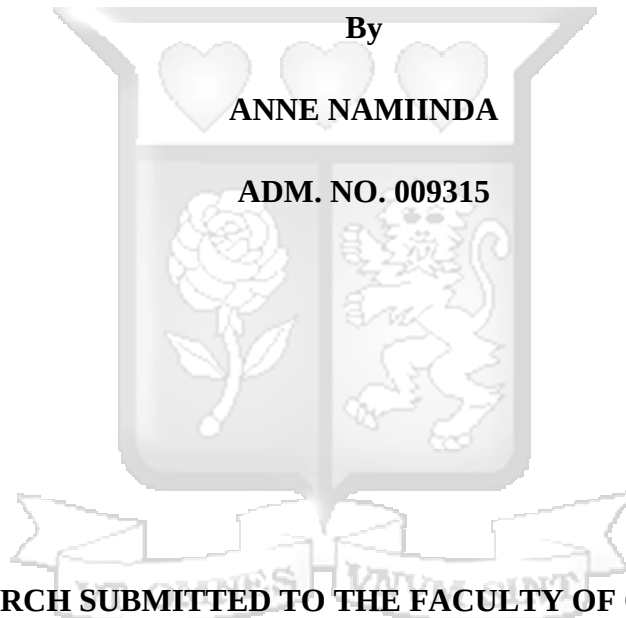


**THE IMPLICATION OF INFORMATION TECHNOLOGY OUTSOURCING
ON OPERATIONAL FIRM PERFORMANCE: A STUDY ON COMPANIES
IN NAIROBI**

By

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PARTIAL FULFILLMENT OF THE REQUIREMENTS OF THE AWARD OF
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DECLARATION

I declare that this work has not been previously submitted and approved for the award of a degree by this or any other university. To the best of my knowledge and belief, this research project contains no material previously published or written by another person except where due reference is made in the research itself.

Anne Namiinda

Signature

Date.....

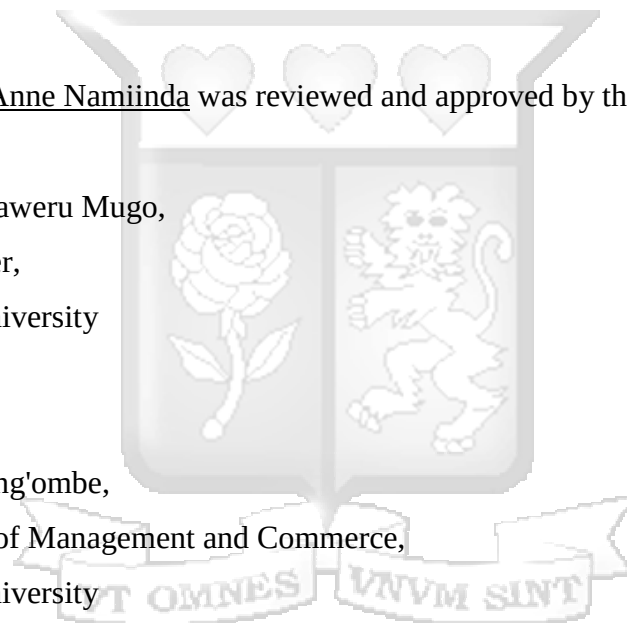
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DEDICATION

This research document is dedicated to the Almighty God and my family at large for their undying support and encouragement throughout my course. To my friends for their moral support and encouragement



ACKNOWLEDGEMENT

I wish to acknowledge the efforts of my supervisor who took time to guide me through the writing of this document and to Strathmore University at large.



LIST OF ABBREVIATIONS

I.T	Information Technology
O.EM	Original Equipment Manufacturers
ODM	Original Design Manufacturers
ISV	Independent Software Vendors
SI	System Integrators
VAR	Value-Added Resellers
R&D	Research and Development
SLA	Service Level Agreement
MIS	Management Information System
WAN	Wide Area Network
GDP	Gross Domestic Product
NSE	Nairobi Stock Exchange
ETS	Electronic Trading System

ABSTRACT

The general purpose of the study was to investigate the implication of I.T. outsourcing on operational performance of companies in Nairobi. The study sought to find out whether there is a change in cost savings after I.T. outsourcing, change in efficiency of service provision and provision of up to date technology and determine the impact of outsourcing of information technology on the provision of up-to-date Technology. Two theories were applied in this research which is transactional cost theory and agency theory. The research targeted companies operating in Nairobi where questionnaires were sent out to the targeted population for collection of primary data while secondary data was collected from the financial statements. Data collected from questionnaires was coded and entered in SPSS software for analysis.

The study found out from the analyzed data that there was indeed reduction of costs after I.T. outsourcing. From the questionnaires, the study found that most respondents were of the opinion that there was efficient provision of I.T. services and provision of up to date technology which was due to the economies of scale enjoyed by the vendor or service provider.

The study also found that I.T. outsourcing is not as widespread in Kenya as in other parts of the world. Companies in Kenya should consider outsourcing I.T. as it reduces costs and enables them to focus on their core competences. This should however be done with caution and with inclusion of all stakeholders in I.T. as well as signing of service level agreements (S.L.A.s) with the vendors.

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CHAPTER ONE

INTRODUCTION

1.1 Background of the study

Outsourcing is an arrangement in which one company provides services for another company that could also be or usually have been provided in-house. Outsourcing is a management approach that allows delegating to an external agent operational responsibility for processes or services previously delivered by an enterprise (Elmuti and Kathawala, 2000). In general outsourcing can be related to make - or - buy decisions on intermediate goods, to the hiring of temporary labour, and to the use of external services. The term outsourcing is used to describe all the subcontracting relationships between firms, and the hiring of external workers. It is thought that firms engage in outsourcing activities because they expect a positive impact on firm performance by saving resources in terms of both labour and capital. If for instance intermediate goods are no longer internally produced but purchased from an external supplier, this leads to a reduction of both labour costs and capital investments. In the absence of transaction cost, a firm will decide to outsource, when the market price for an outsourced activity is lower than internal marginal costs for that activity (Fixler and Siegel, 1999).

Information technology (I.T.) outsourcing is seen as both a negative and positive aspect in most companies. Negative because of loss of jobs by the in house I.T. employees and positive because companies have been able to reduce costs and concentrate on their core competencies as I.T. is considered as a non-core activity to many businesses (Mc Kendrick, 2010). I.T. outsourcing can be defined as contracting out of Information Technology (I.T.) functions or activities of an organization to an outside vendor who will now be tasked to manage and provide these services at a fee for an agreed contractual period.

Outsourcing is a management approach by which an organization delegates some non-core functions to specialized and efficient service providers. In the era of 'global market' and 'e-economy', outsourcing is one of the main pillars of the new way to conceive the relationship among companies. Despite outsourcing large diffusion, huge business cases and big deals of documentation available on network or press, there is no structured procedure able to support the governing of a generic outsourcing

process (Fransceschini and Galletto, 2003). Outsourcing popularity is considered somewhat enigmatic. It is not clear why companies would entrust activities considered integral to their existence to third parties. These activities include; information technology, human resources, marketing and sales, (Bauer, 1967). However according to “The 1999 Outsourcing Trends Report,” they do this. The report states that almost all companies in their survey spent more on outsourcing in the year 1999 than in 1998 and they expect this to increase (Basle Committee, 2004).

Following Kodak’s I.T. outsourcing decision in 1989, the outsourcing market grew to 76 billion dollars in 1995 (Lacity & Willcocks, 1998). A ripple effect resulted as other senior executives sought to emulate the strategic alliance enjoyed by Kodak and its I.T. outsourcing vendors (Lacity & Hirschheim, 1994). Many empirical studies have shown that outsourcing of I.T. is not an easy decision to make although it appears as a good option, providing benefits such as better performance in I.T., being able to focus on core competencies, and reduction in maintenance costs (Barthelemy, 2003). I.T. outsourcing has been said to have many advantages; outsourcing can be used to derive competitive advantage by contracting out weak activities of an organization (Loh & Venkatraman, 1997).

A large number of studies have analyzed the drivers of outsourcing from both a theoretical perspective (Jennings 2002) and a practical point of view using case studies and surveys in developed countries such as US, UK, Australia and New Zealand while many drivers are unique to specific organizations and industries, there are some common key factors that motivate organizations of all industries to make outsourcing decisions. These factors can broadly be categorized as economic, strategic and environmental. By means of outsourcing, organizations can gain competitive advantage through cost reduction and improved responsiveness to changing business environment and market demand (Al-Qirim, 2003).

The key drivers include financial reasons such as reducing costs, generating additional profits and reducing capital outlays with periodic payments (Jennings, 2002). Technical reasons for outsourcing are quality improvement, gaining access to new talent and technology, the easy availability of vendors with expertise, and economies of scale. Among the tactical drivers the most prominent ones are shortage of skilled workers and cost-reduction opportunities. Cost-reduction results in anticipated

outcomes such as, improved profitability, improved operating efficiency, and adding value to a product service. Costs saving objectives have the anticipated outcomes of, improving cash flow, and increasing efficiency (Al-Qirim, 2003).

1.2 Problem Statement

In today's competitive world, successful outsourcing is a powerful tool for companies to generate value and gain competitive edge over rivals. Companies have opted to outsourcing with the aim of generating value and gaining competitive edge against their rivals. I.T. outsourcing promises numerous benefits to companies for example, reduced costs, focusing on core competencies, introduction of new technologies, and better quality and skills from the I.T. vendors. According to Knittel & Stango (2008) outsourcing is responsible for increase in annual cost savings for the industry as a whole.

However, it does not imply that outsourcing of I.T. is the ultimate solution for realizing cost benefits. Risk is innate to almost any decisions made by companies. I.T. outsourcing carries with it potential risks to an organization such as not realizing cost reductions as expected, quality problems and increase in complexity, loss of control and know-how and dependence on one outsourcer with no possibilities of switch (Ernst & Young, 2009). If organizations outsource the wrong functions they may develop gaps in their learning or knowledge base which may preclude them from future opportunities (Earl, 1996). Gillett (1994) observed that Organizations may “give away the crown jewels” if they are not careful (Gillett, 1994). An example is IBM Company that outsourced the wrong things. Paoli and Prencipe (1999) observed that in highly integrated and evolutionary technologies, applying the traditional core competence tests may result in outsourcing too many or the wrong functions. Literature also indicates that in industries with complex technologies and systems, internal synergies may be lost when some functions are outsourced. This could result in less productivity or efficiency among the remaining functions (Quinn and Hilmer, 1994).

Therefore, despite I.T. outsourcing promising numerous benefits to companies, without analysis of the resulting impacts arising from the outsourcing process, the companies may not realize the full benefits. Instead, they might result in less productivity or efficiency. The success of I.T. outsourcing can be judged on the basis

of the end results attained and therefore it is necessary to examine the resulting impacts of I.T. outsourcing to the businesses. This study sought to address this gap by examining the implication of I.T. outsourcing on operational firm performance.

1.3 Study Location

The study was carried out in Nairobi citing the characteristics of businesses that are majorly SMEs. The process of IT outsourcing to an external service is a crucial step for small and medium enterprises (SMEs) as it can potentially save a lot of money, resources and hassle for maintenance and updates (Armbrust, 2009). A company has two possibilities. Furthermore the choice of Nairobi as a location for study was triggered by the fact that most companies operating in Kenya are located in Nairobi with majority of those companies operating in different parts of the country having their headquarters in Nairobi. Hence the study was justified to undertake the research in Nairobi which could then be generalized to other companies across the country.

1.4 Research Objectives

1.4.1 General objectives

The general purpose of the study was to investigate the impacts of outsourcing of information technology on the operational performance by companies.

1.4.2 Specific Objectives

- i. To determine the impact of outsourcing of information technology on operational costs of the company.
- ii. To establish the effect of outsourcing of information technology on provision of I.T. services.
- iii. To establish the impact of outsourcing of information technology on the provision of up to date Technology.
- iv. To determine the major reasons for I.T outsourcing by the Kenyan businesses.

1.5 Research Questions

- i. What is the impact of outsourcing of information technology on the operating costs of the company?
- ii. What are effects of outsourcing of information technology on provision of I.T. services?
- iii. What are the impacts of outsourcing of information technology on the provision of up to date Technology?
- iv. What are the major reasons for decision to outsource I.T for the businesses in Kenya?

1.6 Scope of the study

The study was carried out by looking at the financial statements of the sampled companies, five years before and five years after they outsource I.T. That is from time $t-5$ to time $t+5$. The aim of this was to find out the trend or behavior of operating costs before and after I.T. outsourcing. The study was restricted to Nairobi area because a majority of companies involved in the outsourcing of IT are found there and they also expand outwards to other parts of the country through establishment of branch networks. Nairobi was chosen as the study area due to its strategic characteristics of accessibility to the I.T infrastructure for the firms that required outsourced I.T services. It was also convenient for the researcher to get a sample and be able to conduct the study within a lean budget of resources

1.7 Limitations

Information considered confidential by most companies that would have helped in the study was hard to come by. The interviews had to be conducted twice to get the information required.

The companies studied were from different turnover segments and it was therefore hard to find out the impact of I.T. outsourcing in the companies as a whole. Some companies had large operating costs while others are small. The cost savings appeared to be small in other companies while large in others.

1.8 Purpose of the study

This study will focus on I.T application outsourcing with special emphasis on how Kenyan businesses are taking advantage of outsourcing. The study will build on the knowledge and information available from other countries by examining in detail the themes of outsourcing satisfaction and benefits realization, processes and practices as they relate to the Kenyan case. The aim of this study is to build on the current research into I.T outsourcing in the Kenyan context, in particular the reasons for I.T outsourcing being considered successful or not. Integral to this study is the understanding that the competencies of outsourcing partners are integral to the eventual success of an outsourcing relationship.

1.9 Significance of the study

Organizations:

The findings of this study helped to show the extent to which the companies that practiced I.T outsourcing had benefited from the process. Also, the companies that are considering outsourcing their I.T. functions in the future would benefit from this study in finding out how to approach the I.T. outsourcing decision and the benefits promised from this decision. They would be able to evaluate themselves and find out whether they should outsource I.T. or keep it in-house.

This study will also help those companies which had I.T. outsourcing strategies to evaluate whether their outsourcing processes were indeed successful to their operational performances in order to decide on whether to continue outsourcing or stop.

Future Researchers:

Future researchers would benefit from the already analyzed information about the outsourcing of the I.T. services and the understanding of whether the services should be outsourced or should be provided in-house. From the limitations of the study, they would find out how else to approach the subject and achieve a different conclusion.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

Historically, I.T. invention took place inside conventional supply chain surroundings. This has changed in today's environment, global competition has forced companies to become more efficient and reposition themselves strategically within the competitive market place which has resulted to many companies turning to outsourcing (Djavanshir, 2005). While I.T. outsourcing promises numerous advantages, it also contains risks which are also inherent in other business decisions (Aubert *et al.* 1998).

I.T. outsourcing is a great tool that brings significant differences in the organization applying it to other organizations (Kakabadse & Kakabadse, 2000). For outsourcing to work, the organizations applying it, must understand their business structure before giving them to outside vendors and suppliers. If they do not understand their own processes, outsourcing will not provide a solution to their perceived problems but will only lead to increased costs (Kakabadse & Kakabadse, 2000). I.T. outsourcing should involve top management and should be a key area in the overall business strategy. When care is taken in selecting a service provider and a good contract set in place with agreed upon service levels, companies will be able to obtain the benefits they expect (The Canadian Institute of Chartered Accountants, 2003).

2.2 Theoretical Review

There have been several theories advanced in the explanation and research of I.T. outsourcing. These include; transaction cost theory, relational view theory, concept of core competences theory, resource-based view theory, evolutionary economics theory, agency theory, knowledge-based view theory, neo-classical economic theory, social exchange theory and economy of information theory. In this research, the transactional cost theory and agency theory will be used in explaining I.T. outsourcing because they are in line with the study which focuses on finding out whether there are any benefits or cost savings after outsourcing I.T.

2.2.1 Transaction Cost Theory

Transaction cost theory is used to explain why management or the organization will seek to make a buy or build decision. That is, whether to have their I.T. functions in house or outsource them to a third party provider or vendor. After noticing an inconsistency between the original economic theories and the situation on the ground for most companies, Williamson developed the transaction cost theory (Lacity & Hirschheim, 1993). The theories argued that goods and services were efficiently produced in companies that specialize in the particular area as they are able to achieve economies of scale. Williamson argued on how it was possible for large companies to come up in the 20th century because it was improbable according to previous economic theories (Perrow, 1986).

According to the transaction cost theory, companies must decide on which activities should occur within the company and the activities or transactions that are better managed outside the company. Costs of transactions are less within companies because of their structures but internal costs of transactions exist (Coase, 1937). A transaction is trading of goods or services between two or more people placed in or out of the organization (Williamson, 1985). It can be applied to I.T. outsourcing as a framework for analyzing the outsourcing option. De Leooff (1996) as cited by Booijen (2004) argues that I.T. outsourcing results in lower costs of production and increased transaction costs. Outsourcing of I.T. should be picked if the gain from costs of production arising from economies of scale is more than the rise in transactional costs (Booijen, 2004). This theory predicts when decision makers will choose the market and when they will choose in-house delivery through the organizational hierarchy. According to the theory, the relative costs for these two strategies depend on two types of costs; production costs and transaction (Rouse, 2009).

2.2.2 Resource-based View

The core premise of the resource-based view is that resources and capabilities can vary significantly across firms, and that these differences can be stable (Barney and Hesterly, 1996). If resources and capabilities of a firm are mixed and deployed in a proper way they can create competitive advantage for the firm. The resource-based view in outsourcing builds from a proposition that an organization that lacks valuable, rare, inimitable and organized resources and capabilities, shall seek for an external

provider in order to overcome that weakness. Therefore the most prominent use of the theory is in the preparation phase of the outsourcing process for defining the decision making framework and in the vendor selection phase for selecting an appropriate vendor. The theory has been also used to explain some of the key issues of the managing relationship and reconsideration phases.

2.2.3 Past Research Using the Theories

Grover, Teon and Cheng, (1996), use transaction cost theory to explain outsourcing trends. Results of service quality of the vendor and the capability of companies to make a partnership on those relationships are studied. They collected information from 188 senior company employees. The outcome from the study shows that transaction cost theory provides a good outline for I.T. outsourcing. Quality of service from the service provider, trust and communication are central in ensuring success of I.T. outsourcing (Grover et al., 1996). Aubert et al, (2002), use transaction cost theory to come up with a number of suggestions on the relationship between the features of the transaction and the level of service agreement completeness by studying 200 firms to test their hypotheses. They conclude that the highest level of completeness in the service agreements is an outcome of substitution between the costs of a complete agreement and the anticipated costs linked to the level of risk exposure (Aubert et al., 2002).

Fitoussi and Gurbaxani (2007), use agency or contract theory to find out how goals and benefits are connected in outsourcing contracts that have a number of goals with different measurement costs. They find that the use of direct motivation for a given measurable goal is negatively linked with the existence of less measurable goals in the contract (Fitoussi & Gurbaxani, 2007). Hall and Liedtka (2005), use transaction cost theory to explain what motivates large I.T. outsourcing decisions considering their inherent riskiness. They look at fifty one companies that chose to outsource all or a big portion of their I.T. in the year 1993 to 2001. They find that motivation brought about by Chief Executive Officers (CEOs), considerably control the decision to outsource. In this regard, they give a relationship between I.T. outsourcing and management self-interest (Hall & Liedtka, 2005).

Bahli and Rivard (2003) used transaction cost theory in their study to confirm measures of the risk factors linked to I.T. outsourcing processes. Information from the theory implies that risk factors are inbuilt in the transaction itself, the vendor and the client or company seeking to outsource. They interviewed one hundred and thirty two senior I.T. managers to assess the dependability and strength using Partial Least Squares (PLS) (Bahli & Rivard, 2003). Aron, Clemons and Reddi (2005), use transaction cost theory which explains the existence of separate entities rather than the general confidence in traditional market transactions. They argue that the threats of outsourcing have been the major constraint on the rise of outsourcing. They provide taxonomy of risks associated with outsourcing. They focus on strategic risks and identify the components of this risk and the means by which it can be mitigated (Aron *et al*, 2005).

Dhar and Balakrishnan (2006), use transaction cost theory to explain their study. They classify the major risk aspects and best practices in I.T. outsourcing. They perform case studies of two companies and give credence to some of the assertions made by previous researchers on I.T. outsourcing. They find that reduction in costs is the major cause for companies to consider outsourcing. Another reason companies outsource is to acquire highly skilled resources or manpower. Their study hopes to help the decision makers in finding out the risk aspects and take the required action to reduce those (Dhar & Balakrishnan, 2006).

2.3 Empirical review

2.3.1 Operational costs

Outsourcing is considered as a new way of reducing costs and approximately 50% of the major corporations are doing it (Robins, Kevin, 1986). According to Cashman, (1999) companies can try enhance their income by reducing their costs in this era of insipid financial growth. Most studies cite reduction in operating costs as the leading reason companies consider I.T. outsourcing (Casale, 2001). Some researchers contend that an important source of cost reductions is the outsourcing firm's access to economies of scale and the unique expertise that a large outsourcing vendor can deliver (Roodhooft and Warlop, 1999). Some other studies report considerable positive effects, savings and increased efficiency; in general they outline positive

impacts of outsourcing while others find no benefit or even increased costs resulting from tendering and contracting out (Mirko and Stanimirovic, 2011).

However, De Looff, 1996 as quoted by Booijen, 2005 had the opinion that I.T. outsourcing should be taken into account if cost savings from economies of scale is more than the transaction cost (Booijen, 2005). Barthelemy, (2003) argues that I.T. Outsourcing also assists in focusing on the core business of the company which is important as it ensures that the bottom line achieved sometimes gets eaten away by costs that cannot be pointed out (Federal Reserve Bank of San Francisco 2004). Companies claim that they entered into outsourcing contracts with the knowledge that they comprehended all significant costs. Hardly any of the companies surveyed had considered the switch over costs to a new supplier and these costs cancelled out the expected savings from outsourcing (Gewald & Dibbern, 2005).

2.3.2 Provision of I.T. services

Kumar (2004) observed that Technology plays an important role in improving quality performance and service delivery. Kumar further pointed out that these results because the service providers are able to follow the current situation and trends in the market and offer their clients up to date technology in I.T. systems. For such firms, I.T. outsourcing is not performed in isolation, but as part of a larger effort (Smith, Mitra & Narasimhan, 1998). The service providers usually have more experience than individual companies whose core business might not be in I.T. and are therefore able to provide better services in I.T. (Allen & Morton, eds. 1994).

According to Robins, K. (1986) the technologically advanced companies should make use of information systems that will help them in providing services to their customers in a more efficient and easy to use way. Kumar (2004) pointed out that “Service excellence has become the basic instinct and real value differentiator that drives client satisfaction. Operational excellence, product/service leadership and highly effective client relationship management are keys to assuring superior service delivery. The service provider must have a clearly defined service vision in line with outsourcers’ priorities and hones on creating measurable values”.

Outsourcing arrangements usually last for a number of years and are managed by contracts that set the guidelines or terms and conditions between the client and service

provider. To check whether the contract is being adhered to, Service Level Agreements (SLAs) are set up (Venkatraman, 1992). A Service Level Agreement is important as it defines what the vendor is required to do and the services he will provide to the client, the amount of work that is required and also the quality of service expected. SLAs are able to provide the targets used in measuring the performance of the vendor to what he has agreed to provide for as set out in the contract (Naser & Mora, 1994). At the core of any successful SLA is its performance metrics. During the duration of the I.T. outsourcing arrangement, these metrics will be used to determine whether the vendor is meeting the obligations set out in the contract (Adelman, 2000). If the SLA metrics are carefully chosen, they will be able to measure the correct performance features to ascertain that the client is receiving the agreed upon service levels.

Quality of Service metrics is perhaps the most diverse of all of the SLA metrics. They cover a wide range of work products, deliverables and requirements and seek to measure the conformance of those items to certain specifications or standards. When deliverables fail to meet the acceptance criteria in the specifications or standards, quality problems arise. It is best if each major deliverable contained in the SLA has a corresponding acceptance criterion to judge the quality of the deliverable. When that is the case, quality of work can be expressed positively (% of deliverables accepted) or negatively (% of deliverables rejected), (Cashman, 1999).

Quality of service metrics include defect rates which are the percentages that measure the mistakes on agreed upon objectives. These defects include number of system or production failures per day or month and number of deadlines that have been missed. Compliance with the company standards is also another measure of the vendor's performance. The availability of service to customers, both internal and external showing on-line and off-line times which are then reported as positive or negative (Robins & Kevin 1986). The SLA metrics should be well outlined in order for them to target the correct factors in the contract so as to ensure efficient service from the vendor.

2.3.3 Provision of Up-to-date Technology

According to Lacity & Willcocks, (1995) Implementing I.T. projects can be a difficult and complex task. The processes are not easy to understand and govern and have some barriers that prevent the accomplishment of the anticipated impact. Venkatraman, (1992) argues that dealing with the problems in I.T. implementation is usually a round-the-clock task. Venkatraman further noted that the solutions change as quickly as the technological changes. Patry & Rivard (1998) observed that Information technology execution is vital because of the significance in integrating it to achieve and support the goals of the company. Most writers in information technology are of the view that it is closely related to the design and culture of organizations (Patry & Rivard, 1998).

The users and management are important for I.T. implementation to be effective. The systems should also be according to the required standards and friendly to use otherwise there is a risk of resistance which is in three types; individuals resisting because of internal reasons specific to them or their department, the resistance could also come from the factors within the I.T. system and resistance also comes from individuals resisting the I.T. system due to the contact of their own personal characteristics to those of the I.T. systems (Basle Committee, 2004). In summary, the struggles of I.T. governance and functioning are increased due to many reasons for example; costs and resources accessible, skilled employees, the technology in question and environment under which it is operating together with the culture in the organization (Heinzel & Dibben, 2002).

2.4 Potential Risks in I.T outsourcing

Outsourcing is usually taken up by many companies in order to control or help in cost reduction. There is however, rising proof that it does not reduce the costs as anticipated and in other cases, these costs increase. For instance, a research based on one thousand managers from around the world done by the PA consulting group as quoted by Kakabadse and Kakabadse (2000) found that only five per cent of them earned significant levels of profits from outsourcing. The study also found that thirty nine per cent of cases resulted in low results (Kakabadse & Kakabadse, 2000).

Other general risks associated with I.T. outsourcing include:

2.4.1 Operational Problems

These are problems that occur during execution of I.T. services by the vendor. These problems include; system failure, lack of data integrity which can lower the company's capability in making good decisions using the information produced from the system. This may result in loss of reputation, economical losses, lawsuits, fines and penalties. Outsourcing arrangements are performed by employees outside the organization who may not have the required techniques and methods to ensure confidentiality, integrity and availability of data (Canadian Institute of Chartered Accountants, 2003).

2.4.2 Staff Problems

Staff issues are also another risk faced when I.T. is outsourced. In a survey by Ernst and Young, 2009, 12% of respondents cited it as one of the difficulties in outsourcing. Such problems may be at the organization seeking to outsource or the vendor. The employees on the buyer side fear losing their jobs as well as internal reorganizations while the vendor side employees may have difficulty relating to the other staff due to physical distance and different corporate cultures (Ernst & Young, 2009).

2.4.3 Cost Problems

Inadequate planning of the outsourcing decision may lead to the organization incurring unexpected costs associated with conversion and supervision which influence the success of the outsourcing choice (Canadian Institute of Chartered Accountants, 2003). Additional costs also come about in the form of internal I.T. staff fixing problems many of which have been caused by the vendor. Vendor staff may also not know critical application knowledge which is known by the internal I.T. staff but has not been documented. They must therefore learn this which leads to delays and additional costs in fixing problems.

2.4.4 Confidentiality Risk

This is when there is a likelihood that the company's information system will be subject to unauthorized access. This occurs when I.T. is contracted out to an external service provider which increases the number of users to the system and the probability of information security measures being breached. The company risks losing control

over its system security administration, data confidentiality and privacy in terms of financial data, specialized or strategic software, trade secrets, employee records such as payroll and information on clients (Wright, 2004).

Many corporate managers wrongly believe that by outsourcing I.T., they have also transferred the liability of protecting information when a breach occurs. Vendors may agree to indemnify them for breach of confidentiality, but the legal liability remains with the company (Freeman, 1984). Customers and stakeholders have become more concerned about the confidentiality of information they provide to companies due to the increase of abuse of personal data through fraud and identity theft (Colwill, 2006).

2.4.5 Exit barriers or total dependence on the vendor

When a company becomes totally dependent on the services provided by a third party, it can lead to major problems. The company's I.T. functions cannot be executed and technology changes made without consulting and co-operating with the outsourcing company. In-house I.T. staff can tailor the system according to the needs of the company as opposed to an outsider. When the vendor decides to terminate the relationship, he has become an expert in carrying out the company's I.T. functions and the company no longer has any such expertise (Wright, 2004).

JP Morgan Chase, in the United States announced that it would bring back in-house a major set of I.T. functions that it had outsourced to IBM in a 5 Billion Dollar deal for seven years. The bank feels it is critical for it to control and manage I.T. directly to gain competitive advantage after two years of signing the contract. They suffered cancellation penalties, missed opportunities and other transition costs (Fainsilber & Jones, 2007).

2.5 Legal Consequences

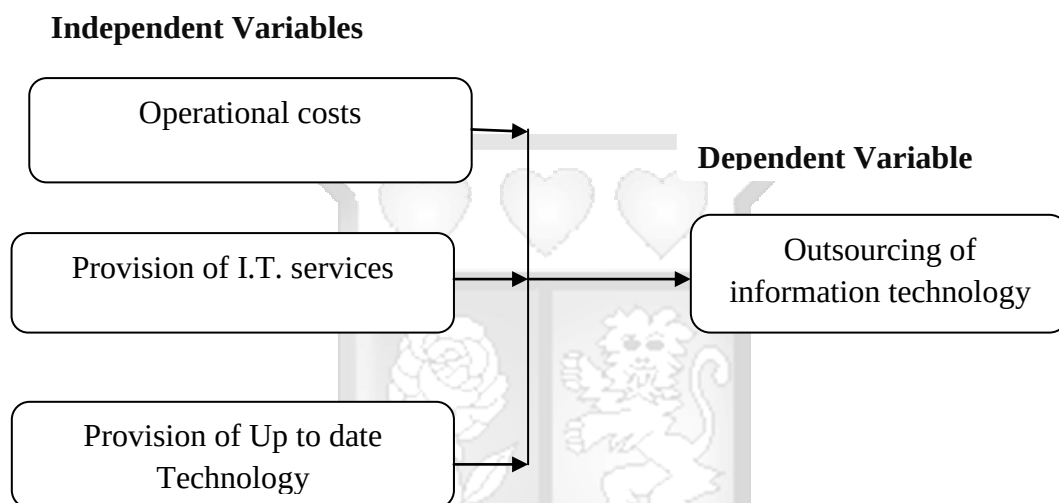
I.T. outsourcing involves two entities entering into a commercial relationship (Agent and Principal). The outsourcing company does not have a legal responsibility to the host company in relation to any liabilities incurred (Wright, 2004). It is therefore the task of companies involved in the outsourcing decision to analyze and find solutions in reducing the exposure and protection of their in-house and client records (Djavanshir, 2005). The decision to outsource should be taken for sound business

reasons and should not be driven by technological considerations and cost savings only (Burnett, 1998).

2.6 Conceptual Framework

The conceptual framework that was used for the purpose of this study was developed basing on previous studies and the Nairobi context. Figure 2.1 provides the summary of conceptual framework.

Figure 2.1: Conceptual Framework



2.7 Operationalization of variables

2.7.1 Operational Costs

Studies indicate that outsourcing aids in reduction of costs by 20% per annum (Wilcocks & Lacity, 1995). Cost savings are achieved after outsourcing I.T. to a vendor who is subject to competitive pressure and therefore will ensure that services are provided efficiently and effectively. Domberger *et al.* 2002 use an exact case of outsourcing to calculate the total cost of the outsourcing exercise. They calculate the present value of costs and expenditures over the entire life of the contract to determine whether outsourcing has resulted in cost savings overall.

Lacity and Wilcocks (1995) examined 61 outsourcing resolutions in USA and Europe from which 13 were full I.T. outsourcing decisions. Their attention was on achievement and failure of the outsourcing decisions. They calculated it by evaluating results against the expectations of the companies and also against expected cost

savings because they were pointed out as a major expectation in 85 per cent of the cases.

Smith, Mitra and Narasimhan (1998) argue that there are two approaches to providing empirical support for the key drivers of I.T. outsourcing. The first approach is collection and analysis of internal company data through surveys and questionnaires to determine management perceptions about the motivations for outsourcing. The second approach involves the analysis of publicly available financial data for a larger number of companies involved in I.T. outsourcing arrangements. They chose the second approach because studies of public financial data are rare, audited financial records provide a more objective assessment of a company's performance, the research is more easily reproducible and it is easier to deal with a large sample using this method.

2.7.2 Provision of I.T. Services

Behaviors such as willingness to help and trustworthiness are considered in overall service quality evaluation, (Grover, Cheon & Teng, 1996). It is not easy to evaluate the quality of service than it is to evaluate goods. Customers or consumers compare expected service levels with perceptions of the service received to evaluate quality (Gronroos, 1983). Contentment with services is related to confirmation of expectations. A study by Grover, Cheon and Teng (1996) to evaluate quality of service, collected data by using questionnaires which were sent out through mail to their intended recipients and followed up with other questionnaires to those who had not responded three weeks later.

Success of outsourcing, the dependent variable in their research, refers to the general organizational gain from the outsourcing decision. To get the tangible and intangible advantages of outsourcing, they use the concept of satisfaction. Nine items assessing the degree to which service receivers are satisfied are constructed with respect to three categories of benefits (strategic, technological, and economic). They adopted the instrument SERVQUAL for their research. Two of the five dimensions of the instrument that seem relevant to outsourcing are used. The two dimensions are representative of the service quality construct for the purposes of their study. The service quality is determined by the sum of the difference between perceived and expected scores for each item (Grover *et al*, 1996). In this study, questionnaires were

sent out to the heads of I.T. of the targeted population and the questions were based on the likert scale of 5 to 1, which were then analyzed using SPSS.

2.7.3 Provision of Up-to-date Technology

This is incorporated in the Service Level Agreement (SLA) and is part of the value of service hoped for. It is required that the contracting organization and the vendor agree upon the maximum time it should take for a service or a change in technology to be implemented.

This variable was tested by use of a questionnaire. It was analyzed using the likert scale from 5 (Strongly agree) to 1(Strongly disagree) to whether there is a change in efficiency after I.T. outsourcing or not.

2.8 Summary

I.T. outsourcing is an instrument that is considered by companies as a way of reducing costs by deciding on the I.T. services to be provided by a vendor who is considered to have economies of scale, knowledgeable staff and access to new technologies that can benefit the company.

Savings on costs are frequently thought of as the causes why companies choose to outsource. Emerging developments show that today's I.T. outsourcing decisions are often enthused by aspects other than cost (Baldwin *et al.*, 2001).

There are several risks attributable to I.T. outsourcing which makes it hard for companies to make the build or buy decision. Companies should pay close attention to I.T. and not relegate it to outside vendors without constant supervision. The company and the vendor or service provider have different or conflicting needs and it is therefore necessary that the company seeking for I.T. services from outside, understand this and mitigates this risk by coming up with a contract inclusive of service level agreements that is legal and binding.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter explains the methodology the researcher used when collecting data, the research design, target population, sampling design, and data collection instruments and data presentation methods used.

3.2 Research Design

The study adopted a descriptive research design. This design was selected because the respondents were required to describe the performance of their companies over a period of time. The description was meant to build a profile on the impacts of outsourcing of information technology on the operational performance by companies. Descriptive research design was chosen because it would enable the research to generalise the findings to a larger population

3.3 Target Population

The target population of the study consisted of companies operating in Nairobi which were involved in I.T. outsourcing. According to Kenya's IT and Outsourcing Services (KITOS) which is a private sector body that acts as the catalyst for the growth of the IT & Outsourcing Services Industry in Kenya, there are 16 (Appendix 5) companies listed under KITOS that carry outsourced IT services in Kenya. These companies are offering services to 245 companies. These 245 companies formed the population of the study.

Table 3.1: Target Population of the Study

Category	Target population
agricultural industry	49
commercial and service industry	81
Telecommunication and technology industry	25
Automobile and Accessories sector	16
commercial and banking industry	15
insurance industry	19
investment industry	22
manufacturing and allied industry	18
Total	245

Source: (KITOS, 2013)

3.4 Sample Size

From the target population of 245 IT outsourcing firms operating within Nairobi, the study used stratified sampling technique where firms were categorized according to average annual turnover for the last five years. The firms were classified into small, medium and large turnover companies. According to Mugenda and Mugenda (2003), a sample of between 10-30% is considered adequate provided the sample is scientifically determined. The study chose a sample of 16.8% which translated into 25 firms. These firms were distributed as shown in the table 3.2:

Table 3.2: Sample distribution

Category	Target population	Sample Proportion	Sample Size
agricultural industry	49	6.12%	3
commercial and service industry	81	11.11%	9
Telecommunication and technology industry	25	12.00%	3
Automobile and Accessories sector	16	6.25%	1
commercial and banking industry	15	13.33%	2
insurance industry	19	10.53%	2
investment industry	22	9.09%	2
manufacturing and allied industry	18	16.67%	3
Total	245		25

3.5 Data Collection

The study collected both primary and secondary data for the purpose of analyzing the impacts of outsourcing of information technology on the operational performance by companies. Primary data was collected using a questionnaire while secondary data was obtained from financial statements of the companies.

Before the actual data collection, the researcher carried out a pilot study to pretest the validity and reliability of data collected using the questionnaire. This aimed at ensuring that the questionnaires had the right questions for the right responses. Validity here is the degree by which the sample of test items represents the content the test is designed to measure.

Closed ended questions were used because they are easier to analyze and administer. Open ended questions were also included in the questionnaire as they permit the respondents to give depth to their response, as well as give their personal opinion on a matter. Questionnaires were the main data collection instrument because they are relatively cheap and easy to administer as compared to other collection tools.

3.6 Data Analysis and Presentation

In order to analyze collected data a researcher needs to have the following information about the statistical data analysis tools namely: descriptive, inferential and test statistics. Before processing the responses, the completed questionnaires were checked for completeness to ensure consistency. Data collected was then coded and entered in statistical package for the social sciences (SPSS) software for analysis. It was tallied to get totals, averages and means.

In response to objective one, the researcher sought to find out whether there was a change in operating costs after I.T. outsourcing. The study looked at the financial statements of the 25 companies with respect to operating costs, five years before and five years after the outsourcing decision. This was then analyzed to look at the cost savings per year with the savings being attributed to I.T. outsourcing.

In response to objective two, the research sought to find out whether there was a change in efficiency of I.T. services provided after outsourcing I.T. This was done through questionnaires to the I.T. department in the 25 companies surveyed where questions were based on the likert scale of 5(strongly agree) to 1(strongly disagree) to whether there is a positive or negative change after outsourcing I.T.

In response to objective three, the research sought to find out whether there was provision of up to date technology by the vendor given that he enjoys economies of scale and he is able to acquire new technology with much ease than an individual company that does not rely heavily on I.T.

This was done through questionnaires with 5(strongly agree) to 1(strongly disagree) to whether there is provision of up to date technology after outsourcing I.T.

3.7 Regression Models

The variables are expressed as follows:

Constant term is denoted by α , while β denotes Beta co-efficient, X_1 represents Cost of operations X_2 represents Efficient provision of IT service, x_3 represents access of up to date technology. While ϵ denotes the Error term.

Model I

It outsourcing = f_1 (employees' operating costs)

$$P = \alpha + B_1X_1 + \epsilon$$

Model II

$$\text{IT outsourcing} = f_2(\text{efficiency of operations on IT department}) \quad P = \alpha + \beta_2 X_2 + \epsilon$$

Model III

$$\text{IT outsourcing} = f_3(\text{availability of up to date technology})$$

Thus,

$$P = \alpha + B_1X_1 + \beta_2 X_2 + \epsilon$$

In order to determine the impact of the independent variables on the dependent variable, the researcher conducted a regression analysis where the co-efficients of determination were extracted to explain the relationship between the variables. The model used was in the form:

$$P = \alpha + B_1X_1 + \beta_2 X_2 + B_3X_3 + \beta_4 X_4 + \epsilon$$

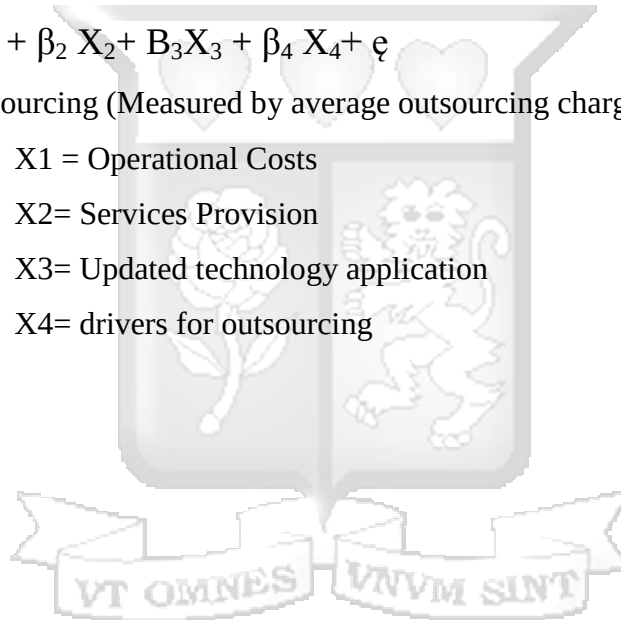
Where P= outsourcing (Measured by average outsourcing charges)

X1 = Operational Costs

X2= Services Provision

X3= Updated technology application

X4= drivers for outsourcing



CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

4.1 Introduction

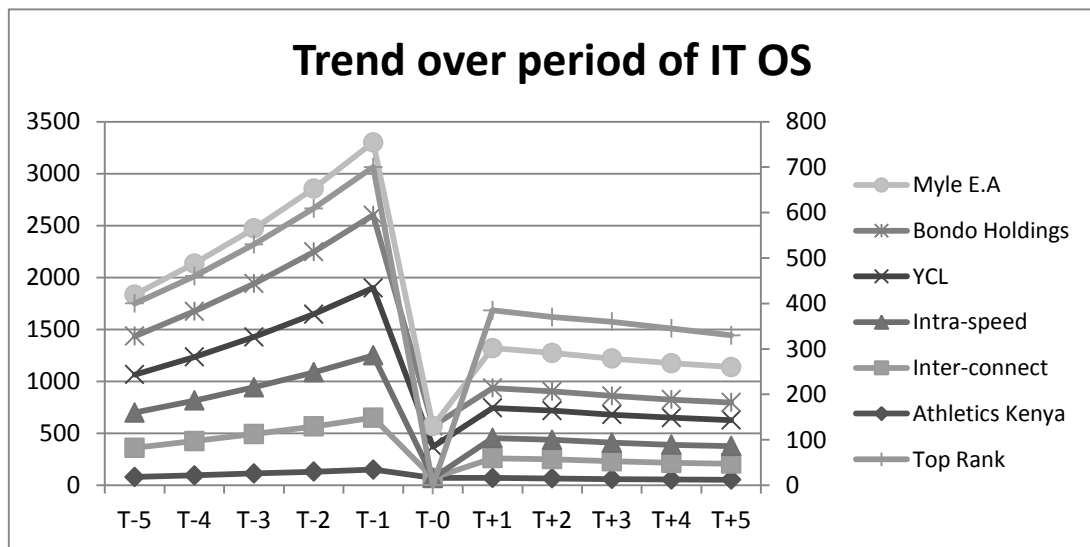
This chapter presents analysis of the data on the impacts of outsourcing of information technology on the operational performance by companies. The study targeted a sample of 25 respondents out of which 24 filled and returned the questionnaires giving a response rate of 96%. This response was good enough and representative of the population and conforms to stipulation that a response rate of 50% is adequate for analysis and reporting; a rate of 60% is good and a response rate of 70% and above is excellent.

4.2 Impact of IT outsourcing on operating costs

The aim of this objective was to find out the effect of I.T outsourcing on the operational costs. From the 25 companies surveyed (Appendix 3– Table 1), costs had reduced significantly after outsourcing some or all of their I.T. functions.

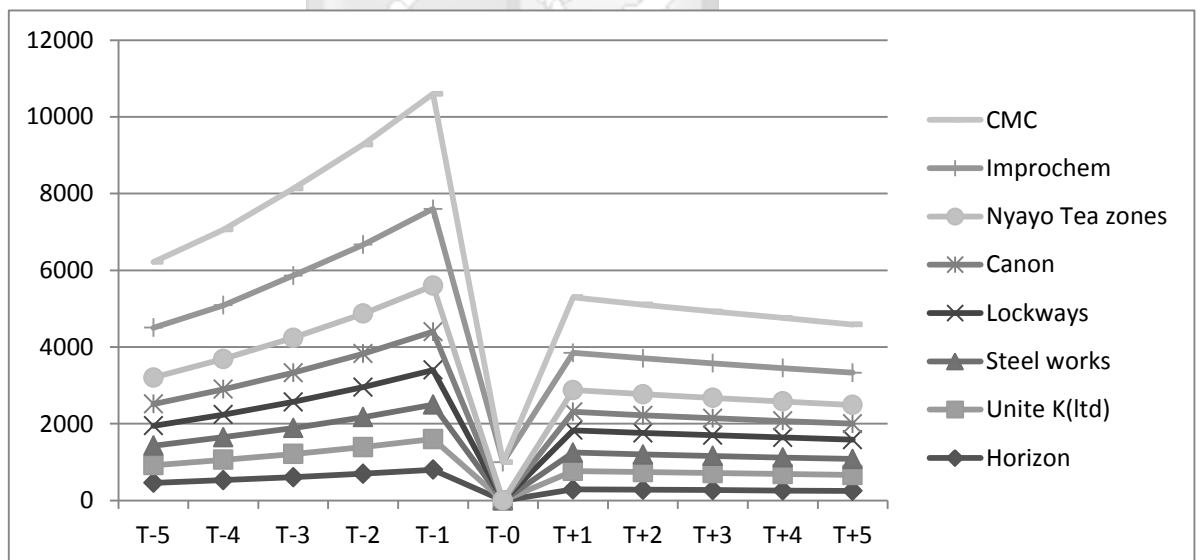
The following graphs (figure 4.1 to 4.2) show the series for the companies that outsourced their I.T. covering from 1-5(5 years before outsourcing), 6 (year of outsourcing) and 7-11(five years after outsourcing). From the graphs depicted in the figure 4.1 below, it can be noted that the period preceding outsourcing of IT services recorded high costs but the costs started to drop after entering into an outsourcing agreement. T-0 which is the year of outsourcing is followed by lower costs as compared to the period before T-0.

Figure 4.2: Small firms cost benefits out of outsourcing



From the figure 4.2 above, it can be noted among all the small turnover firms that the period prior to outsourcing posted higher operating costs as compared to the periods after adoption of outsourcing. For example, Top Rank had its operating costs for the five years prior to outsourcing totaling Ksh. 2, 699, 000 as compared to a much lower cost of Ksh. 1, 790, 000 after adoption of outsourcing.

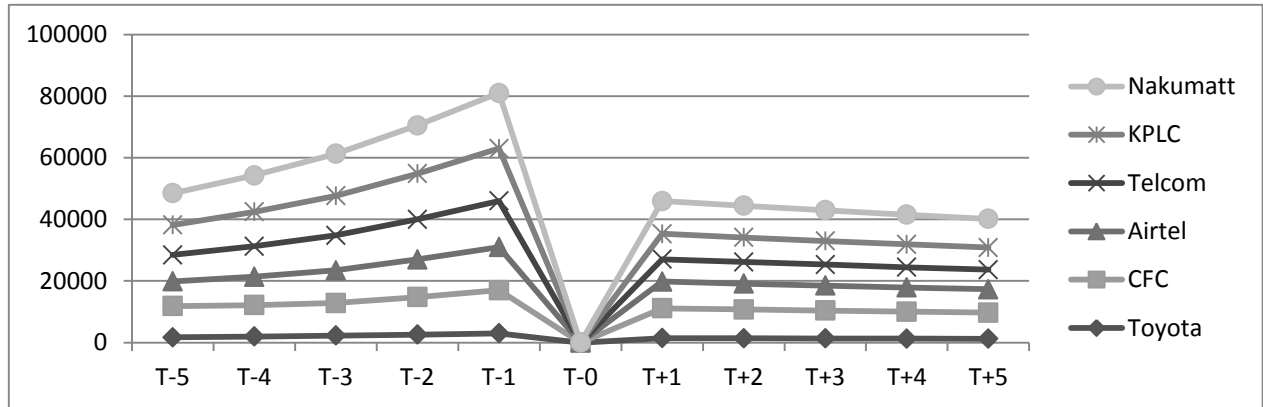
Figure 4.3: Medium firms' trend in cost benefit out of IT Outsourcing



Grouping for medium firms that outsourced IT services was done based on annual operating expenses for each firm. The findings are clear that each company realized cost benefit after outsourcing their IT services. This has an implication that I.T.

outsourcing does lead to savings on in-house infrastructure, manpower, capital expenditure and training costs for the I.T. department.

Figure 4.4: Firms cost benefits out of outsourcing



For the large companies with annual turnover of over Ksh. 20,000,000, the study confirms that there was cost reduction on the operating expenses after outsourcing IT services starting from the sixth year after outsourcing and a continuing trend to the tenth year (T+5) as shown in the graph above.

Previous research has shown that outsourcing I.T. leads to cost reduction by 20 per cent per year on average (Domberger, Hall & Li, 1995; Domberger, Meadowcroft & Thompson, 1997; Wilcocks & Lacity, 1995). Knittel and Stango looked at the benefits of I.T. outsourcing in the Credit Union industry using figures on the population of United States credit unions from 1992 to 2005. They found that when they switch from internal I.T. to outsourced I.T., operating costs reduce by roughly 30 per cent once endogeneity of switches is controlled. They estimate that outsourcing is responsible for over 6 billion dollars in annual cost savings for the industry as a whole (Knittel & Stango, 2008).

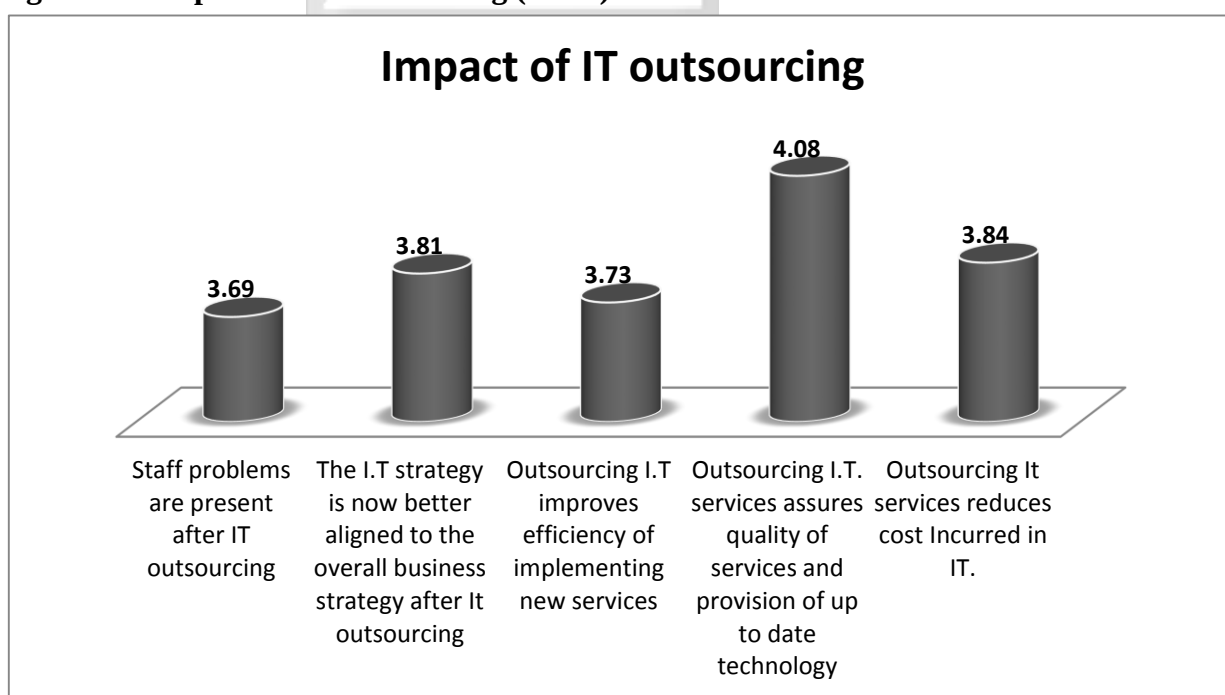
Lacity and Wilcocks looked at 61 outsourcing choices in U.S.A. and Europe. Their aim was on achievement and failure. They calculated it by evaluating outcomes against company prospects and against expected saving on costs because cost savings were said to be a major prospect in many of the cases (Lacity & Wilcocks, 1995). This study agrees with previous research that I.T. outsourcing leads to cost reduction in many cases but companies should proceed with caution in making the outsourcing

decision. Due diligence should be followed in making the decision as I.T. is an integral part of most companies.

4.3 Effect of Outsourcing of Information Technology on Provision of I.T. Services

The study sought to find out the effects of outsourcing I.T on service delivery. In so doing, the respondents were asked several questions that were analyzed using the Likert scale of analysis to determine their views. The scores ranged from 5, indicating that one strongly agrees to the statement, to 1, indicating that one strongly disagrees with the statement. For ease of interpretation, the findings were classified into three categories for use in interpretation. These categories included: Agree, Neutral and Disagree. These are well illustrated below

Figure 4.5: Impact of I.T outsourcing (N=24)



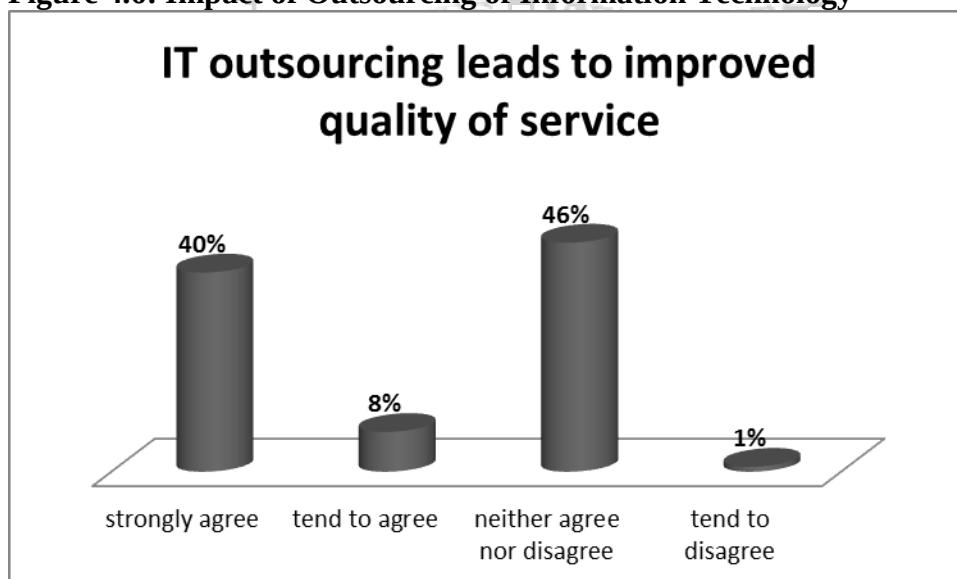
Asked whether the staff problems were present after I.T outsourcing, the respondents tend to agree as indicated by a mean score of 3.69. The respondent strongly agreed with the statement that the I.T strategy was now better aligned to the overall business strategy after I.T outsourcing as shown by a mean score of 3.81. The respondents further agreed strongly with the statements that outsourcing I.T improved efficiency of implementing new services as shown by mean score of 3.73. Asked if outsourcing

I.T. services assured quality of services and provision of up to date technology the respondents strongly agreed as shown by mean of 3.84. Further asked if outsourcing I.T services reduced cost Incurred in I.T the respondents strongly agreed as shown by mean of 4.08. This is an indication that I.T outsourcing led to better alignment of I.T strategy with the overall business strategy; efficiency of implementing new services; assured quality of services and provision of up to date technology and reduction of cost Incurred in I.T. The findings however show that staff problems were still present after I.T. outsourcing.

Research in Information systems (I.S.), suggests that achieving strategic alignment between business and I.T. is essential to improving organizational performance (Sabherwal & Chan 2001). Efficiency in I.T. ensures that the company focuses on its core competence. Companies are more likely to accept the risk associated with I.T. outsourcing if the event is part of a companywide attempt to focus on their core competence. I.T. outsourcing therefore leads to increased efficiency in terms of better service provision to the various departments in the organization due to Service Level Agreements (SLAs) which are signed by the vendor and adherence to them is assured through management reviews.

4.4 Impact of Outsourcing of Information Technology on the provision of Technology

Figure 4.6: Impact of Outsourcing of Information Technology



The aim of the objective was to find out whether the company outsourcing I.T. would obtain up to date technology from outsourcing or improve their quality of service. This is through the economies of scale enjoyed by the vendor who is able to change over to new technology as and when need arises without having to bear much cost as compared to one company changing over the system with the risk of it becoming out-dated after a short period of time. With ease of acquisition comes faster and easier to understand technology to be used by the departments and external customers.

From figure 4.3, the study finds that, 40% of the respondents strongly agree, 46% tend to agree, 8% neither agree nor disagree while 1% tend to disagree to whether I.T. outsourcing leads to improved quality of service and provision of up to date technology.

Majority of the respondents were of the view that outsourcing I.T. increases the quality of service provided to both internal and external customers as well as provision of up to date technology given that most vendors (service providers) operated on a large scale and it is therefore easier to acquire new technology and pass the cost to their customers who will not feel it as much as if they were acquiring the technology themselves.

The vendors also provide good quality service due to the fact that it is their primary objective and they also face competition from other vendors who may approach their clients and offer them better services. Grover, Cheon and Teng, collected data by use of mail survey to their intended recipients to find out whether improved quality of service was attained after I.T. outsourcing (Grover, Cheon & Teng, 1996).

There was therefore improved quality of service after I.T. outsourcing and provision of up to date technology, because the services were being provided by a vendor who was evaluated constantly by the company outsourcing I.T. to ensure that they measured up to the standards set in the industry the company was operating in.

4.5 Major Reasons for I.T Outsourcing by the Kenyan Businesses

The study sought to establish the major reasons for outsourcing I.T. services in different industries. The findings are presented in table 4.3 (Appendix 6) showing the response rate.

In the agricultural sector majority (26%) of the respondents indicated that outsourcing I.T. allowed swiftness and efficiency well as increased quality. In the commercial and services sector (27%) of the respondents indicated that outsourcing I.T. allowed swiftness and efficiency. In the telecommunication and technology sector majority (28%) of the respondents indicated that outsourcing I.T. decreased maintenance costs. In the Automobile and accessories sector (32%) of the respondents indicated that outsourcing I.T. decreased maintenance costs.

In the Banking sector 25% of the respondents indicated that outsourcing I.T. allowed swiftness and efficiency, 25% of the respondents indicated that outsourcing I.T. decreased maintenance costs, 25% of the respondents indicated that outsourcing I.T. decreased costs of quality while 25% of the respondents indicated that outsourcing I.T. increased quality. In the insurance sector 25% of the respondents indicated that outsourcing I.T. allowed swiftness and efficiency while 25% of the respondents indicated that outsourcing I.T. decreased maintenance costs.

In the investment sector 33% of the respondents indicated that outsourcing I.T. decreased maintenance costs while 33% of the respondents indicated that outsourcing I.T. decreased costs of quality. In the manufacturing and allied sector, 33% of the respondents indicated that outsourcing I.T. decreased maintenance costs. From the finding of the study majority (23%) of the respondents claimed that outsourcing I.T. decreased maintenance costs and allowed the swiftness and efficiency

Table 4.4: Correlation Results for the Relationship between outsourcing of information technology and operating costs of the company

Variables	Pearson correlation coefficient
Relationship between outsourcing of information technology and operating costs of the company	.760

$P < 0.01$

Pearson's Product moment correlation statistical technique was used to test the significance of the Relationship between outsourcing of information technology and operating costs of the company. The Pearson's Product Moment Correlation coefficient for I.T. outsourcing showed a strong positive relationship with reduced operating costs of companies outsourcing I.T. services ($r = .760$, $P < 0.01$). Simple regression analysis was also used to measure this relationship as shown in table 4.5.

The correlation analysis was used in testing if relationships exist while regression analysis was used for establishing the nature of the relationship.

Table 4.5: Results of the Regression Analysis for the Relationship between outsourcing of information technology and operating costs of the company

Model	Unstandardized Coefficients		Standardized Coefficients					
	B	Std Error	Beta	T	F	R	R - square	P-value
(Constant)	2.300	0.830		2.333				.021
IT outsourcing	0.392	1.570	0.972	0.106	2.757	0.432	.392	.02

Dependent Variable: Operating costs

The regression results presented in Table 4.5 above show that I.T outsourcing explains 39.2 percent of variation in operating costs ($R^2 = 0.392$, $F = 2.757$, $t = 0.106$, $P < 0.05$). The value of F and P show that the regression performance is statistically significant. As a result conclusion can be made that I.T. outsourcing influences operating costs of companies that outsource I.T. services to external vendors. There is therefore a significant influence of I.T. outsourcing on operating costs for the company.

Table 4.6: Pearson Product Moment Correlation Analysis Results for the Relationship between the outsourcing of information technology and the provision of up to date Technology

Variables	Pearson correlation coefficient
Relationship between the outsourcing of information technology and the provision of up to date Technology	.578*
*. Correlation is significant at the 0.05 level (2-tailed).	

Pearson's' Product moment correlation statistical technique in table 4.6 above was used to test the significance of the relationship between the outsourcing of information technology and the provision of up to date technology. The Pearson's product moment correlation co-efficient for provision of up to date technology showed a moderately positive relationship with I.T. outsourcing ($r= 0.578$, $P<0.05$).



Table 4.7: Simple Regression Analysis Results for the Relationship between the outsourcing of information technology and the provision of up to date Technology

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std Error	Beta	T	p-value
(Constant)	2.300	0.830		2.335	0.021
Up to date technology	0.304	1.570	0.972	0.106	0.01

Simple regression results in Table 4.7 above further shows that outsourcing I.T had a 30.4% of variation in provision of up to date technology. ($R^2 = .304$, $F=2.990$, $t=.106$, $P<.05$). The value of F and P also shows that the regression on provision of up to date technology is statistically significant.

It can therefore be concluded that I.T outsourcing influences provision of up to date technology for the companies that engage in outsourcing in Kenya.

4.6 Impact of I.T outsourcing on efficiency of operations

Table 4.8: Multiple Regression Analysis Results for the Joint Influence of I.T outsourcing on operating costs and efficiency

R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
				F Change	Df1	df 2	Sig. Change	P
.7560	.69	.56	.64593	2.970	3	29	.028	

The results of multiple regression analysis presented in table 4.8 indicate beta coefficient of ($R^2 = .69$, $F=2.970$, $p < 0.05$).

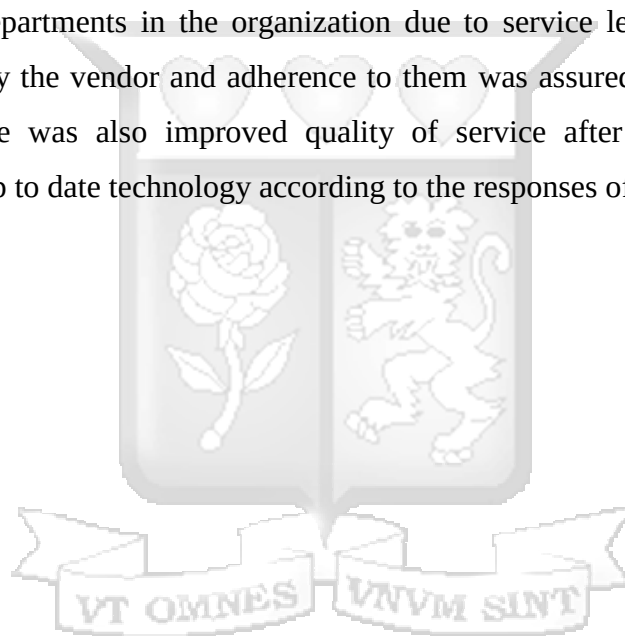
The R square value of .69 leads to the conclusion that there are reduced operating costs and efficiency of operations explains 69 percent of variations as a result of

outsourcing I.T. The P and F values ($F = 2.970$, $P=0.028$) show that the regression of I.T outsourcing is statistically significant.

This leads to the conclusion that outsourcing I.T services leads to improved efficiency as well as reduced costs of operations for the companies that have engaged in I.T outsourcing.

4.7 Chapter Summary

The study found out that I.T. outsourcing led to cost reduction in most cases but companies needed to proceed with caution in making the outsourcing decision. Outsourcing I.T. also led to increased efficiency in terms of better service provision to the various departments in the organization due to service level agreements which were signed by the vendor and adherence to them was assured through management reviews. There was also improved quality of service after outsourcing I.T. and provision of up to date technology according to the responses of the 24 respondents.



CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter summarizes the findings and makes conclusions based on the objectives of this study. It is arranged as follows; 5.2-summary, 5.3-conclusion, 5.4-recommendation and 5.5-recommendations for future research.

5.2 Summary

The analysis indicates that most companies outsource I.T services. I.T infrastructure and services were outsourced by most companies operating in Nairobi especially those who focused mainly on perfecting on their core competencies and were wary of investing heavily on I.T assets but were still not ready to compromise on the quality of I.T services they required. Due to this, a research was carried out to establish whether the companies are enjoying the benefits attributed to I.T. outsourcing or not.

The study established that the firms that had outsourced their I.T services had gained cost advantage out of the strategy of outsourcing. Thus the study did determine that there was a positive relationship between outsourcing and cost benefit realized out of outsourcing. This is in agreement with previous researchers who also concluded that the main reason behind outsourcing of I.T. is the need to reduce and control the operating costs (Casale 2001), which is also followed by the desire to focus on core competences and access the technical talent which may not be available in the company (Casale 2001).

The study also established that there was an improvement in the efficient provision of I.T. services after outsourcing I.T. because it was the primary business of the vendor to ensure that they meet and exceed the service level agreements that would have been drawn up prior to the outsourcing arrangement. Grover, Teon and Cheng used transaction cost theory to explain outsourcing trends. The effect of service quality of the provider and the ability of companies to build a partnership on these relationships were hypothesized and studied from data of 188 senior I.T. executives. They found that service and quality of the vendor and elements of partnership are important for outsourcing success (Grover et al., 1996).

The study also established that the vendor was able to provide up to date technology due to the economies of scale they enjoyed as they were able to switch over to new technology without incurring very high costs.

The study also established that firms could not outsource all their I.T services which include; data centre operations, desktop support, helpdesk services, network management, software development and support, disaster recovery, web hosting and application management due to the need to maintain data integrity, security and privacy and also to curb competition.

5.3 Conclusion

From the findings of the study that Outsourcing I.T. services leads to reduction in operational costs in the I.T. department and the company as a whole after careful consideration of the outsourcing contract and the benefits to be realized from the decision to outsource. The study further concludes that there is a positive relationship between outsourcing and cost benefit realized out of outsourcing.

The study further concludes that Outsourcing I.T improves efficiency of provision of I.T. as well as other services since it allows the firm to focus on its core competencies instead of maintaining costly I.T assets or services. It also emerged that I.T strategy was better aligned to the overall business strategy after I.T outsourcing. Aron, Clemons and Reddi (2005) use transaction cost theory which explains the existence of separate firms rather than universal reliance upon market transactions which enables companies to focus on their core competences (Aron et al., 2005).

The study concludes that I.T. outsourcing leads to provision of up to date technology as it leads to equipping the vendor with knowledgeable staff. Companies outsource I.T. to improve the performance of I.T. functions as the service providers are able to follow the current situation and trends in the market and offer their clients up to date technology in software and I.T. systems (Allen & Morton, 1994)

5.4 Recommendations

The study established that reductions in operational costs were being realized through outsourcing. This study therefore recommends that companies should think about

implementing I.T. outsourcing in order reduces operational costs and makes them able to meet the various needs of their customers.

The study further recommends that awareness should be created among the employees on the objectives of technology and I.T initiatives, and be trained to embrace change in order to prevent resistance which may be costly to the company as it results in low or poor output. Vendors should also be chosen after due diligence is done through evaluating them and ensuring that they will be able to deliver and exceed the companies' expectations.

5.5 Recommendations for future research

Future researchers can consider studying cost in the context of one company to help in better evaluating and finding out the real impact of outsourcing I.T. in an organization. The researchers can also focus on companies with similar turnover or companies from the same industry that are outsourcing I.T.

Future researchers can study this through not only finding out from company employees but also finding out from their customers if the company is operating better within a year after outsourcing. This is especially possible in the banking sector where I.T. is an integral part of operations and customer satisfaction. External Customers are more likely to feel the change and give unbiased responses.

5.6 Limitations of the Study

A limitation in this study included any situation that was present in the processing of completing it that could have influenced the results obtained. This study experienced several limitations. First, the data used in the analysis was secondary data meant for other purposes and was subject to various macroeconomic variables which may have influenced their construction. This may however limit the applicability of the data in other circumstances.

The data used in this study could also have been affected by different regulatory adjustments imposed by the regulators. For example, in the year 2011, the capital requirements for banks were adjusted leading to mergers and acquisitions. These could have affected the level of financial deepening in the country.

REFERENCES

- Adelman, C. (2000). *A Parallel Post-secondary Universe: The Certification System in Information Technology*. Washington, D.C.: U.S. Department of Education.
- Allen, T., & Morton, M.S. (1994). *Information Technology and the Corporation of the 1990s: Research studies*. New York: Oxford University Press.
- Al-Qirim, (2003). The strategic outsourcing decision of I.T. and ecommerce: The case of small businesses in New Zealand. *Journal of Information Technology case and application research*. 5(3), 32-56. Ivy League Publishing, Marietta Ga.
- Ang, S. & Cummings, L. (1997). Strategic Response to Institutional Influences on Information Systems Outsourcing. *Organization Science*, 8 (3), 235-255.
- Aron, R., Clemons, E., & Reddi, S. (2005). Just right outsourcing: Understanding and managing risk. *Journal of Management Information Systems*, 22(2), 37-55.
- Aubert, B., Dussault, S., Patry, M., & Rivard, S. (1998). *Managing the risk of IT Outsourcing*. Montreal: CIRANO, Scientific series.
- Babbie, E. (2002). *The basics of social research*. Belmont, CA: Wadsworth Publishing.
- Bahli, B. & Rivard, S. (2003). The Information Technology Outsourcing Risk: A Transaction Cost and Agency Theory – Based Perspective. *Journal of Information Technology*, 18(3), 211-221.
- Baldwin, L., Irani, Z., & Love, P. (2001). Outsourcing Information Systems: Drawing Lessons from a Banking Case Study. *European Journal of Information Systems*, 10(1), 15-24.
- Barthelemy, J. (2003). The Seven Deadly Sins of Outsourcing. *Academy of Management Executive*, 17 (2).
- Basle Committee (2004). Outsourcing in Financial Services. Bank for International Settlements, Basel Committee on Banking Supervision. Retrieved January 3rd, 2012, from <http://www.bis.org/publ/joint12.htm>

- Bauer, R. (1960). Consumer Behaviour as Risk Taking. In: R.S. Hancock (Ed.), *Dynamic marketing for a changing World*, pp 389-398. Chicago: American Marketing Association.
- Bauer, P. T. (1967). "Economics as a Form of Technical Assistance." In *Dissent on Development*, chap. 7. Revised ed. Cambridge, Mass.: Harvard University Press
- Berbee. (2005). *An insider's guide to I.T. Outsourcing*. Wisconsin
- Berg, W. & Gall, M. D. (1989). *Educational research: An introduction*. (5th Ed.). New York: Longman.
- Booijen, R., (2004). *I.T. Outsourcing: Success in the operational phase*. Erasmus University Rotterdam
- Bradford, M. & Pagach, D. (2004). Outsourcing? At Your Own Risk. *Strategic Finance*, 86(1), 22-29.
- Barney, J., & Hesterly, W. (1996). Organizational economics: understanding the relationship between organizations and economic analysis. In S. Glegg, C. Hardy, & W. Nord (Eds.). *Handbook of organization studies* (pp. 115-147). Thousand Oaks, CA: Sage Publications.
- Burnett, R., (1998). *Outsourcing IT – The legal aspects*. Burlington: Gower Publishing Company.
- Coase, R. (1937). The Nature of the Firm. *Economica*, 4(16), 386-405.
- Miller, M. H. (1991). *Financial Innovations and Market Volatility*, Cambridge, Massachusetts: Blackwell Publishers
- Colwill, C., (2006). Outsourcing: The Security Risk Management Challenge. *4th Australian Information Security Management Conference*. Perth: Edith Cowan University.
- Cox, D.F. (1967). *Risk Taking and Information Handling in Consumer Behaviour*. Cambridge: Harvard University Press.

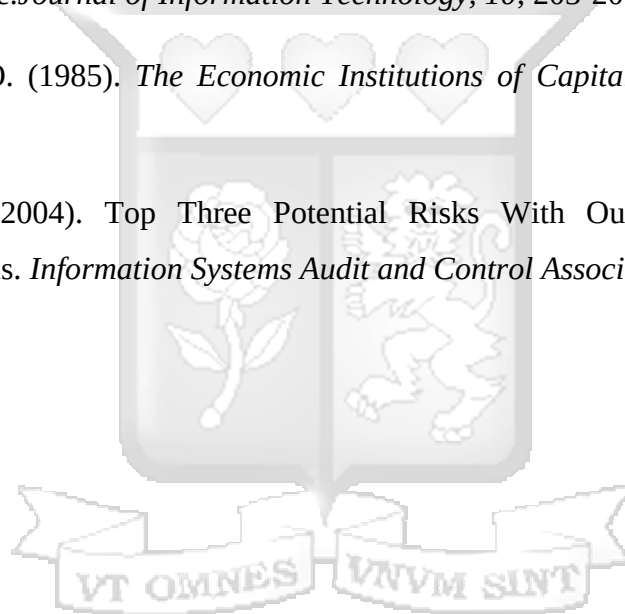
- Dhar, S., & Balakrishnan, B. (2006). Risks, Benefits and Challenges in Global IT Outsourcing: Perspectives and Practices. *Journal of Global Information Management*, 14(3), 36-39.
- Djavanshir, G., (2005). Surveying the Risks and Benefits of IT Outsourcing. *IT professional*, 7(6), 32-37.
- Domberger, S., Jensen, P., & Stonecash, R. (2002). Examining the magnitude and sources of cost savings associated with outsourcing. *Public performance and management review*, 26(2), 148-168.
- Elmuti (2003). The perceived impact of outsourcing on organizational performance. *Mid-American journal of business*, 18920, 33-41.
- Earl, M.J. (1996), "The risks of outsourcing IT", *Sloan Management Review*, Vol. 37 No. 3, pp. 26-32
- Ernst & Young, S. (2007). *Outsourcing Trends and Concerns*. East Africa: KostjaReim
- Ernst & Young, S. (2009). Increasing flexibility through IT Outsourcing. Insights on IT risks, EYGM Limited
- Fainsilber, O., & Chadwick, A. (2007). No Nasty Surprises: Anticipating The Hidden Risks of Outsourcing. *Mercer Management Journal*, 33-40.
- Fitoussi, D., & Gurbaxani, V., (2007). IT Outsourcing Contracts and Performance Measurement. *Information Systems Journal of the Institute for Operations Research and the Management Sciences*, 23(1), 129-143.
- Franceschini & Galetto (2003). Outsourcing guidelines for a structured approach. *Benchmarking: An international journal*, 10(3), 246-260.
- Freeman, R., (1984). *Strategic management: A stakeholder approach*. Boston: Pitman Publishing Inc.
- Fixler, D., and Siegel, D. (1999). "Outsourcing and productivity growth in services", *Structural Change and Economic Dynamics*, Vol. 10, pp. 177-194

- Gewald, H. & Dibbern, J. (2005). *The influential role of perceived risks versus perceived benefits in the acceptance of business process outsourcing: Empirical evidence from the German Banking Industry*. Frankfurt: E-Finance Lab.
- Gottschalk, P., & Solli-Saether, H., (2005). Critical success factors from IT outsourcing theories: An empirical study. *Industrial Management and Data Systems*, 105(6), 685-702.
- Gillett, J. (1994), "Viewpoint. The cost-benefit of outsourcing: assessing the true cost of your outsourcing strategy", *European Journal of Purchasing & Supply Management*, Vol. 1 No. 1, pp. 45-7.
- Grover, V., Geon, M., & Teng, J. (1996). The effect of service quality and partnership on the outsourcing of information systems functions. *Journal of Management Information Systems*, 12 (4), 89-116.
- Gronroos, C. (1983) *Strategic Marketing and Management in the Service Sector*, Marketing Science Institute, Cambridge.
- Hall, J., & Liedtka, S., (2005). Financial performance, CEO compensation, and large scale information technology outsourcing decisions. *Journal of Management Information System*, 22(1), 193-221.
- Heinzel, A. & Dibben, J. (2002). Outsourcing: Its benefits, drawbacks and other related issues. *Journal of American Academy of Business*, 9(2),
- Hirschheim, R. & Lacity, M. (1993) The Information System Outsourcing Bandwagon. *Massachusetts Institute of Technology Sloan Management Review*, 35(1).
- Hirschheim, R. & Lacity, M. (2000). The myths and realities of information technology insourcing. *Communications of the ACM*, 43(2), 99-107.
- Jennings, S. (2002) 'Helping weak readers up the reading ladder' ch.5. in O. McNamara (Ed) *Becoming an evidence-based practitioner: A framework for teacher-researchers*. London and New York, Routledge, Falmer

- Kearns, G. & Sabherwal, R. (2006/2007). Strategic Alignment between business and information technology: A knowledge-based view of behaviors, outcome, and consequences. *Journal of Management Information Systems*, 23(3), 129-162.
- Kothari, (1986). *Research methodology methods and techniques*. New age international limited. New Delhi.
- Kothari, C. R. (2004). *Research methodology: Methods and techniques*. (2nd ed.) New Delhi: New Age International.
- Kumar, D R. (2004). Secrets of organization success — business process outsourcing. Emerio Corporation Pet Ltd, Singapore
- Knittel, C., & Stango, V. (2008). Incompatibility, Product Attributes and Consumer Welfare: Evidence from ATMs, *Advances in Economic Analysis & Policy, Berkeley Electronic Press*, vol. 8(1), pages 1731-1731.
- Kakabadse, A. and Kakabadse, N. (2000), “Sourcing: new face to economies of scale and the emergence of new organizational forms”, *Knowledge and Process Management*, Vol. 7 No. 2, pp. 107-18.
- Lacity, M. & Willcocks, L. (1998). An Empirical Investigation of Information Technology Sourcing Practices: Lessons from Experience. *Management Information System Quarterly*, 22(3), 363-408.
- Lacity, M. C., & Hirschheim, R. (1993). The information systems outsourcing bandwagon. *Sloan Management Review*, 35(1), 73-86.
- Lacity, M. & Willcocks, L. (2000). Survey of IT Outsourcing experiences in U.S. and U.K. Organizations. *Journal of Global Information Management*, 8(2).
- Levina, N. & Ross, J. (2003). From the Vendor’s Perspective: Exploring the Value Proposition in Information Technology Outsourcing. *Management Information System Quarterly*, 27(3), 331-364
- Lopez J.A. (2004). *Outsourcing by Financial Services Firms: The Supervisory Response*. Federal Reserve Bank of San Francisco Economic letter.

- Mc Kendrick, J. (2010). The future of I.T. Outsourcing: Smaller and chunkier?
<http://www.inforworld.com/d/adventures-in-it>. Viewed on 18/3/2011
- Mirko V., and Stanimirovic, D .(2011). Evaluation of Impact of Outsourcing on Efficiency of Public Sector Organisations, *International Journal Of Business And Management Studies*, 3(2).
- Mugenda, A., & Mugenda, O. (1999). Research methods: quantitative and qualitative approaches. Nairobi: Acts Press.
- Naser, K. & Mora, A. (1994).The relationship between the comprehensiveness of corporate annual reports and firm characteristics in Kenya. *Accounting and Business Research*.
- Ngechu, M. (2004). *Understanding the Research Process and Methods: An Introduction to Research Methods*. Nairobi: Acts Press.
- Patry, M. & Rivard, S. (1998). Managing the risk of IT outsourcing. Proceedings of the 32nd *Hawaii International Conference on System Sciences*.
- Perrow, C. (1986). *Complex Organizations: A Critical Essay*. Prentice-Hall.
- Paoli, M. and Prencipe, A. (1999), “The role of knowledge bases in complex product systems: some empirical evidence from the aero engine industry”, *Journal of Management Governance*, Vol. 3 No. 2, pp. 137-60.
- Quinn, J.B. and Hilmer, F.G. (1994), “Strategic outsourcing”, *Sloan Management Review*, Vol. 35 No. 4, pp. 43-55
- Robins, K (1986). *Information Technology—A Luddite Analysis*. Norwood, NJ: Ablex.
- Rouse, A., (2009). The governance implications when IT is outsourced in information technology governance and service management frameworks and adaptations. *Information science*, 495.
- Roodhooft, F. and Warlop, L. (1999). “On the role of sunk costs and asset specificity in outsourcing decisions: a research note”, *Accounting, Organizations and Society*, Vol. 24 No. 4, pp. 363-9.

- Shelly, C. (1999). *Discovering Computers 2000: Concepts for a Connected World*. Cambridge, Massachusetts: Course Technology.
- Smith, M., Mitra, S., & Narasimhan, S. (1998). Information Systems Outsourcing: A study of pre-event firm characteristics. *Journal of Management Information System*, 15(2), 61-93. M.E. Sharpe Inc.
- The Canadian Institute of Chartered Accountants: Information Technology Advisory Committee (2003). *Information Technology outsourcing: Insights for a changing world*. Toronto: Author
- Willcocks, L. & Lacity, M. (1995). Information Systems Outsourcing in Theory and Practice. *Journal of Information Technology*, 10, 203-207.
- Williamson, O. (1985). *The Economic Institutions of Capitalism*. New York: Free Press.
- Wright, C., (2004). Top Three Potential Risks With Outsourcing Information Systems. *Information Systems Audit and Control Association*, 5.



Appendix 1: Questionnaire

The questionnaire is meant to help in collection of information on whether companies listed on the Nairobi Stock Exchange (are enjoying the benefits attributed to I.T outsourcing) after outsourcing some or all of their I.T functions, you are kindly requested to answer/fill in the appropriate responses at the end of every question to the best of your knowledge and sincerity.

Information given will be handled with confidentiality. Tick only one response unless otherwise updated.

SECTION A: DEMOGRAPHICS

1. Department in the company that you work in

- a) Accounting department ☐
- b) Human resource department ☐
- c) Purchasing and supplies department ☐
- d) I.T department ☐

2. How long have you worked in this company?

Less than 5 years

☐

6-10 years

☐

11-15 years

☐

above 16 years

☐

SECTION B: RISK

3. Does your company outsource I.T services?

Yes

☐

No

☐

Explain

4. What shortcomings can you relate to I.T outsourcing? (please tick where appropriate)

- i. Financial risk ☐
- ii. Confidentiality risks (Loss of data integrity) ☐
- iii. Extension of failure from the vendor failure ☐
- iv. Exit barriers inherent in the contract ☐
- v. Dissatisfaction with the quality of service ☐

- vi. Low efficiency due to lack of internal control in development of applications. []
- vii. Legal consequences in case of data insecurity due to sharing of internal data with the supplying vendor. []

5. What are the benefits accrued from I.T outsourcing?

1. Decreased costs of quality []	2.Increased quality []	3.Improved company image, []
4.Decreased maintenance costs []	5.Allows Swiftess and efficiency []	6.increased employee motivation []
7.Enables utilization of Economies of scale []	8.Enables Focus on core competences []	9.Increased employee skills []
10.Enables Increased flexibility []	11.Acquiring superior know-how From external vendors []	

SECTION C

	Strongly agree 5	Tend to agree 4	Neither agree nor disagree 3	Tend to disagree 2	Strongly disagree 1
1. Outsourcing I.T. services reduces costs incurred in I.T.	[]	[]	[]	[]	[]
2. Outsourcing I.T services assures quality of service and provision of up to-date technology.	[]	[]	[]	[]	[]
3. Outsourcing I.T improves efficiency of implementing new services.	[]	[]	[]	[]	[]
4. The I.T strategy is now better aligned to the overall business strategy after I.T outsourcing.	[]	[]	[]	[]	[]
5. Staff problems are present after I.T. outsourcing.	[]	[]	[]	[]	[]

Appendix 2: Introduction Letter

STRATHMORE UNIVERSITY

Ole Sangale Road Madaraka Estate Telephone (254 - 20) 606155

Email admissions@strathmore.edu

P. O. Box 59857 00200 City Square 0722 - 205428 0733 - 618135

Website www.strathmore.edu

NAIROBI KENYA

Fax (254 - 20) 607498

06 September 2012

To whom it may concern

RE: Namiinda, Anne Nasimiyu – Reg. No.: 009315

Anne Namiinda is a postgraduate student in our Master of Commerce (MCom) programme. In partial fulfilment of the MCom degree, students are required to carry out a research project and write a thesis on a contemporary subject within their field of specialization. Among other activities, the project involves data collection and analysis.

Anne is requesting to gather information to be used in her research. The information she will obtain from your organization will be used for academic purpose only and will be kept confidential. The results of the survey will be in summary form and will not disclose any individual, organization name or organization information in anyway.

The research study is entitled: *“Benefits in Information Technology Outsourcing, A study of Companies in Nairobi”*

We hope that your organization can assist by providing information to the above named student

Yours faithfully,

David Mathuva,

MCom Programme Administrator,

Appendix 3: Impact of I.T outsourcing (N=24)

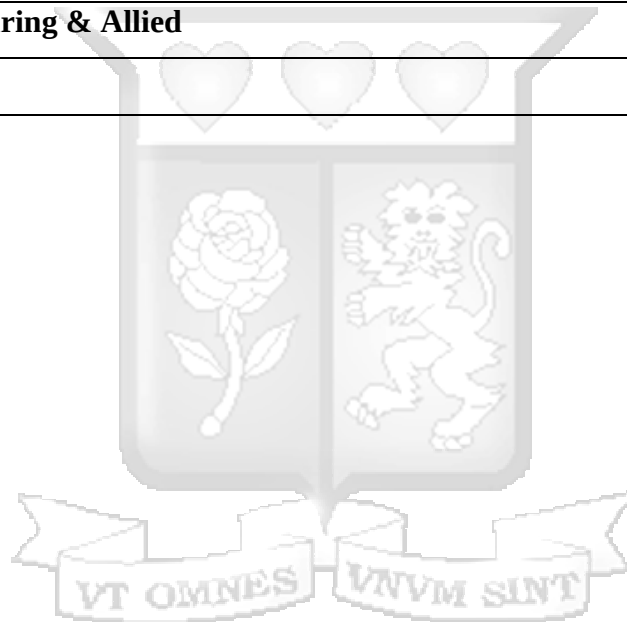
	Outsourcing I.C.T. services reduces costs incurred in I.T.	Outsourcing I.C.T services assures quality of service and provision of up to-date technology.	Outsourcing I.C.T improves efficiency of implementing new services.	The I.C.T strategy is now better aligned to the overall business strategy after I.T outsourcing.	Staff problems are present after I.T. outsourcing.	Total / Average
Strongly agree (5)	34%	22%	17%	14%	14%	38%
Tend to agree (4)	15%	25%	25%	25%	20%	42%
Neither agree nor disagree (3)	3%	4%	10%	11%	16%	17%
Tend to disagree (2)	1%	1%	0%	2%	3%	2%
Strongly disagree (1)	1%	0%	0%	1%	1%	1%

Appendix 4: Findings from the Financial Statements (Cost Benefit Analysis)

	T-5 (000 's)	T-4 (000 's)	T-3 (000 's)	T-2 (000 's)	T-1 (000 's)	T-0 (000's)	T+1 (000's)	T+2 (000 's)	T+3 (000 's)	T+4 (000 's)	T+5 (000 's)
Athletics Kenya	80	95	113	130	150	70 (2003)	70	65	60	55	53
Inter- connect	280	330	380	435	500	200(2003)	190	185	170	160	154
Intra-speed	340	390	450	522	600	200(2004)	195	188	180	175	170
YCL	365	420	485	560	650	300(2002)	290	280	270	260	250
Bondo Holdings	370	440	514	600	700	200(2000)	190	185	180	175	170
Myle E.A	400	460	530	609	700	400(2004)	385	370	360	350	340
Top Rank	400	460	530	609	700	400(2004)	385	370	360	345	330
Horizon	460	530	605	696	800	300(2004)	290	280	270	260	250
Unite K(ltd)	460	530	605	696	800	500(2004)	480	460	445	430	415
Steel works	510	590	680	780	900	500(2003)	480	460	445	430	415
Lockways	515	590	680	783	900	600(2002)	580	560	540	522	504
Canon	570	660	760	870	1000	500(2002)	480	460	445	430	415
Nyayo Tea zones	690	790	910	1044	1200	590(2002)	570	550	530	510	490
Improchem	1300	1400	1620	1800	2000	1000(2002)	967	935	900	870	840
CMC	1710	1970	2270	2610	3000	1,500(1999)	1450	1400	1350	1305	1260
Toyota	1710	1970	2270	2610	3000	1,500(2001)	1450	1402	1355	1310	1266
CFC	10150	10200	10590	12180	14000	10,000(2000)	9670	9350	9040	8740	8450
Airtel	8020	9222	10600	12180	14000	9,000(2007)	8703	8415	8135	7865	7605
Telcom	8580	9870	11350	13050	15000	7,500(2000)	7250	7010	6781	6555	6340
KPLC	9730	11180	12850	14790	17000	8,500(2000)	8220	7950	7687	7430	7185
Nakumatt	10300	11832	13600	15660	18000	11,000(2002)	10637	10285	9945	9615	9297

Appendix 5: Category of business (industry) by Department in the company
(N=24)

Industry	I.T department
Agricultural	3
Commercial & Service	9
Telecommunication and Technology	3
Automobiles & Accessories	2
Banking	1
Insurance	2
Investment	2
Manufacturing & Allied	3
Total	25

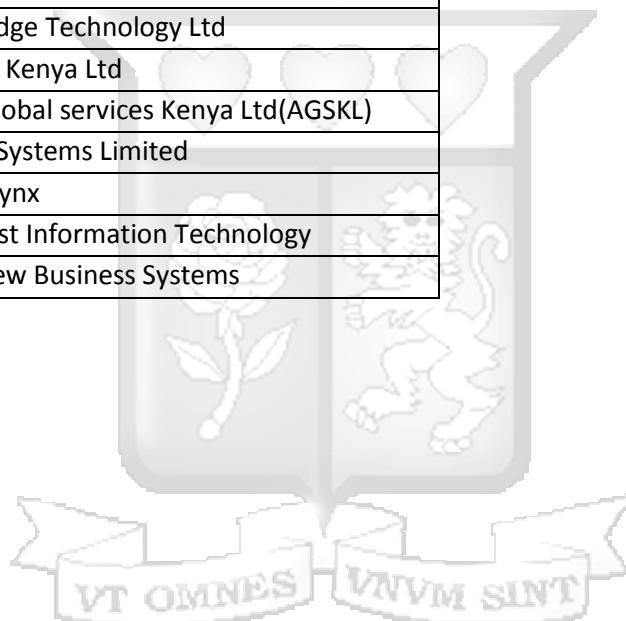


Appendix 6: Major Reasons for I.T Outsourcing by the Kenyan Businesses

Benefits	Agricultural	Commercial & Service	Telecommunication and	Automobiles & Accessories	Banking	Insurance	Investment	Manufacturing & Allied	Total
Decreased maintenance costs	20%	21%	28%	32%	25%	25%	33%	17%	23%
Decreased costs of quality	20%	21%	7%	20%	25%	8%	33%	23%	20%
Allows swiftness and efficiency	26%	27%	24%	28%	25%	25%	20%	6%	23%
Increased quality	26%	12%	3%	4%	25%	17%	7%	15%	13%
Improved company image	6%	12%	3%	12%	0%	4%	7%	10%	9%
Increased employee skills	0%	4%	7%	4%	0%	0%	0%	6%	3%
Enables utilization of Economies of scale	0%	0%	10%	0%	0%	8%	0%	4%	2%
Increased employee motivation	3%	1%	3%	0%	0%	4%	0%	6%	2%
Acquiring superior know-how from external vendors	0%	0%	7%	0%	0%	0%	0%	6%	2%
Enables Increased flexibility	0%	0%	3%	0%	0%	4%	0%	6%	2%
Enables focus on core competencies	0%	1%	3%	0%	0%	4%	0%	0%	1%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%
Percentages and totals are based on responses.									

Appendix 7: Companies that Provide Outsourced IT services (Listed under KITOS)

1. Open View Systems
2. Horizon Contact Centre
3. Fintech Kenya Limited
4. LANTECH (AFRICA) LIMITED.
5. XRX TECHNOLOGIES LTD
6. AVTECH SYSTEMS LIMITED
7. Interactive Technology company Limited
8. Accolade Computer Technologies
9. Adonis Art and Design
10. Kenya Microcomputer Systems Ltd
11. Kenya Network Information Centre (KENIC)
12. Knowledge Technology Ltd
13. Armaco Kenya Ltd
14. Aster Global services Kenya Ltd(AGSKL)
15. Avtech Systems Limited
16. Compulynx
17. Opencast Information Technology
18. Openview Business Systems



Appendix 8: List of Companies that Outsourced IT Services

1. Absolute Systems	2. Radio Africa Group Limited	3. First Computers
4. Access Kenya	5. Radio Holding International	6. Flamingo Tiles Kenya Limited
7. Advise Kreative Advertising	8. Ramco	9. G4S Security Services Kenya Limited
10. Africa Medical & Research Foundation	11. Ramoma Art Gallery	12. Glory Car Hire
13. Africa Online Limited	14. RECO Properties Limited	15. Heltz Driving School
16. AIG Kenya Insurance Co Ltd	17. Red Court Hotel	18. Henkel
19. Aircon Electra Services	20. Regent Management Ltd	21. Homeboyz Radio Limited
22. Airtel	23. Riverside Park	24. Hopeland Advertising & Design
25. Allied Signal Aerospace	26. Rob's Magic	27. Horizon
28. Allied Signal/Honeywell	29. Rocky Driving School	30. Hotpoint/LG
31. AMD	32. Royal Media Services	33. I.A.T
34. Americable International	35. Ryce East Africa Limited	36. ICL East Africa
37. Amgen	38. Safaricom Kenya Limited	39. IFAW
40. Amiran Communications	41. Sage Software East Africa Limited	42. Impala Auto Limited
43. Andrew Well Drilling Service	44. Sahanet Limited	45. Imperial Bank Limited
46. APA Insurance Limited	47. Sai Office Supplies	48. Improchem
49. Aquarius Water	50. Salamin Tyres Limited	51. Interconnect
52. Aristal Investments	53. Sameer Africa Limited	54. Inter-connect
55. Athletics Kenya	56. Samsung Electronics	57. International House Limited
58. ATMEL	59. Sarova Hotels Limited	60. Intra-speed
61. Audi Kenya	62. Satelite Tracking	63. Kafra Wines
64. Augustana Education	65. Servtel Networking Technologies & Telecommunication	66. Karen Provisional Stores
67. Bank of Baroda	68. Shuba Limited	69. Kemri/ US Embassy/ CDC

70. Bank of India	71. Siemens Limited	72. Kenindia Assurance Company Limited
73. Barclays Bank of Kenya Ltd	74. Sight & Sound Computers Limited	75. Kenruss Medics Limited
76. Beiersdorf East Africa Ltd	77. Simba Colt Motors Limited	78. Kenweb
79. Bidco Oil Refineries	80. Simba Technology	81. Kenya Airfreight Limited
82. Blue Sky Films	83. SimbaNet	84. Kenya Airways Ltd
85. Boehringer Ingelheim	86. Software Distributor Africa Limited	87. Kenya Areotech Limited
88. Boeing	89. Software Technologies	90. Kenya Broadcasting Corporation (KBC)
91. Bondo Holdings	92. Soma Associates	93. Kenya Builders & Concrete Company
94. Bookham Technologies	95. Speed Plus Limited	96. Kenya Provision Stores
97. Brownsville Public Utility	98. Spread marketing Limited	99. Kenya Re Insurance
100. By Tech Engineering Limited	101. Stanbic Bank Kenya Ltd	102. Kenya Red Cross Society
103. C. Dormans Limited	104. Standard Chartered Bank	105. Kenya Reinsurance Corporation Limited
106. Calient Networks	107. Stantech Motors Ltd	108. Kenya Wildlife Services
109. Callkey E.A. Limited	110. Star Optics Limited	111. Kenyatta University
112. Canon	113. Star Time Media Limited	114. Kenyaweb
115. CDC Kemri	116. Starehe Constituency Development Fund	117. Kibo Safaris
118. Celtel – Now Airtel	119. Steel works	120. Kihingo Village
121. CFC	122. Steers Regional Franchise	123. Kingsway Tyres Ltd
124. CFC Bank/CFC Life	125. Strategic Links Limited	126. KLM
127. Citi Book Limited	128. Studies	129. KPLC
130. City Council Of Nairobi (LASDAP)	131. Techno Brain Kenya	132. K-Rep Bank
133. CMC	134. Technology Associates	135. Lets Go Travel
136. Colomer East Africa Limited	137. Technology Today	138. Lockways

139.	Communication Solutions Ltd	140.	Technomart	141.	Mada Holdings Limited
142.	Consolidated Bank of Kenya	143.	Telcom	144.	Michael Jones Software
145.	Co-op Bank Ltd	146.	Telkom Kenya	147.	Mimosa Court Apartments
148.	Coopers (K) Ltd	149.	Tequila Kenya	150.	Motorolla
151.	Copy Cat Ltd	152.	Tetra Pak	153.	Myle E.A
154.	Credit Bank Limited	155.	The Energy Source	156.	Nairobi Business Institute
157.	Davis and Shirtliff	158.	The Market Masters	159.	Nairobi Central Business District Association
160.	Daystar University	161.	The Star Publication	162.	Nairobi Hospital Ltd
163.	Deacons Kenya Ltd	164.	The Village Market Forex Bureau	165.	Nairobi Institute of Business
166.	Deliverance Church Umoja	167.	Think Business Limited	168.	Naivasha Constituency Development Committee
169.	Deloitte Touche Limited	170.	Tianshi Health Products Co. Limited	171.	Nakumatt
172.	Delta Trading Equipments Co. Limited	173.	Timsales Limited	174.	Nakumatt Holdings Ltd
175.	DHL (K) Ltd	176.	Top Rank	177.	Nation Media Group Limited
178.	Diamond Trust Bank Ltd	179.	Toyota	180.	National Bank of Kenya
181.	Digital Technology Ltd	182.	Toyota EA Ltd	183.	NIC Bank Limited
184.	Dominion Outdoor Advertising Ltd	185.	Tradewinds Express Limited	186.	Nokia
187.	Dreyan Investments Limited	188.	Transparency International	189.	Nu Metro
190.	Easton Pharmaceutical Limited	191.	Treadsetters Limited	192.	Nyayo Tea zones
193.	Eden Care Hire	194.	Tri-Continental – IBM	195.	Oasis Ltd
196.	Emirates Airlines	197.	Tusker Mattresses	198.	Ogilvy & Martha

199. Engineering Development Limited	200. Tusker Mattresses Limited	201. Ole Sereni Hotel
202. ESBC Limited	203. UAP Insurance Company Limited	204. Open view Business Systems
205. Ethiopian Airlines	206. Uchumi	207. Optica Ltd
208. Eureka Tech Services	209. Unilever EA Ltd	210. Oriental Commercial Bank
211. Export Processing Zone Limited	212. Unite K(ltd)	213. P.G Bison Kenya Limited
214. Express Advertising Limited	215. US Embassy CDC	216. Pacis Insurance Company Limited
217. Eye tech	218. UUNet Kenya Ltd	219. Pampa Investments Limited
220. Falcon Commercial (K) Limited	221. Winlot Kenya Limited	222. Parker Radio House
223. FIDA- UNFPA	224. YCL	225. PC World
226. Polytanks Limited	227. Pembroke House Preparatory School	228. Pembroke House Preparatory School
229. Posta Pay	230. Peppers Restaurant	231. Peppers Restaurant
232. Postbank Limited	233. Pesa Point	234. Pesa Point
235. Prime Bank Ltd	236. Pinnacle Training Centre	237. Pinnacle Training Centre
238. Prime Media	239. Pirelli/Nyanza Petroleum	240. Pirelli/Nyanza Petroleum
241. Proctor & Allan (EA) Limited	242. Pisces Studio Productions	243. Pisces Studio Productions
244. Pzier Consumer Healthcare	245. Radio 1 FM	