that is, 50% of the life oriented company and 15% of the composite firms which makes 10% of the firms sampled were acquired in part or in full during the last 10 years.

v) The Presence of Market Penetration Strategies

Table 4-18: The Extent to which Market Penetration Strategies

Market Penetration	Life		Non-life		Composite		Total	
	No	%	No	%	No	%	No	%
No	0	0	3	20	4	29	7	23
Yes	2	100	12	80	10	71	24	77
Total	2	100	15	100	14	100	31	100

Source: Research Data

We have summarized the market penetration strategies used by firms during the past ten years. The results of the open question is represented in a table format with percentages calculated based on occurrence.

Table 4-18a: The Presence of Market Penetration Strategies

Market Penetration Strategies	Frequency	Percent
Major Advertising space	13	42
Use of Branches	11	35
The use of agents and Brokers	5	16
Introduction of credit facilities through financial intermediaries	5	16
Education for the agents/brokers and other intermediaries.	4	13
Re-introduction of marketing department that ceased to exist a while back.	3	10
Focus on corporate business instead of individual business	1	3

42% of the respondents reported that advertising was used as part of the market penetration strategy. This was achieved by set marketing departments which had ceased to exist sometimes back. Some firms (35%) used branches to penetrated most of the major cities in the country, the used of agents and credit through financial intermediaries was also used.

vi) The Presence of Product Development Strategies

Table 4-19: Presence of Product Development Strategies

Product Development	Life		Non-life		Composite		Total	
	No	%	No	%	No	%	No	%
No	1	50	5	33	7	50	13	42
Yes	1	50	10	67	7	50	18	58
Total	2	100	15	100	14	100	31	100

Source: Research Data

58% of the firms sampled used product development strategies while 42% of the firms did not practice this strategy. This was pursued by re-packaging the old products and re-launching while also launching new products that met the customers needs,

4.2.3 Computer Utilization

This section deals with analysis of responses to issues related to computerization.

a) When the Software was Acquired

Table 4-20: When Software Application was Acquired

Acquisition of IT in Years	Life		Non-life		Composite		Total	
	No	%	No	%	No	%	No	%
1-5	0	0	3	20	1	7	4	13
6-10	0	0	4	26	4	29	8	26
11-15	2	100	6	40	5	36	13	41
16-20	0	0	1	7	3	21	4	13
Over 20	0	0	1	7	1	7	2	7
Total	2	100	15	100	14	100	31	100

Source: Research Data

Only 13% of the total firms sampled had their computer facilities for 5 years where 20% were from non-life and only one composite firm or 7%, there were no life oriented companies which acquired computers within the last five years. There were 3 companies that were established over the last five years (Table 4-3) and four computerized over the same period, this implies that all the new companies adopt IT right from the beginning.

26% of the firms have had their computer systems for between 6 and 10 years. The majority of firms which is 41% have been utilizing IT for 11 to 15 years, with all the life oriented firms acquiring computers within this period. 20% of the firms sampled have used IT for more than 16 years.

b) The Number of Computerized Branches

Table 4-21: The Number of Computerized Branches in Existence

Computerized Branches	Life		Non-life		Composite		Total	
	No	%	No	%	No	%	No	%
No	2	100	12	80	11	79	25	81
Yes	0	0	3	20	3	21	6	19
Total	2	100	15	100	14	100	31	100

Source: Research Data

81% of the firms sampled had computers used at the branch level but were not generally networked to the head office systems and therefore not online. The method that most of the firms sampled used in updating the records at the head office included: couriering the backup tapes/disks to the head office daily or weekly, electronic transfer in the evenings when the telephone lines are less congested and the use of Virtual Private Network (VPN). The reason most firms highlighted as being the major draw back of going online was the high interconnectivity cost between the head office and the branch coupled with the

cost benefits of having the branch online. Most of the branches of the firms sampled had between 1 and 5 computers.

c) The Software Application Details

i) The Type of Software Application

Table 4-22: The Type of Software Application used in the Industry

Type of Software Application	Life		Non-life		Composite		Total	
	No	%	No	%	No	%	No	%
AIMS	0	0	3	20	11	79	14	45
Policy Master	1	50	8	53	1	7	10	32
In House software	1	50	4	27	2	14	7	23
Total	2	100	15	100	14	100	31	100

Source: Research Data

45% of the firms sampled used Advanced Insurance Management Systems (AIMS) where 79% were composite insurance and 20% were non-life. Policy Master application was used by 32% of the firms sampled. Of the Policy Master users, 53% were non-life oriented firms and 50% were life oriented. The other firms which make up 23% of the insurance companies had their application developed in-house.

ii) The Extent of Software Integration of the Insurance Application

Table 4-23: Extent of Software Integration

Application Integration	Life		Non-life		Composite		Total	
	No	%	No	%	No	%	No	%
No	0	0	9	60	9	64	18	72
Yes	2	100	6	40	5	36	13	28
Total	2	100	15	100	14	100	31	100

Source: Research Data

72% of the firms sampled had their applications not integrated with no life oriented firm featuring within this category. The integration mainly focused on linking the functional areas of underwriting, claims, reinsurance and accounting. Of the 72%, 60% were from non-life and 64% from the composite firms. 28% of the firms surveyed integrated with 100% of life, 40% of non-life and 36% of the composite firms.

Maintaining many different computer systems lead to a huge cost in terms of re-keying and reformatting data, updating and debugging obsolete software code for programming of communication links. This was generally the case within the insurance company where 72% of the firms are not integrated.

iii) Summary of Tools used in the development of the applications

The following is a list of tools that are used for application development:
Front End: Developer 2000, CQCS, Omnis, COBOL and Visual Basic
Database: Oracle, Omnis, C-ISAM
Operating systems: UNIX was prevalent in most companies while the rest are Windows NT/2000 and IBM AS 400

iv) The Extent to which Application was Purchased

Table 4-24: Extent to which Firms Purchase or Developed Applications

Purchased /Developed	Life		Non-life		Composite		Total	
	No	%	No	%	No	%	No	%
Developed	1	50	4	27	5	36	10	32
Purchased	1	50	11	73	9	64	21	68
Total	2	100	15	100	14	100	31	100

Source: Research Data

Table 4-24 shows that 68% of the firms sampled purchased their software applications, this was composed of 50% of the life oriented firms, 73% of the non-life and 64% of the composite Insurance firms. 32% of the firms sampled had their systems developed, this was made of 50% of life, 27% or 4 of the non-life oriented firms and 36% of the composite firms.

v) The Duration of Implementation of the Application

Table 4-25: The Length of Implementation of the Application Software

Implementation Period in Months	Life		Non-life		Composite		Total	
	No	%	No	%	No	%	No	%
1-6	1	50	8	53	2	14	11	35
7-12	0	0	5	33.5	7	50	12	39
13-18	0	0	0	0	0	0	0	0
19-24	0	0	2	13	1	7	3	10
25 and above	1	50	0	0	4	29	5	16
Total	2	100	15	100	14	100	31	100

Source: Research Data

35% of the firms sampled undertook the implementation of the software application within six months. This was made up of 50% of life oriented firms, 53% of the non-life oriented firms and 14 % of the composite firms. Majority of the firms sampled (39%) completed their application implementation within one year with 33.5% of the non-life oriented firms and 50% of the composite firms belonging to this category.

There were no implementations that were completed 13-18 months and only 10% had their implementation completed between 19 and 24 months. 16% of the firms sampled took more that 25 months to complete the

implementation. This lot was composed of 50% of life oriented firm and 29% of the composite firm.

d) The Level on Involvement of Different Levels of Management

Table 4-26: The Level of Involvement of Different Levels of Management

Level of Involvement	Life	Non-life	Composite	Total
Top management	4	37	38	79
Middle management	3	28	28	59
Lower management	32	2	35	69

Source: Research Data

We have summarized the total score under each management level and hence the level with the least score is the one with the highest level of involvement during implementation of the system. From table 4-26 above, it is clearly the middle level management followed by the lower management and the top management comes last in the list. This conforms to the literature review and also based on the fact that IT managers in most insurance firms are in middle level management.

e) The Extent of Networking of Departments within Insurance firms

100% of the respondents reported that their departments are networked but the level of interconnectivity between branches was only in existence in only 3 companies that had been sampled. There is need to have networking undertaken as future computing will be network oriented and stand-alone computing is all gone.

f) The Presence of e-Commerce

Table 4-27: Extent of use of e-Commerce

Websites	Life		Non-life		Composite		Total	
	No	%	No	%	No	%	No	%
Not Available	1	50	10	67	7	50	18	58
Available	1	50	5	33	7	50	13	42
Total	2	100	9	100	14	100	31	100

Source: Research Data

All the respondents used email facilities and were connected to the internet but 58% of them had no Web sites. Of these companies, 50% of the life oriented, 67% of the non-life and 50% of the composite. 42% of the companies that had Websites, 50% were life oriented, 33% were non-life and 50% were composite firms.

Of all the firms interviewed, there was no firm which had Web enabled application. A web enabled application is one where the user can log into the application from anywhere with access to the internet. This is a cheaper option and also allows other partners to obtain information as and when needed. This is a cheaper way of achieving connectivity instead of having a dedicated telephone (leased) line connecting the head office to the branches. The lack of a web enabled application could be attributed to the tools that were used for software development, for instance, CQCS and COBOL are not web enabled and hence applications developed using them cannot be deployed onto the web.

4.3 The Intensity of Use of IT across Functional Departments

Table 4-28 The Intensity of Use of IT across Functional Departments

Functional Areas	Life	Non-life	Composite	Total
Underwriting	5	23	24	52
Claims	3	39	38	80
Reinsurance	6	61	57	124
Accounting	2	32	35	69
Administration	4	52	56	112

Source: Research Data

The figures in the 'total' column give the summary of the score which each respondent gave to each of the functional area. The functional department with the lowest score indicates the highest intensity while the highest score signifies the lowest intensity. From table 4-28 above, the functional area with the highest intensity was underwriting followed by accounting, claims, administration and lastly reinsurance.

It was very encouraging to note that computing was moving from the back office to the front office. It is expected that claims and reinsurance will be more computerized than accounting (back office) in the future since accounting is undertaken by most firms as part of their statutory department under the insurance act.

4.4 The Summary of Factors that Led to Computerization

The following synopsis of responses is aimed at revealing the need or rationale for undertaking computerization among the firms sampled. There was concurrence among the respondents with regard to the answers to this question.

a) **Factors that Led to Computerization**

Table 4-28a: The Factors that led to Computerization

Factors that Led to Computerization	Frequency	Percent
Speed, accuracy and efficiency in processing data as a result of computerization. The main issue here was that the manual based information system was slow, inadequate and riddled with human errors. The graphical user interface has also enhanced the appealingness of the present application and makes them more friendlier (Robson 1997). The availability of more information will empower the staff, flatten the hierarchical structure and improve the relationship with the customer.	23	74
Increase in volume of work as a result of growth in the organizations activity.	11	35
Improved customer service, the customers are now more knowledgeable and demanding and hence it is important to furnish them with the information they need as and when they demand it.	7	23
Efficiency for goods and services, this has been attributed to the era of cost cutting and hence most firms are implementing IT in order to reduce their fixed costs. This is due to the harsh economic situation facing the country coupled with forces of globalization.	7	23
Complex work such as reinsurance calculation, complex underwriting and prompt settlement of claims, need for urgent quotation have led to the need for computerization.	3	10
Convenient data storage and retrieval	3	10
Improved workflow	2	6
Industry trend	1	3

From above, it is evident that the rationale for undertaking computerization among the respondents was generally to bring about improvement and especially efficiency as was depicted by 74% of the respondents. 35% of the firms undertook computerization due to the increased volume of work while 23% indicated that their focus was mainly on the customer.

b) Summary of the Role of the CEO during Computerization

Only one respondent from non-life oriented firm reported that the CEO was not computer literate otherwise, most of the respondents listed some of the functions that CEOs undertake as far as IT is concerned.

Table 4-28a The Role of the CEO during Computerization

Role of the CEO during Computerization	Frequency	Percent
The computer steering committee is a team of senior managers charged with the responsibility of directing and implementing IT projects	20	65
Approving IT budgets	6	19
Support all IT projects	5	16
Initiatives on IT Objectives	4	13
Advising on workflow	2	6
Advising on Product innovation	1	3

The above is in line with the literature review where the CEO's are increasingly recognizing the impact that technology decisions are having on their business and their corporate culture. As a result, the CEOs are becoming less comfortable delegating technology decisions to others and letting the IT Manager take business as the decision are both technical and business (Martin et al 1995).

Today, most of the systems and applications in the organization are computerized and this has compelled the CEO to reexamine what they need to know about this resource to manage it effectively no wonder most the CEO in the Insurance industry chair the computer steering committee which is a strategy committee for advising the Board of IT related issues (Martin et al 1995).

4.5 Potential Areas where IT could be used to Improve Performance

It was pointed out by most of the respondents that there was scope for improvement of the use of IT in the business. Some of the proposals are listed below.

Table 4-28c The Areas IT could be applied to Improve Performance

Areas that IT would be Applied to Improve Performance	Frequency	Percent
Reduce the length of underwriting policies: this option like above will assist in reducing the time required to process the documents as the customer waits.	7	23
Online Processing in all the production departments: currently most processes are not done in real time and there is need of focusing towards this direction as we enter into the era of e-commerce.	7	23
Increase use of e-commerce: there was no e-commerce taking place in the industry, this could be attributed to the prohibitive cost of interconnectivity and the type of applications in the market. This is the trend in the future and any firm that wants to survive should definitely embrace this technology.	6	19

Areas that IT would be Applied to Improve Performance	Frequency	Percent
Document Imaging: Document imaging will increase the access speed to the customer's documents and reduce the storage space that is currently used as physical filling rooms.	5	16
Branch Computerization: This will increase the access of information for making strategic, operational and tactical moves.	5	16
Improving delivering of claims: In order to gain competitive advantage, it would be worth investing in re-engineering some of the internal processes with a view of adding more cumulative value to the process.	5	16
Decision support system and expert systems	4	13
Increase the usage by increasing the number of workstations. Some of the respondents felt that computers should be used as a tool of work for all employees and therefore each employee must have at access to a workstation.	3	10
Office Automation: It was noted by most respondents that office automation will encourage integration of the core and non core activities.	2	6
Training of senior staff who sit in the computer steering committee.	1	3

The responses from most of the respondents were well balanced and most indicated the shortfalls that their organizations experienced as being the potential areas that could be improved. The reduction of the length of the underwriting

cycle was mentioned by 23% of the respondents while a similar number indicated the importance of online processing. 19% recommended that e-commerce would play a vital role in improving the performance while 16% of the respondents recommended document imaging, branch computerization and payment of claims.

4.6 Ranking Software Applications used in Office Automation

The following list of computer application packages is by no means exhaustive, but it is an inventory of the packages currently being used by the firms sampled. These computer packages also serve as a check-list of the specific areas of computer application. In essence, this list simply reinforces the findings of this study. It may also be observed that many software packages are common in usage among the firms sampled.

a) List of software Applications used in Office Automation.

The type of applications used for office automation have been listed below in a tabular format with the products with the highest percentage used being at the top of the table.

Table 4-28d List of the Software Application used in Office Automation

Software Application	Frequency	Percent
Microsoft Office: Word, Excel PowerPoint, Access	23	74
Advanced Insurance Management System (AIMS)	8	26
MS Exchange	5	16
Policy Master	3	10
Quattro Pro	2	6
Corel draw	1	3
Small business service 2000	1	3

Software Application	Frequency	Percent
PageMaker	1	3
SMB Accounting System	1	3
Bankmaster International	1	3
Horizon Financials	1	3
Omnis	1	3
Sun Accounting	1	3
TurboSoft	1	3

It is evident that 74% of the firms surveyed use Microsoft office product for office automation (non-core) while the next application is AIMS that comes a distant second with 26%.

b) Summary of the Extent of the Degree of Outsourcing

All the respondents outsourced computer hardware but the software was mainly undertaken by either the developers of the software or where it was purchased from. The main reason given for outsourcing is lack of internal capability of repairing the equipment.

4.7 The Challenges Organization faced during Implementation

Most of the respondent indicated the major challenge being resistance from the users especially from the lower rank. We have listed below some of the challenges though our list is not exhaustive.

a) The Challenges Faced during Implementation

A list of the challenges and constraints faced during computerization by the firms have been summarized below and the frequencies and percentages of occurrence calculated and indicated accordingly.

Table 4-28d List of Challenges and Constraints faced during Computerization

Challenges and Constraints	Frequency	Percent
Resistance to change: Most of the respondents concurred that the major problem was the resistance from the user who were either not involved in the acquisition process or due to the fear of the unknown.	22	71
Lack of Know-how: When the user does not have the know-how to implement the system and use it appropriately or the co-option of a staff who are not computer literate.	7	23
Poor support from the vendor: There were generally two vendors of application within the insurance sector, the respondents reported that both the firms offered poor support which subsequently lengthened the implementation process thus increasing costs.	5	16
The Budget Limit: The respondents reckoned that they are given very limited budgets that they have to operate within and hence are not able to implement the state-of-the-art applications.	5	16
Human Capital: This was reported as lack of qualified IT personnel from within (IT Department) or from the vendor.	3	10
Appreciation by the personnel: The problem is lack of appreciation by other staff of the effort of the IT staff and hence the staff get demoralized.	3	10

Challenges and Constraints	Frequency	Percent
Limited support from top management: Most of the respondents reported that the top managements only involves itself with the decision to purchase but once the application has been purchased then it becomes the responsibility of the IT manager to implement it.	2	6
Keeping pace with the market and technological requirements	2	6
Bugs in the software application.	1	3
Cultural Issues: This was generally reported by a firm that is part of an international company and hence they are usually cultural issue when deciding what application is to be purchased.	1	3
Security loop in the application: this was reported by the respondents who had system developed for them and hence there were loops within the application that users had used in the past to defraud the firms.	1	3
Poor Planning: This led to escalation of costs due to long implementation period and failure of implementation.	1	3

71% of the respondents indicated that the major challenge that the firms faced during computerization was resistance to change. This would be generally expected as introduction of IT challenges the status quo. Lack of know-how and poor support from the vendor were the second and third challenges with 23% and 16% respectively.

Table 4-29: The Extend of the existence of an IT Policy on Security

IT Policy on Security	Life		Non-life		Composite		Total	
	No	%	No	%	No	%	No	%
Not in Place	1	50	9	60	6	43	16	52
In Place	1	50	6	40	8	57	15	48
Total	2	100	15	100	14	100	31	100

Source: Research Data

Of the firms sampled 52% did not have policy of IT security while 48% had. Of the 52%, 50% of life oriented firms belonged here, 60% of the non-life oriented firms and 43% of the composite firms. Of the 48% that had IT policy on security, 50% were life oriented 40% of non-life and 74% of the composite firms.

b) Type of Implementation

Table 4-30: The Type of Implementation

Type of Implementation	Life		Non-life		Composite		Total	
	No	%	No	%	No	%	No	%
Technical	0	0	3	20	3	21	6	19
Business	2	100	11	73	5	36	18	58
Both	0	0	1	7	6	43	7	23
Total	2	100	15	100	14	100	31	100

Source: Research Data

19% of the sampled firms viewed the last implementation as a technical project, this was made up of 20% of Non-life and 21% of the composite firm. Majority of the firms, that is, 58% of sampled undertook the last IT 58% as a business project, this was composed of 100% of the life oriented firms, 73% of the non-life firms and 36% of the composite firms. 23% viewed the last implementation both

from technical and business perspective. Some of the reasons given for the different perspectives are summarized below.

Table 4-30: The Type of Implementation

Business

Business Reasons	Frequency	Percent
The decision was based on creating a competitive advantage	7	23
Meant to enhance the business processes and IT department was only required as a facilitator and the system belonged to the end-user	3	10
Increase trust in our customer's hence indirect marketing.	2	6
The users viewed process could be used to enhance the speed of communication between the firm and its customers	1	3
Increase trust in our customer's hence indirect marketing.	1	3
It was geared towards improving service delivery and company image	1	3
Basically it was understood that IT systems are there to foster business development	1	3
The project was in response to a business need	1	3

23% of the respondent indicated that the decision to computerize and the process was business due to the fact that the organization needed to gain a competitive advantage. 16% of the respondents indicated that the role of IT was generally of facilitating and therefore the systems belonged to the user.

Technical

Technical Reasons	Frequency	Percent
The implementation required support from the IT department to take care of the new application.	6	19
It was a baby of the computer section	5	16
Need to acquire a fast processing server.	3	10
Most users were to be trained in the operations of the package which was installed.	3	10

19% of the respondent indicated that IT was required to support the new application and hence the whole process was referred to as technical while 16% reported that it was technical as IT department was expected to implement or in other words carry the baby through out the process. The option for 'both' was generally a combination of the technical and business above, that is one from technical and the other from business.

CHAPTER FIVE: SUMMARY AND CONCLUSIONS

5.1 Introduction

This chapter summarizes the findings of the study in relation to the main questions raised in the objectives. It also includes conclusions drawn from the study, recommendations, limitations of the study and suggestions for further research.

5.2 Summary

The following section summarizes the findings of the study.

The study revealed that IT usage was prevalent in all firms sampled and the middle management had the highest intensity followed by lower management and top management were last in the list. It was also evident that the department with the most intensity of use of Information Technology was underwriting followed by accounting, claims, administration and finally reinsurance (See Table 4.28 for more details).

45% of the firms sampled used AIMS while 32% used Policy Master and the rest were using application developed in-house. It was also apparent that 72% of the software applications were not integrated for instance underwriting being linked to claims and hence there was duplication of data entry work. 74% of the firms had their software implementation undertaken within one year while 26% undertook the process in more than one year. 100% of the respondents reported that their departments were networked while only 10% had inter-branch connectivity. Only 58% of the firms had website while none had web-enabled application. The new companies formed had system also installed from commencement while the older companies took at least five years prior to the implementation of IT.

It was evident that most of the firms' non-core areas have also been automated using Microsoft products followed by AIMS and Policy Master respectively. Most of the respondents indicated that they outsourced hardware maintenance while software maintenance was either undertaken by the developer of the application or was done in-house.

The research reveals that the reasons for adopting IT were quiet diverse but there was concurrence among the respondents. The reasons ranged from increase in efficiency, improved customer service, increase in volume, efficiency, complex nature of business, improve workflow and industry trend. The level of involvement of the CEO was evident as 65% of them chaired the computer steering committee which is the umbrella body that develops and implements IT strategies. The respondents also noted that that there some areas that IT could still be used to improve the performance of the organization these areas included reducing the length of underwriting process, online processing, use of e-commerce and document imaging.

The challenges that faced during implementation of the system include resistance from the user, lack of know-how, poor support from vendor and top management, budget limits, human capital, keeping pace with technology and cultural issues. The other major challenge is the extend to which the implementation is viewed either from business and technical angle but there was consensus as 81% of the respondents undertook the implementation from business angle and only 19% undertook implementation from the IT angle.

5.2 Conclusion

The major question raised in this study was that of IT applications in business management. The study was carried out in the insurance industry in Kenya. In

the literature review, the use of computer based information system to management was discussed. The management of organization has been looked at from the hierarchical and function viewpoints. The aim of the study was to find out the extent to which IT is used in the management of business within the Insurance sector.

Thirty nine firms were sampled (all of which use computers) out of which thirty one responded positively. The questionnaire was aimed at collecting data on the characteristics of the companies sampled and the extent of computer usage at different management levels and functional areas. Information was sought on the extent of information technology use in business management, identify the reasons for the adoption of information technology, identify the constraints and challenges in the use of information technology.

5.4 Company Characteristics and Management Issues

The findings indicate that computer usage in business management is high, with great scope for increased computer usage. After analysis of the data, it was evident that the insurance firms fall into three categories, these are life oriented firm, non-life oriented firm and composite firms. The life oriented firms were 7%, non-life were 48% and composite were 45%.

Majority of those sampled, 45% have been in existence for more than 20 years and 81% of the firms have between one and six branches which shows that the branches are geographical sparsely dispersed. The characteristics of the firms sampled were similar with 68% of the firms employing under 100 members of staff. The smaller number of staff employed implies that the firms were employing more of capital (technology) than not labour.

Once again, the number of staff employed within the IT department of the firms' sampled shows that 84% employ less than 6 staff while 16% employ over 6 members of staff. 87% of the firms sampled had vision statements, 81% had

mission statements and 74 percent had IT strategies. This implies that more have adopted new concepts of management by embracing the concepts of strategic management.

Quite favourably, all the firms sampled positively responded to having the three tier of management identified in the literature review, namely top, middle and lower management. The respondents also listed some of the decision making tasks performed at each of these levels. These responses for each management level conformed well to the type of task performed in strategic, tactical and operational control as identified in the literature review.

It was noted that most of the insurance firms' activities are centralized and hence most issues to do with claims, reinsurance and accounting are all undertaken at the head office. The branches are therefore only left to undertake underwriting and marketing. It is worth noting that the number of computers that have been reported by most customers are less than ten per branch and hence giving us the impression of the activities that take part there are not intense.

The respondents also noted the different strategies that the firms employed during this harsh economic period, these include diversification, product development and market penetration. There were very little activities reported as far as mergers, acquisition and market developments.

The main functional areas identified by the respondents were namely underwriting, claims, reinsurance, accounts and administration were common with most of the respondents. Other functional departments that were reported include: customer Service and marketing which were in some firms treated as part of administration or part of the office of the CEO.

5.5 Computerization

80% percent of the firms sampled acquired their computers within the last 15 years in contrast to the fact that only 35% of the firms sampled had been in existence during the same period. This signifies time tag in the acquisition of computers. The computerization had taken place at both the head office and the branches but connectivity (networking) was sited to be a major problem and hence the only 19% indicated as computerized branches. The cost of connectivity was sighted as the major draw back in networking branches that were geographically far from the head office.

We also noted that only 18% of the firms sampled were integrated thus implying that generally there are a lot of repeated procedures, redundancy in terms of duplication, reduction in processing speed of documents, and reduction of fraud. The lack of integration could be attributed to either incomplete application or inability of the firms in implementing the module due to internal reasons or both. The reason given by the firms sampled had both as reason for non implementation.

78% of the firms sampled either used Policy Master or Advanced Insurance Management System which were developed using COBOL and CQCS with both using a C-ISAM database. This particular database is not relational and hence cannot guarantee the integrity and the security of the data. The front end that is the programming language (COBOL and CQCS) are not web-enabled and hence the applications cannot be hosted hence limiting connectivity. This has been a major hindrance to effective computerization of the sector. If the application was web-enabled it would be easier for companies to use dial up/leased line facilities to access the system at the head office.

On system development, only 32% of the firms sampled developed their applications while the rest purchased an off the shelf package that was later customized. The software development in all the occasions was outsourced and hence the firms sampled ended up concentrating on their core business.

The implementation period for most of the companies was within one year and the level of involvement of middle management was the highest. The efforts of the middle management could be attributed to reporting structures of most companies since the IT manager if any reports to the Head of Finance who subsequently reports to the CEO. This automatically reduces the IT manager's ability to push the top management. We can attribute the little involvement of the top management due to the involvement of the CEO in chairing the computer steering committee meeting.

5.5.1 Factors that Led to Computerization

The main aim of computerizing was either to automate or re-engineer the processes. All the organizations sampled gave different reasons for computerizing where most of them would be considered to fall under the automation category and not re-engineering. Most of the respondents mentioned efficiency as the major reason for computerization but not effectiveness and hence it was evident that there is no insurance company that is fully integrated. The firms need to focus ahead and ensure that before a process is computerized it is first re-engineered (Davenport 1990).

The firms sampled gave many reasons for computerization and there was a great deal of concurrence in their responses. Among the major reasons given included efficiency, increased volume, speed, complexity of the problems, convenience of storage and improved customer service.

5.5.2 Potential Areas of Improvement

As was noted by most of the respondents there was scope for improvement in the application of Information and communication technology. There were generally concurrence among the respondents with regards to the possible areas of improvements and this implies that there are a lot of areas that IT could be used to exploit.

Some of the possible areas noted include increased usage by increasing the number of computers in-house, increased use of e-commerce which no company has embarked on to date, document imaging, branch computerization, improvement intimation and settlement of claims.

5.5.3 Summary of the Lists of Titles used in Office Automation

Some of the non core areas have generally been ignored and hence Microsoft office is commonly used to take care of these activities. Some of the other applications used include: Corel draw, AIMS, Small Business Service 2000, MS Exchange, lotus smart suite, Quattro pro and Page maker.

Implementation was technical or business issue

58% of the firms sampled responded that the last implementation was a business issue as compared to only 19% who considered it to be a technical venture while the rest considered it to be both technical and business. The above underscore the perception of the user about implementation. The major responses were creation of competitive advantage and to improve customer service.

5.6 Recommendations

From the foregoing discussion on the 'IT application in Business management, a survey of the Insurance firms in Kenya", it is evident that though IT has been used to a great extent within this sector, there is scope for improvement.

In order for the companies to position themselves accordingly by adopting IT and gain a competitive advantage over the others, the developers of the software application should be up to date with the technological advancements to enable firm tape into them. The advancement for instance include e-commerce, the use of relational databases, the use of enterprise resource planning solution (ERP) which is a fully integrated piece of software. The integration caters of both core and non core business.

The top management should increase its involvement in IT activities, this can be achieved by first and foremost changing the reporting restructure to give the IT department autonomy and hence allow the IT manager to report to the CEO instead of head of finance as was revealed in the study. The managers should outsource most of the non core activities including Information technology, cleaning services, secretarial etc. This will enable free the management time to allow them focus on the company's unique competencies by concentrating more resources on the key strengths.

The company should train most of its senior management on modern IT skills so that they can assist in formulating and implementing the IT strategies prior to co-opting the in the computer steering committee.

5.7 Limitations of the Study

It is important to note that there were limitations as far as this study is concerned. Some of the respondents refused to co-operate for one reason or another. As a result of which the response rate was at 82% of the original sample of size 39. There was also limitation of indigenous literature regarding the insurance industry and documented researches conducted in the past.

Time, manpower and financial constraints resulted in the limited scope and depth of the study. The study took a sample of the whole population. Since no test for statistical significance was carried out, what appears to be differences in the findings based on percentages may not be significant at all. The Business management knowledge of the IT manager was limited in some situations and hence this necessitated a lot of clarifications which proofed to be quiet costly.

5.8 Suggestion for Further Research

First, this study was limited to the insurance industry and could be replicated across the various types of the industry to confirm whether there are any differences across the industry. Secondly, it is possible to undertake a research to test whether there is any relationship between the level of computerization and profitability. Thirdly, a replicative study to determine how IT in business management change with time and lastly, conducting a comparative study of the level of computerization in various sectors of our economy or even within the functional areas of the insurance sector.

APPENDICES

Appendix 1: Questionnaire

Please answer the following questions by placing a tick ( ) in the spaces provided and/or giving details as may be necessary. Thank you.

SECTION A: GENERAL

1. Name of the Organization .....
2. Which line of Insurance business does the company deal with?
   - Life Insurance ( )
   - Non-Life ( )
3. When was your organization established? .....
4. Where was it established?
   - In Kenya ( )
   - Overseas ( )
5. Is it wholly locally owned? Yes/No
6. How many branches does your organization have in
   - Kenya .....
   - Overseas .....
7. How many employees does the company have at the moment? .....
8. Is the company listed? .....
9. What is the vision of your organization? .....
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10. What is the mission of you organization?.....
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11. What is your IT strategy? .....

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12. How many employees work in the IT Department? .....

13. How many computers do you have? .....

SECTION B: MANAGEMENT ISSUES

14. In your firm, do you distinguish between levels of management? (e.g. top, middle or lower management)

    Yes ( ) No ( )

15. Does the head of IT report to the Head of Finance Department

    Yes ( ) No ( )

    If no kindly specify .....

    .....

    .....

16. Do you also have different levels of decision making task corresponding to the different levels of management?

    Yes ( ) No ( )

17. Please indicated whether the type of decision making tasks that are performed at the various management levels you have identified:

Management Level	Task performed
.....	.....
.....	.....
.....	.....

....

18. Is your organization centralized or decentralized? (i.e. to what extent are managers free to make decisions without having to report to the higher authority?)

Highly centralized				highly decentralized
1	2	3	4	5
( )	( )	( )	( )	( )

19. In most organizations, departments are formed by grouping of similar functions. In your organization, are departments formed in a similar way or according to the process being performed within the organization.

Please specify.....

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20. How is the organization you are working coping with doing business during this harsh economic period? Specify the strategies put in place.....

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21. Are you familiar with Business Process Re-engineering?

Yes ( ) No ( )

If yes, has it ever been applied in the organization? Kindly state which areas of business was involved.....

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22. Has IT used as a tool for business process re-engineering

Yes ( ) No ( )

If Yes, kindly explain otherwise If no give the potential areas where it could be applied.....

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23. Has the company entered into a joint venture with any other company or has the company collaborated with another in undertaking any business risks?

Yes ( ) No ( )

If Yes, kindly explain .....

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What role did IT play in the collaboration?.....

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24. Has the company diversified its operations during the last ten five years?

Yes ( ) No ( )

If Yes, kindly explain .....

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25. Has the company merged with another company during the last ten years?

Yes ( ) No ( )

If Yes, kindly explain .....

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26. Has the company been acquired in full or in part during the last ten years of its operations?

Yes ( ) No ( )

If Yes, kindly explain .....

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27. Has the company adopted any market penetration strategies?

Yes ( ) No ( )

If Yes, kindly explain .....

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28. Has the company adopted any market development strategies?

Yes ( ) No ( )

If Yes, kindly explain .....

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29. Has the company adopted any product development strategies?

Yes ( ) No ( )

If Yes, kindly explain .....

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SECTION C: COMPUTERIZATION

30. When did your organization acquire computers both software and hardware.....

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31. What type of hardware is being used in the organization.....

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32. What type of software application is used by the organization to run your core business? .....

33. Is the software integrated? (accounts, claims, reinsurance and underwriting are all linked together seamlessly)

Yes ( ) No ( )

Are the non core areas also computerized using the same application? State the solutions provided applied computerization.....

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34. What tools were used in developing the application? Front end .....

Database: ..... Operating system: .....

35. Was the application purchased from a vendor or developed internally?

Purchased ( ) Developed ( )

36. Were the consultants/vendors local or international?.....

If international, kindly explain the reason why.....

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37. How long was the implementation period in months? .....

What was the level of involvement of the members of staff during implementation.

	Highly Involved				Not Involved
	1	2	3	4	5
Executive	( )	( )	( )	( )	( )
Middle level	( )	( )	( )	( )	( )
Lower level	( )	( )	( )	( )	( )
.....	( )	( )	( )	( )	( )

38. Are the computers networked between

Inter-departments? Yes ( ) No ( )

Inter-branches? Yes ( ) No ( )

If yes, specify how the networking has been done.....

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39. How many workstations are available? .....

N/B These are the computers used to run the core application.

Of the workstations, how many are dump terminals? .....

Why is the company still using dump terminals?.....

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40. Are your local branches computerized and online?

Yes ( ) No ( )

If Yes, kindly explain how this have been achieved and what are the current limitations .....

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41. How many of your overseas branches are computerized? .....

Kindly give details.....

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42. Are you connected to the Internet or do you use email regularly? .....

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43. Do you have a web page and is your main software application web enable, Kindly explain.....

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44. For each functional area listed below identify objectively which department has the highest intensity of computer usage (1) for the highest use and (5) for the least use)

a. Underwriting ( )
b. Claims ( )
c. Reinsurance ( )
d. Accounting ( )
e. Administration ( )

45. For the top, middle and lower levels of managements in your organization, could you please rank each managerial level in the order of intensity of computer use? (1 for the managerial levels using computers most, 2 for the next and so on)

a. Top management ( )

b. Middle management ( )

c. Lower management ( )

Others (specify) ..... ( )

.....( )

.....( )

What could be done to improve the situation?.....

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46. Are computer based information systems used to aid the management of your organization at the various management levels per functional area?

Yes ( ) No ( )

47. For each managerial levels specified, indicate the extent to which computers systems are used in each functional area?

	To a great Extent	Fairly high	Moderate	Very little	Not At all
Top management Level					
Underwriting					
Claims					
Reinsurance					
Accounting					
Administration					
Middle Level management					
Underwriting					
Claims					
Reinsurance					
Accounting					
Administration					
Lower Level management					
Underwriting					
Claims					
Reinsurance					
Accounting					
Administration					

48. What factors led to computerization within your organization? .....

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49. To what extent do you think that computer based information systems have contributed to the performance of the management function at the following levels?

	Greatly	moderately	a little	not at all
Top level	( )	( )	( )	( )
Middle level	( )	( )	( )	( )
Lower level	( )	( )	( )	( )
Others	( )	( )	( )	( )

50. Is your CEO computer literate?

Yes ( ) No ( )

Please specify his role during computerization? .....

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.....

51. Is there scope for increasing computer usage in your organization?

Yes ( ) No ( )

If Yes, in what areas of application can computer usage be increased in your organization? .....

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52. Would list the titles of computer software application used in your organization in office automation?

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53. Are there any IT services that have been outsourced, kindly specify and give reasons why? .....

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54. What are the constraints and challenges the organization faced during pre-implementation or post implementation of the current system?

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55. Do you have a policy on IT security?

Yes ( ) No ( )

If Yes please explain .....

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56. Was the last implementation of the IT system considered to be a technical or a business issue, explain? .....

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Thank you for your cooperation

Appendix 2: Respondents Letter

June 18, 2002

Dear Respondent,

I am postgraduate student undertaking a master of business administration degree at the faculty of commerce, University of Nairobi. I am currently conducting a research in the area of strategic management as partial fulfillment of the requirements of the Master degree in Business Administration. The title of my research "Information Technology applications in Business management within Kenyan Companies: A Survey of Insurance firms in Nairobi, Kenya".

Your firm has been selected to form part of the study and I would hence kindly request you to assist by completing the attached questionnaire to the best of your knowledge. The information requested is needed purely for academic purposes and will be treated with strict confidence. We shall at no time refer to your name or that of the organization directly. Any additional information you might feel is necessary for this study is most welcome.

Your co-operation will be greatly appreciated.

Thanking you in advance

Yours faithfully

Abwao, V
MBA Student

Professor E. Aosa
Supervisor
Dept of Business Administration

Appendix 3: The list of Insurance Companies

Africa Merchant Insurance Co Ltd
American Life Insurance Company Limited
Apollo Insurance
Blue Shield Insurance Company Ltd
British American Insurance
Cannon Assurance (K) Limited
Concord Insurance
Corporate Insurance
Co-operative Insurance Company
Fidelity Shield
First Assurance Limited
Gateway Insurance Company
Geminia Insurance
General Accident Insurance
Heritage All Insurance Company
Insurance Company of East Africa
Intra Africa Assurance Company
Invesco Insurance
Jubilee Insurance
Kenindia Assurance
Kenya Orient Insurance Company Limited
Kenyan Alliance Insurance
Lakestar Insurance
Liberty Assurance Limited
Lion of Kenya Insurance Company Limited
Madison Insurance Company Limited
Mercantile Life and General Assurance
Occidental Insurance
Old Mutual Insurance
Pan Africa Insurance Company Limited
Pioneer Insurance
Royal Insurance Company Limited
Standard Assurance
Tausi Insurance
The Monarch
Trident Insurance
UAP Provincial Insurance Company
Union Insurance Company
United Insurance Company Limited

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