

**AN ANALYSIS OF INFORMATION SYSTEMS OUTSOURCING  
ADOPTION AT KENYA ARMED FORCES**

**GATHITU ROMANA WAMBUI**

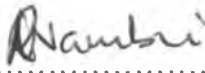
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**A MANAGEMENT RESEARCH PROJECT SUBMITTED IN PARTIAL  
FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF THE  
DEGREE OF MASTER OF BUSINESS ADMINISTRATION (MBA),  
SCHOOL OF BUSINESS, UNIVERSITY OF NAIROBI**

**2010**

## DECLARATION

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

Signature .....  .....

Date ..... 15/11/2010 .....

**GATHITU ROMANA WAMBUI**

**D61 /P /7706 /2005**

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

Signature .....  .....

Date ..... 15/11/2010 .....

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## **DEDICATION**

To my family for support and understanding especially all those who stood by me and supported me both morally and financially during the whole course work. Thank you all and may God bless you in a special way.

## ACKNOWLEDGEMENTS

I owe the completion and success of my studies to many people. I not able to mention all but I will highlight a few of them.

First, I wish to express my deepest and sincere appreciation for continuous encouragement and concern shown through my MBA study by my family especially my brothers Gerald Macharia and Jackson Macharia for the tireless support they gave me during the course.

I acknowledge my parents, Mr. and Mrs. Gathitu for the love you have shown to me as your daughter. Your endless support to see me acquire quality education has seen me overcome mighty challenges to be where I am now. You gave up your comfort to see me succeed. You are wonderful parents.

To my classmates and colleagues thank you for the invaluable support you gave me especially during questionnaire preparation and data analysis. To you all thank you so much and may you be blessed abundantly. I wish to also thank all my lecturers, especially my supervisor Dr. Nixon Muganda and Madam Kate Litondo for the tireless effort they put to see me through this research and my course work. To you Dr. Muganda I will always remain indebted to your patience and support especially the assistance you gave during the final part of this research when I was out of the country for long time.

Particular appreciation also goes out to the Senior Policy Makers at the Kenya Armed Forces for allowing me to carry out the research within the restricted highly secret confines of the Kenya Armed Forces. I also thank you for granting me time off in the afternoons from the office so as to attend the evening classes at the university.

## ABSTRACT

Information Technology (IT) is now an integral organization resource that plays a supporting role in most functions. However IT is not the primary business of many organizations. Their core competencies, the areas in which an organization performs best and that represent its competitive advantage is in other functions such as logistics, manufacturing or services.

This study analyzed the extent of Information Systems outsourcing adoption within the Kenya Armed Forces. The research looks at the importance of understanding the success factors and the problems associated with planning and implementation of outsourcing strategies in government institutions such as the Security Institutions (Military, Police, National Security Intelligence Service, etc) while ensuring that such institutions perform their core tasks so as to meet the various needs of varying stakeholders. It is also important that the way such institutions handle emerging trends in management of outsourced information systems be understood well.

The literature review focuses on specific aspects of adoption relevant to this research in relation to how outsourcing of information systems has been conceptualized, the factors at play plus research into the hurdles of outsourcing adoption within government Security Institutions such as the military.

The research methodology used is exploratory in nature and factor analysis is used for data analysis.

Data analysis shows that majority of the respondents have worked in the Information Systems department for more than two years, therefore they have an understanding of what happens in the department and also they have the necessary experience to make policy decisions in the military.

It is apparent from the findings that the concept of outsourcing has not been clearly articulated and understood by both the Senior Policy Makers and staff working in the department.

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# **CHAPTER ONE: INTRODUCTION**

## **1.0 Introduction**

This chapter introduces the study with an overview of its background and importance. To start with it gives some background information, importance of outsourcing in organizations, brief history of the Kenya Armed Forces, research problem and research objectives. At the end it focuses on importance of the study to various stakeholders. Some of the issues raised in this chapter will be discussed in depth in later chapters.

## **1.1 Background to the Study**

Information Technology (IT) is now an integral organization resource that plays a supporting role in most functions. However IT is not the primary business of many organizations. Their core competencies, the areas in which an organization performs best and that represent its competitive advantage is in other functions such as logistics, manufacturing or services. IT is an enabler only and it is complex, expensive and constantly changing making it difficult for organizations to manage Turban, et al (2006). For such organizations, the most effective strategy for obtaining the economic benefits of IT and controlling costs may be outsourcing.

Outsourcing dates back to the early years of the 20th century when most companies were responsible for producing their goods right from the raw materials to the final products. As time went by, automobile companies that manufactured most of the car parts began to subcontract other companies to make some of the parts. The main reason for this was to cut down cost. Nowadays, all automobile companies “outsource parts, sub-assemblies, assemblies, and modules of autos” Gordon et al (2006).

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The concept of outsourcing in its broadest sense is the purchase of any product or service from another company Potter (1990). It involves the transfer of the management or day-to-day execution of an entire business function to an external service provider. For years Information Systems departments have outsourced computer hardware, telecommunications services, and systems software (such as operating systems) for some time. These departments also purchase end-user software (for example Microsoft Office) because there is no reason to reinvent tools that a software company specializing in these products can provide more cheaply.

Outsourcing takes place when an organization transfers the ownership of a business process to a supplier. The key to this definition is the aspect of transfer of control. This definition differentiates outsourcing from business relationships in which the buyer retains control of the process or, in other words, tells the supplier how to do the work. It is the transfer of ownership that defines outsourcing and often makes it such a challenging, painful process. In outsourcing, the buyer does not instruct the supplier how to perform its task but, instead, focuses on communicating what results it wants to buy; it leaves the process of accomplishing those results to the supplier.

The IT industry has had its own share in the evolution of outsourcing. IT outsourcing began in the 1960s when computers were highly priced and required large amounts of space (Jae-Nam et al, 2000 and Karen and John, 1993). Information Technology has involved hiring outside organizations to perform functions that in the past have been performed internally by information systems departments. Common areas of outsourcing have included maintaining computer centers and telecommunications networks. Some companies however outsource most of the IT functions - including systems and applications development- leaving only a very small internal

information systems department. This department develops Information Systems Plans and negotiates with the vendors performing the outsourced functions.

The client organization and the supplier enter into a contractual agreement that defines the transferred services. Under the agreement the supplier acquires the means of production in the form of a transfer of people, assets and other resources from the client. The client agrees to procure the services from the supplier for the term of the contract. Business segments typically outsourced include information technology, human resources, procurement management, and accounting/finance management. During the recent years, management concerns regarding the outsourcing of information systems services have become more complex. The decision of outsourcing, which is generally a non-trivial one, has increased in complexity, partly due to companies, traditionally in other fields of IT, which are entering the arena Benoit and Suzanne (2001).

### **1.1.1 Importance of outsourcing in organizations**

Geoffrey (2004) argues that with outsourcing many business organization's IT responsibilities are given to outside control. He further adds that outsourcing should not be undertaken lightly by any business: choosing an outsourcing company requires care and consideration. Special attention must be paid to the contractual obligations incumbent upon both parties involved in any legal agreement. He cites the following as reasons for initiating an outsourcing agreement:

**Financial** – to reduce costs, improve cost control or make cost centers more effective and efficient.

**Organizational** – to achieve organizational change, to facilitate mergers and acquisitions or to devolve and restructure.

**Strategy** – to facilitate strategic aims, to enable the business to focus on other core aims or to utilize an outsourcer's expertise.

**Technical** – to improve access to technical resources, to gain technical expertise or to keep up to date with technological change.

**Capacity management** – an improved method of capacity management of services and technology where the risk in providing the excess capacity is borne by the supplier

A number of businesses have seen the need to outsource the non-core functions to institutions that can handle such functions efficiently. Government organizations are beginning to adopt outsourcing practises. State agencies and local municipalities are hiring outside services firms for more than just specific system- integration projects. Some are outsourcing parts of their daily IT operations such as desktop and network management. Others are even more aggressive, turning over major IT functions to outside companies (Potter, 2003).

### **1.1.2 Outsourcing Strategy and Implementation**

The thought of outsourcing seems quite easy: that is to say an approach is formulated and then implemented. Contrary to this assumption outsourcing is a tricky affair that requires thorough understanding by the parties involved, especially the business outsourcing the product.

There are a variety of guidelines (Potter, 2003) to help organizations as they outsource some or all their IT functions. These guidelines include:

**Short-period contracts** – outsourcing contracts are written for five-to-ten year terms. Because IT environment change so rapidly, it is probable that some of the terms will not be in the customer's best interests after five years. If a longer-term contract is used it needs to include adequate mechanisms for negotiating revisions where necessary.

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**Subcontracting** – vendors may subcontract some of the service to other vendors. The contract should give the customer some control over the circumstances including choice of vendors and any subcontract arrangements.

**Selective outsourcing** – this strategy is used by many organizations that prefer not to outsource the majority of their IT functions, but rather to outsource only certain areas such as network management.

### **1.1.3 Background of Kenya Armed Forces**

The Kenya Armed Forces is an institution that was formed through an Act of Parliament Cap 199. The mandate of the Kenya Armed Forces is contained in Cap 199 Laws of Kenya, which stipulates that the Armed Forces will defend the country from external threat or aggression and also support the civil authority in the maintenance of law and order. The Kenya Armed Forces is comprised of three sister services, namely Kenya Army, Kenya Air Force and Kenya Navy.

The Kenya Army carries out defense against land-based threats, the Kenya Air Force carries out defense against air threats, and the Kenya Navy carries out defense against sea based threats. To accomplish their missions, each of these services has functional arms, as well as respective staff functions at their respective service headquarters. The functional arms provide combat, combat support and combat service support to their respective services in pursuance of the service goals and mission. The staff functions, namely Operations, Personnel, and Logistics provide the administrative effort required at the respective service headquarters, and have representative “cells” at the functional arms’ both operational and tactical headquarters.

Information management systems in Kenya Armed Forces are handled by its own personnel who at times are overwhelmed by other duties to the near neglect of maintaining the crucial information systems. The primary duty of any military personnel is to defend the country – Kenya any other duties come as secondary roles. Nevertheless the information handled by these information systems is extremely top secret and any leakage to unintended recipients would have far reaching effects to the security of the country. It is in view of this base that there is need to carry out research on the implications of outsourcing other firms/businesses to handle information management systems in Kenya Armed Forces.

## **1.2 Statement of the problem**

An understanding of the success factors and the problems associated with planning and implementation of outsourcing strategies in government institutions such as the Security Institutions (Military, Police, National Security Intelligence Service, etc) is crucial in ensuring that such institutions perform their core tasks so as to meet the various needs of varying stakeholders. It is also of essence that the way such institutions handle emerging trends in management of outsourced information systems be understood well.

This will assist in creating a better understanding of the need for proper outsourcing planning and implementation in such institutions. A study of information outsourcing management in security – based institutions is hence convincing and useful. Most of the research Kipsang (2003) and Mwangangi (2007) dwell more on the profit making businesses and how outsourcing can lead them to great costs reductions. However, appropriate understanding of outsourcing for government managed institutions is also important as they too would cut costs by maximizing on

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advantages of outsourcing. These institutions are seen not to be profit making and much effort has not been put in order to guide them in cost-cutting measures.

### **1.3 Research Questions**

The study will focus on answering the following research questions:

- a. What is the present state of information systems outsourcing in Kenya Armed Forces. Does it have any policies and structures on outsourcing of information systems?
- b. What key decision-making issues do Senior Military Policy Makers consider when carrying out outsourcing of information systems the Kenya Armed Forces?
- c. What are the factors contributing to the successes and challenges of outsourcing of information systems in Kenya Armed Forces?

### **1.4 Objectives of the study**

The main objectives of this study are:

1. To find out the state of outsourcing of information systems in Kenya Armed Forces.
2. To identify critical success factors that need to be put in place before adopting any information outsourcing strategy in Kenya Armed Forces.
3. To identify factors that will necessitate efficient and effective information systems outsourcing adoption in Kenya Armed Forces.

### **1.5 Significance of the study**

This study will be of great significance in various ways as discussed below:

**Senior Military Policy Makers** - it will assist Senior Military Managers/leaders i.e. the Policy Makers in unraveling the mystery behind understanding the implications and importance of outsourcing. This will help them in identifying factors that are unique to military operating environment and the importance of cost benefit analysis in outsourcing management as well as legal aspects of contracts entered into with the vendors.

**Academic researchers in information systems outsourcing** - it will assist researchers of outsourcing in gaining an understanding of the intricacies of outsourcing in particular within the environment of security-based institutions.

**General practice of outsourcing** - it will add onto the foundation that is being laid in research on implications of outsourcing of information management services for security-based institutions such as the military.

## CHAPTER TWO: LITERATURE REVIEW

### 2.0 Introduction

This chapter presents and discusses the literature relating to the adoption of outsourcing of information systems. The chapter begins by highlighting important definitions of the concept of Information Systems and outsourcing in general, reviewing the literature relating to the various approaches to understanding outsourcing concept. This shall then be followed by research into technology adoption by focusing on Technology Acceptance Model i.e. Davis, F. D. (1986) model for understanding the concept of technology adoption. The literature review the focuses on specific aspects of adoption relevant to this research in relation to how outsourcing of information systems has been conceptualized, the factors at play plus research into the hurdles of outsourcing adoption.

### 2.1 Definitions

Some definitions are necessary in order to have a common basis for understanding the literature that is reviewed. In this study will use various definitions as given by various scholars and related literature at large.

#### 2.1.1 Information system

In a broad sense, Wendy (1997) defines the term **Information Systems (IS)** as the interaction between people, processes, and technology. This interaction can occur within or across organizational boundaries. An information system is not only the technology an organization uses, but also the way in which the organization's people interact with the technology and the way in which the technology works with the organization's business processes. Information

systems are distinct from information technology in that an information system has an information technology component that interacts with the people and processes components.

Wendy further explains that an Information System consists of five parts which include: people, procedures, software, hardware, and data. There are various types of information systems, for example: transaction processing systems, office systems, decision support systems, knowledge management systems, database management systems, and office information systems. Critical to most information systems are information technologies, which are typically designed to enable humans to perform tasks for which the human brain is not well suited, such as: handling large amounts of information, performing complex calculations, and controlling many simultaneous processes.

### **2.1.2 In sourcing**

According to Hirschheim and Lacity (1998) they define insourcing as the process of identifying, acquiring and managing the receipt of outsourced services from an internal service provider (department) including bringing services back in-house.

They explain that a Service Level Agreement (SLA) is a legal requirement for any insourcing contract. It defines SLA is a part of a service contract where the level of service is formally defined. In practice, the term SLA is sometimes used to refer to the contracted delivery time (of the service) or performance. It is a negotiated agreement between two parties where one is the customer and the other is the service provider. This can be a legally binding formal or informal "contract". The main benefit to an SLA is that it provides a defined measure of the organization's capabilities.

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### **2.1.3 Outsourcing or contracting out**

Outsourcing is defined as a situation in which a company shifts a part or parts of its work to another organization William et al (2006). It can also be defined as the process of identifying, acquiring and managing the receipt of Sourced Services from an external Service Provider. In this research outsourcing will be used in the context of the act of transferring ownership or management of IS resources to an outside IS Specialist.

The term is generally used by Information Technology professionals/researchers to mean the delegation of non-core operations or jobs from internal production within a business to an external entity (such as a subcontractor) that specializes in that operation. Outsourcing is a business decision that is often made to lower costs or focus on competencies.

### **2.14 Onshoring**

According to Lacity (1995) the term onshoring is defined as the process of transitioning service delivery to a location within the same geography as the Service Buyer. **Nearshoring** or "**nearshore outsourcing**," is a concept for the form of outsourcing in which business processes are relocated to locations which are, generally, cheaper and yet geographically nearer. The term was created and copyrighted by Softtek, a Mexican IT company which provides nearshore outsourcing to the US and the European Union.

### **2.15 Offshoring**

Lacity (1995) defines offshoring as the transfer of service operations to foreign countries in order to take advantage of a supply of skilled but relatively cheap labor. Services may be outsourced to a foreign company or a wholly owned foreign subsidiary company may be established. The main



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benefit of offshoring is the reduction of costs but concerns about redundancies and job losses in the home countries have been raised.

### **2.1.6 Adoption**

The Oxford Advanced Learners Dictionary defines adoption as the decision to start using such an idea, a plan or a name such as the adoption of new technology. Stevenson (1997) also defines adoption as the process of accepting the initiation, implementation and use of a particular technological innovation, especially those that are regarded as new in an organization.

## **2.2 Evolution of Outsourcing**

Outsourcing dates back to the early years of the 20th century when most companies were responsible for producing their goods right from the raw materials to the final products. As time went by, automobile companies that manufactured most of the car parts began to subcontract other companies to make some of the parts. The main reason for this was to cut down cost. Nowadays, all automobile companies “outsource parts, sub-assemblies, assemblies, and modules of autos” Gordon et al (2006). Wells (1998), reports that outsourcing was first undertaken in 1989 when Eastman Kodak Co handed over its information technology department to three providers. The message to the market then was “why manage information technology in-house when it can be done better, cheaper outside?”

Similarly, the IT industry has had its own share in the evolution of outsourcing. IT outsourcing began in the 1960s when computers were highly priced and required large amounts of space (Jae-Nam et al, 2000 and Karen and John, 1993). A lot of money was needed to buy the computer hardware and this cost was further increased by the need for space and environmental

conditions required to run and maintain the computers. In order to exclude the cost of the hardware, many companies contracted with a data processing bureau that would be responsible for performing the data processing operations.

In the 1970s, as computer hardware became more powerful and affordable, many companies were able to buy computers and process data internally. On the other hand, companies were lacking in computer skills, resulting in the need to seek external experts to perform some of the computer operations. It was during this time that the idea of standardized application packages was born Jae-Nam et al (2000). According to Willey (1993) ever since the emergence of outsourcing practices in the late 1980's outsourcing has been presented as a technique for reducing costs and freeing out management time. Organisations including governments divide activities into core and non-core activities. Core activities which enhance core competencies cannot be outsourced while non-core activities that usually require generalized skills that are easily available are considered for outsourcing.

Outsourcing has primarily been used to decrease operating costs or to get initial money from the sale of the machines (Post V. Gerald and Anderson L David 2006). However situations that are unique or require advanced uses of information technology are best handled internally. For example situations that require tight security are easier to control if they remain in-house. This example is quite applicable in this research since most of the information handle in the military require highest level of secrecy.

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## **2.3 Key Enablers of outsourcing**

Wendy (1997) argues that there is growing concern to focus upon the key areas of business that is those of key value-adding capability and hence a refusal to dilute the management attention given to these areas. Firms are being pushed to cut margins. Many are focusing on their core competencies, leaving little time for wrestling with technology. At the same time, as large outsourcing firms gain customers, their efficiency improves and they can offer more services and more specialists at better rates Post V. Gerald and Anderson (2006). There are various enablers for outsourcing. Among them are technology change, technology management and business change as identified by Clark, Zmud and McCray (1995) in Klepper and Jones (1998). These are discussed below:

### **2.3.1 Technological change**

This enables outsourcing and provides more options in the following ways.

(a) The advancement of computer technology has enabled a lot of IT related products and services to become readily available at affordable prices. As a result, many firms now regard the identification and acquisition of these products and services as non-core activities that can be outsourced.

(b) Technology change also makes the management, operation, and delivery of information services to become independent of each other. This avails a wider range of choices for outsourcing and helps to minimize the risks of outsourcing. The demand for outsourcing is also enhanced by technological change. For example as technology continues to change, it becomes increasingly difficult for general business managers to keep up with the technology. Each change brings requests for new hardware and software and the need to reevaluate the use of

technology within the firm. Changing technology also requires continual retraining of the information systems staff.

(c) The performance-to-price ratio of information technology in the last 50 years has increased, resulting in the widespread and innovative use of information technology in all business angles. However, due to the fast technological change, older hardware and software becomes outdated. This makes a lot of technological equipment and personnel skills to be phased out while some crucial skills and hardware become scarce. Outsourcing gives organizations the power to minimize the human and equipment resources that are not necessary for the strategic operations so that they can focus on updating their resources to meet their critical needs.

### **2.3.2 Changes in the management of information systems**

This may be necessitated by

(a) Increased use of computer equipment and automated systems has caused a parallel rise in information systems budgets. Generally, it is hard to quantify the profits to be obtained as a result of making use of information technology. This attracts senior managers to outsource as a way of forecasting costs to ensure that the organization pays the "market price" for information systems services.

(b) As a result of decentralization and distribution of information systems control, many organizations are faced with the possibility to outsource those IT functions that were previously centralized.

### **2.2.3 Industry-level changes**

This may also promote outsourcing in the following ways:

(a) The quick technology change breeds new roles and functions that provide opportunities for outsourcing. A given example is that of routine data processing functions in banking that have been widely outsourced to third parties (sometimes other banks) as a way of achieving lower costs.

(b) There is an increasing number and quality of outsourcing vendors who are offering competitive prices and quality services. "Barriers to entry are low, and technological change creates discontinuities in needs that vendors can exploit." Competition increases as new vendors join the field. This leads to a further cost reduction and improved quality of service.

(c) Vendors are continuously facing growing demands for their services and they can manage to grab, pay, and promote personnel with commendable technical skills within the industry. By doing so, they further heighten their potential and the attractiveness of outsourcing.

(d) Technological change combined with globalization of business today provides new possibilities to manage the complexities of issues related to magnitude, distance and fast-paced change. This makes it easier to rely on distant vendors with specialized skills.

Never the less cost reduction still is, the biggest driver for companies that decide to outsource.

### **2.4 Reasons for outsourcing**

This topic examines Information Systems Outsourcing strategies and how IS outsourcing strategies either affects or is affected by firm strategies and firm performance. Outsourcing is based on the notion that strategy should be built around core managerial and technical



competencies that add the most value in the value chain but functions or activities that add little value or cannot be done effectively should be done outside the firm.

When done well the firm gains a supplier that provides superior quality service at lower cost than it could provide itself Pearce and Robison (1997). Researchers have addressed the questions:

- What strategic intent is behind IS outsourcing decisions?
- What are strategic effects IS outsourcing decisions?

Although companies outsource IS for many reasons Willcocks and Fitzgerald (1995), industry watchers generally attribute the growth of the IS outsourcing market to two primary phenomena Lacity & Willcocks (2001). First, interest in IS outsourcing is largely a consequence of a shift in business strategy. Many companies have recently abandoned their diversification strategies - once pursued to mediate risk - to focus on core competencies. Senior executives have come to believe that the most important sustainable competitive advantage is strategic focus by concentrating on what an organization does better than anyone else while outsourcing the rest. As a result of this focus strategy, IS came under scrutiny. Senior executives frequently view the entire IS function as a non-core activity, and believe that IT vendors possess economies of scale and technical expertise to provide IS services more efficiently than internal IS departments. Second, the growth in outsourcing is a function of the unclear value delivered by IS. In many companies, senior executives view IS as an overhead - an essential cost but one to be minimized nevertheless.

These two phenomena - refocus to core competencies and the perception of IS as a cost burden - prompt many senior executives to sign outsourcing "mega-deals" for the provision of all IS services. But while such mega-deals afford these companies with much press, some have voiced concern about the long-term viability of these deals. Indeed, some prominent IS professionals

have cautioned against the wholesale transferal of the management and control of a "strategic asset" such as IS. In a number of cases, these concerns proved valid, with "outsourcing partnerships" experiencing grave problems. A few companies have paid out significant sums of money to disentangle themselves from outsourcing contracts and then rebuilt their internal IS capability Hirschheim and Lacity (2000). On the other hand, some IS managers who have refused to deal with outsourcing vendors or ignored them, have either been fired or had their jobs marginalized when their IS shops have failed to demonstrate value for money (Lacity & Hirschheim, 1993b). So clearly outsourcing must be taken seriously.

#### **2.4.1 The strategic intent behind IS outsourcing decisions**

It is generally evident that the determinants of IS outsourcing decisions are driven by poor financial performance, suggesting that the "strategic" intent of IS outsourcing is to reduce costs. Lacity et al (1995) poses five strategic questions of every IS activity to determine whether the provider should be inside or outside the organization. These questions are:-

- (i) Is this system truly strategic?
- (ii) Are we certain that our IT requirements won't change? If not, then internal or short term arrangements are necessary.
- (iii) Even if a system is a commodity can it be broken off? Complex interfaces make a given element impossible to separate. This then makes outsourcing impractical.
- (iv) Could the internal IT department provide this system more efficiently than an outside provider could?

- (v) Do we have the knowledge to outsource an unfamiliar or emerging technology? A firm cannot manage what it does not understand so before outsourcing, skills are recruited.

Research on what motivates client organizations to outsource IS has uncovered a long list of motivations or expectations from outsourcing IS (see Table 1) below:

Motivations for IT outsourcing

<u>Motivation for outsourcing</u>	<u>Description</u>	<u>No. of articles</u>
Cost reduction	A client organization's need or desire to use outsourcing to reduce or control IS costs	39
Focus on core capabilities	A client organization's desire or need to outsource in order to focus on its core capabilities	24
Access to expertise/skills	A client organization's desire or need to access supplier(s) skills/expertise	18
Improve business	A client organization's desire or need to engage a supplier to help improve a client's business, processes, or capabilities	17
Technical reasons	A client organization's desire or need to gain access to leading edge technology through outsourcing	10
Flexibility	The ability to adapt to change	7
Political reasons	A client stakeholders desire or need to use an outsourcing decision to promote personal agendas such as eliminating a burdensome function, enhancing their career, or maximizing personal financial benefits	5

Change catalyst	A client organization's desire or need to use outsourcing to bring about large scale changes in the organization	4
Commercial exploitation	A client organization's desire or need to partner with a supplier to commercially exploit existing client assets or form a new enterprise	3
Scalability	A client organization's desire or need to outsource to be able to scale the volume of IS services based on demand	3
Access to global markets	A client organization's desire or need to gain access to global markets by outsourcing to suppliers in those markets	2
Alignment of IS and business strategy	The fit or congruence between a firm's business strategy (conceptualized as defenders, prospectors, analyzers) and its outsourcing strategy (e.g., arm's length, independent, and embedded)	2
Cost predictability	A client organization's desire or need to use outsourcing to better predict IS costs.	2
Headcount reduction	A client organization's need or desire to use outsourcing to reduce the number of staff.	2
Need to generate cash	A client organization's desire or need to generate cash through the sale of IT assets to the supplier	2
Rapid delivery	A client organization's desire or need to engage in outsourcing	2

	in order to speedup project delivery	
Innovation	A client organization's desire or need to use outsourcing as an engine for innovation	1
<b><u>Total articles</u></b>		<b><u>143</u></b>

**Table 1**

Source: Mary C. Lacity a, Shaji A. Khan and Leslie P. Willcocks. (2009)

By far, cost reduction is the most common motive identified by researchers. Despite all the rhetoric of using outsourcing strategically, cost reduction has remained an important driver for a majority of client firms, from the earliest studies (e.g., Lacity et al., 1994) to more recent ones (e.g., Fisher et al., 2008).

Some of the most interesting research, however, challenges practitioners to consider outsourcing for more strategic reasons other than just cost reduction. One of the most widely-cited articles on this topic is by DiRomualdo and Gurbaxani (1998). The authors addressed three strategic intents for IT outsourcing: IS improvement (including cost savings), business impact (such as improving business processes), and commercial exploitation. Their paper also suggested which types of contracts, incentives, measures, and pricing provisions should be used to match the strategic intent. The logic of their prescriptions is solid, but many of the examples cited in the article as exemplars of an IT strategy actually failed to deliver the expected benefits in the longer term, including Xerox, J.P. Morgan, Swiss Bank, and Delta Airlines. This suggests that realizing the strategic intent of IT outsourcing is exceedingly difficult and requires a high degree of managerial attention.

Other authors have also tried to challenge practitioners to use IT outsourcing more strategically. The main issue is that these papers rely on anecdotal evidence from a few exceptional firms. Most notable are three excellent papers by Quinn (Quinn and Hilmer, 1994; Quinn, 1999, 2000). His work, although based on anecdotal evidence and not focused on IT, celebrates the most innovative and strategic uses of outsourcing. Linder (2004), Ross and Beath (2006), and Lacity et al. (2003, 2004) also wrote about a few companies using IT outsourcing to facilitate large-scale transformation. Some of their examples, however, pertain to BPO rather than IT outsourcing.

#### **2.4.2 The strategic effects of IT outsourcing decisions**

Researchers have also assessed the effects of IT outsourcing on firm-level performance using such metrics as stock price performance and financial performance. Concerning stock price, senior executives want to know how stockholders perceive their large-scale IT outsourcing decisions Willcocks Leslie P. et al(2009). Strategic decisions have to be made on information systems vulnerability because valuable information will reside on networks and computers outside the organization's control. Without strong safeguards, valuable data could be lost, destroyed or could fall into the wrong hands revealing important trade secrets or information that violates personal privacy. Some worry that outsourcing application development to outsourcing companies might provide opportunities for programmers to insert hidden code that would later enable someone to gain control over an application or its data Schmerken and Fitzgerald(2004).

### 2.4.3 Benefits of Outsourcing

Haag, et al (2000) points out that organizations can derive the following benefits from outsourcing:

1. **Take advantage of the cost-advantages:** Outsourcing can give your company access to cost-effective services. Getting access to high-quality services at a cost-effective price is the biggest benefit that a company can get while outsourcing.
2. **Save:** One of the benefits of outsourcing is that you can save on every aspect of your business and increase your profits. When you outsource, you can save on time, effort, infrastructure and manpower. Since you don't have to invest in infrastructure, you can also save on making unnecessary fixed investments. Outsourcing removes the burden of changing or maintaining infrastructure. You can also save on capital expenditure. Outsourcing can also help you save on training costs, because you do not have to invest in manpower. These savings will help bring about an increase in your revenue. Your organization can also save on investing in expensive software and technologies.
3. **Get access to specialized services:** By outsourcing you can get expert and skilled services. This benefit of outsourcing has been the key reason why several outsourcers opt for outsourcing. The function that you outsource may not be your core competency but you can find an outsourcing partner who is specialized in that particular business process. Your outsourcing partner will be able to provide more proficient services.
4. **Concentrate more on your core business:** One of the benefits of outsourcing is that your organization will be free to concentrate on your core business. By outsourcing all your non-core

functions, your employees can be put to better use and you will be able to see a huge growth in your core business.

5. **Increased efficiency:** Another benefit of outsourcing is increased efficiency. Your non-core business functions will be performed efficiently by your outsourcing partner, while your core functions can be efficiently carried out in-house. Thereby you can achieve overall efficiency and see an increase in your profits.

6. **Resources Not Available Internally:** Companies outsource because they do not have access to the required resources within the company. Outsourcing is a viable alternative to building the needed capability from the ground. New organizations, spin-offs, or companies expanding into new geography or new technology should consider the benefits of outsourcing from the very start.

7. **Capacity management:** An improved method of capacity management of services and technology where the risk in providing the excess capacity is borne by the supplier.

8. **Catalyst for change:** An organization can use an outsourcing agreement as a catalyst for major step change that can not be achieved alone. The outsourcer becomes a Change Agent in the process.

9. **Enhance capacity for innovation.** Companies increasingly use external knowledge service providers to supplement limited in-house capacity for product innovation.

10. **Commodification:** The trend of standardizing business processes, IT Services and application services enabling businesses to intelligently buy at the right price. This allows a wide range of businesses access to services previously only available to large corporations.



#### 2.4.4 Criticisms of outsourcing

Haag, et al (2000) continues the debate on outsourcing by offering some of the risks associated with it. He states that to minimize the problems associated with outsourcing, it's important to first identify the risks. While each outsourcing deal presents unique issues, the risks generally fall into four main areas:

(a) **Operational Risks:** These include the financial and legal risks that arise when transitioning into an outsourcing relationship and allowing a service provider to transform services to reduce their cost. They also include the legal ramifications of exiting a contract when services are no longer needed.

(b) **Commercial Risks:** Companies usually enter into outsourcing contracts to save money. This can create problems because when companies lock themselves into a service contract, they generally lock in a price. As time goes on, market levels change and the customer company could end up paying too much for the services they receive.

(c) **Business/Strategic Risks:** Businesses are constantly identifying new strategic initiatives. If a third-party IT provider can't accommodate new goals, the customer company might want out of the contract. This can also be attributed to the IS employees having weaker ties to the original company. This leads to the question of who is responsible for identifying solutions and uses of new technology for the firm. If IS workers are employed by an external firm, will it be their job to search for new application? If not, who will?

(d) **Legal Risks:** These include privacy issues, regulatory factors, outsourcing laws and legal liability.

(e) **Public opinion:** There is a strong public opinion regarding outsourcing that outsourcing damages a local labor market. Outsourcing is the transfer of the delivery of services which affects both jobs and individuals. It is difficult to dispute that outsourcing has a detrimental effect on individuals who face job disruption and employment insecurity; however, its supporters believe that outsourcing should bring down prices, providing greater economic benefit to all

Before you consider outsourcing, make sure you understand the answer to three critical questions:

- (1) How will you ensure adequate service?
- (2) How will you control costs?
- (3) Will it provide the flexibility you need if your strategies change?

Most contracts establish base costs, but additional requests are charged at higher rates.

## **2.5 Outsourcing Decision Making Process**

American Outsourcing Institute suggests that the implementation of outsourcing decisions be procedurally conducted and documented through the following phases: planning, analysis, implementation, operations and termination.

It outlays a five step model to ensure a fair outsourcing deal throughout the life cycle of outsourcing contract:

1. **Investigation stage** – this is the stage where existing process and systems are reviewed and compared to the best of breed. It is at this stage that the opportunities for improvement are identified. The management will also be looking at questions such as will the outsourced system manage strategic and sensitive information? Whether outsourcing has potential advantage or not is the key question asked at this stage. This stage provides a baseline of current

costs analysis. This information can be used to analyse performance improvements delivered by the outsourcer against industry trends throughout the relationship.

2. **Tendering Stage** – this is stage where knowledge gained from benchmarking is incorporated to set optimum performance targets for the organization. This helps identify the serious contender for the business and spells out what world class performance is expected and will be measured. At this stage it is important to develop logical requirements of the proposed outsourced system before you develop your request for proposal.

3. **Negotiation Stage** – before negotiation it is critical to set the right expectations for cost, performance and service levels. The negotiation position is reinforced by the external validation of the organizations requirements. Two notable approaches in the selection of vendors are Single Sourcing and procurement through Request for Proposal (RFP). An RFP is a formal document that describes in detail your logical requirements for a proposed system and invites outsourcing vendors to submit bids for its development Haag et al(2000)

Request for Proposal is the traditional approach that has been in competitive bidding among potential vendors. An RFP is created in the format of the day and is distributed to several service providers or placed in public information media. Though it is time consuming and costly many large organizations choose this approach for transparency purposes. Perhaps benchmarking may be considered to facilitate “fast tracking” or sole source consideration

Fast tracking simply means the client has decided to outsource usually with very little investigation and no tendering and wants to move through the negotiation process quickly. In sole source situation ensuring a competitive supply can be difficult. Here the vendor holds the balance of power in the negotiation. Benchmarking can level the playing field serving as a surrogate for the competitive process to ensure you receive a fair deal. However in Sole/Single

Sourcing a client firm approaches a vendor and appoints it to perform a service after negotiation.

There is no competitive binding in this option.

Wendy (1997) highlights three major management responsibilities at this stage so as to get the

“best “from IS investment namely:

- (a) Senior management must recognise the potential for gain in any acquisition and therefore acknowledge the importance of the procurement process by taking an active or at least supportive role especially in the first acquisition.
- (b) Review and re-review the relationship to the business and IS strategies to ensure harmony with long-term goals.
- (c) Implications of any sensitive applications must be fully assessed as part of the procurement process.

**4. Implementation stage** – this is the stage for contract refinement. At this stage service level agreements are put in place detailing process maps, responsibilities and implementation of key performance indicators. Refined structures and reporting lines are implemented.

**5. Relationship Management** – benchmarking is most commonly employed in relationship management. In this type of management outsourcing deals are negotiated. Several organizations have had to negotiate contracts within two years of being signed usually dissatisfaction, overpricing and service levels are the main drivers for negotiations. Benchmarking plays a key role in renegotiations since clients need access to industry performance parameters in order to make a case with outsourcing vendor.

## **2.6 Conceptual Framework on outsourcing**

Saunders et al (2003) explains that conceptual frameworks (theoretical frameworks) are a type of intermediate theory that attempt to connect to all aspects of inquiry (e.g., problem definition,

purpose, literature review, methodology, data collection and analysis). Conceptual frameworks can act like maps that give coherence to empirical inquiry. Because conceptual frameworks are potentially so close to empirical inquiry, they take different forms depending upon the research question or problem. This research project will use Technology Adoption Model as the basis for conceptual framework in understanding how the Kenya Armed Forces can use Information Systems Outsourcing as a corporate strategy in achieving its core functions.

### **2.6.1 Technology Adoption**

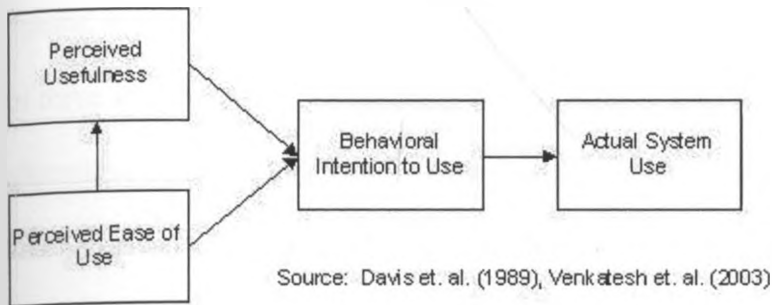
This research project will set out to test Technology Acceptance Model (TAM) in Kenya Armed Forces Institution. It will seek to put together theory and research on organization acceptance of information systems outsourcing from Technology Acceptance Model perspective with an aim capturing the essential elements of how individuals and organizations have different views on implementing/adopting new technologies availed to them.

#### **2.6.1.1 Technology Acceptance Model (TAM)**

The **Technology Acceptance Model (TAM)** is an information systems theory that models how users come to accept and use a technology. The model suggests that when users are presented with a new technology, a number of factors influence their decision about how and when they will use it, notably:

- **Perceived usefulness (PU)** - This was defined by Fred Davis as "the degree to which a person believes that using a particular system would enhance his or her job performance".
- **Perceived ease-of-use (PEOU)** - Davis defined this as "the degree to which a person believes that using a particular system would be free from effort" (Davis, 1989).

## Diagram/schematic of theory-



### Originating author(s)-Davis (1986); Davis (1989)

TAM is one of the most influential extensions of Ajzen and Fishbein's Theory of Reasoned Action (TRA) in the literature. It was developed by Fred Davis and Richard Bagozzi (Bagozzi et al., 1992; Davis et al., 1989). TAM replaces many of TRA's attitude measures with the two technology acceptance measures— *ease of use*, and *usefulness*. TRA and TAM, both of which have strong behavioral elements, assume that when someone forms an intention to act, that they will be free to act without limitation.

Bagozzi, Davis and Warshaw (1992) say: Because new technologies such as personal computers are complex and an element of uncertainty exists in the minds of decision makers with respect to the successful adoption of them, people form attitudes and intentions toward trying to learn to use the new technology prior to initiating efforts directed at using. Attitudes towards usage and intentions to use may be ill-formed or lacking in conviction or else may occur only after preliminary strivings to learn to use the technology evolve. Thus, actual usage may not be a direct or immediate consequence of such attitudes and intentions. (Bagozzi et al., 1992)

Technology Acceptance Model is an adaptation of the Theory of Reasoned Action (TRA) to the field of IS. TAM posits that perceived usefulness and perceived ease of use determine an

individual's intention to use a system with intention to use serving as a mediator of actual system use. Perceived usefulness is also seen as being directly impacted by perceived ease of use.

Researchers have simplified TAM by removing the attitude construct found in TRA from the current specification Venkatesh et al ( 2003). Attempts to extend TAM have generally taken one of three approaches: by introducing factors from related models, by introducing additional or alternative belief factors, and by examining antecedents and moderators of perceived usefulness and perceived ease of use Wixom and Todd(2005).

TRA and TAM, both of which have strong behavioral elements, assume that when someone forms an intention to act, that they will be free to act without limitation. In practice constraints such as limited ability, time, environmental or organizational limits, and unconscious habits will limit the freedom to act.

## **2. 6.2 Factors influencing Technology Adoption**

Some of the factors that will greatly influence how an institution adopts a new technology are highlighted below:

### **2.6.2.1 Performance Expectancy**

The Chambers Dictionary defines to perform as to do, carry out duly or to carry in effect.

Expectancy theory predicts that employees in an organization will be motivated when they believe that:

- (a) Putting in more effort will yield better job performance.

(b) Better job performance will lead to organizational rewards, such as an increase in salary or benefits.

(c) These predicted organizational rewards are valued by the employee in question.

When an individual has high expectancy from a situation he/she will perform his tasks well. The five constructs from the different models that pertain to performance expectancy are perceived usefulness, extrinsic motivation, job-fit, relative advantage, and outcome expectations. Even as these constructs evolved in this literature, some authors have acknowledged their similarities: usefulness and extrinsic motivation (Davis et al. 1989, 1992), usefulness and job-fit, usefulness and relative advantage (Davis et al. 1989).

#### **2.6.2.2 Effort Expectancy**

The Chambers Dictionary defines effort as the exertion of body or mind or an attempt to do something. The concept of effort expectancy is said to involve: perceived ease of use, complexity, and ease of use. There is substantial similarity among the definitions and measurement scales. The similarities among these definitions have been noted in prior research Davis et al. (1989).

#### **2.6.2.3 Social Influence**

According to (Questia.com) social influence is the change in behavior that one person causes in another, intentionally or unintentionally, as a result of the way the changed person perceives themselves in relationship to the influencer, other people and society in general It is seen as the degree to which an individual perceives that important others believe he or she should use the



new system. Social influence as a direct determinant of behavioral intention is represented as subjective norm in Theory of Reasoned Action

The role of social influence in technology acceptance decisions is complex and subject to a wide range of contingent influences. Social influence has an impact on individual behavior through three mechanisms: compliance, internalization, and identification (Venkatesh and Davis 2000). The influence of social influence on behavioral intention will be moderated by gender, age, voluntariness, and experience, such that the effect will be stronger for women, particularly older women, particularly in mandatory settings in the early stages of experience.

### **2.6.3 Facilitating Conditions**

For any effective and efficient outsourcing contract to function well certain parameters have to be addressed and put in place first such as:

#### **i) Top management Commitment**

The IT literature has clearly demonstrated that for IT projects to succeed top management support is critical Horwitt (1998). This also applies to outsourcing of information systems implementations. Implementing outsourced information system is not a matter of changing software systems; rather it is a matter of repositioning the institution and transforming the business practices. Senior Policy Makers in Kenya Armed Forces must ask several questions before embarking on the project such as:

- (a) Does outsourcing of information systems strengthen the Armed Forces overall performance?
- (b) How might it wear away the Institution's top security information handling practices?
- (c) How does outsourcing of information system affect the institution's organization structure (establishment) and the overall Military core values?

(d) What will be the scope of the system implementation that is will be only at Military Headquarters (Department of Defence) office or even at Service Headquarters (Kenya Army, Kenya Air Force and Kenya Navy) or all the way to Unit/Formation Level?

## ii) Integration

(a) How will the implementation of outsourced information systems be integrated into the overall Military Information systems since the military will not outsource all its Information systems.

(b) Which specialized software products best meet military's unique information needs?

## iii) Redundancy of Employees/Personnel

This will require the Senior Policy makers to understand effects of outsourcing in relation to the employees' morale. Questions such as:

(a) With outsourcing of information systems a very crucial question arises that is what will happen to the personnel employed as Information Systems professionals?

(b) Will they be made redundant?

(c) Will they continue working with the employees of the company contracted to offer the outsourced systems?

Such questions should be addressed before any outsourcing contracts are entered into.

## 2.7 Gaps in literature on outsourcing

Outsourcing continues to evolve with new capabilities and delivery models to meet buyers' expectations; they bring, of course, associated risks. From various researches carried out by known scholars in outsourcing domain as discussed in the main body of this chapter, there seems to be unfilled gaps in the current literature. These are: lack of objective metrics for outsourcing

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results evaluation, lack of research on the relationship between outsourcing implementation and firms' value, and lack of research on the outsourcing contract itself.

This research aims at solving one the main gaps in outsourcing domain i.e. lack of research on the relationship between outsourcing implementation and firm's value. The research will look at Kenya Armed Forces as a firm which handles top secret information (the firms' value of information) and the relationship that should exist between outsourcing implementation in Kenya Armed Forces and the contracted vendors.

## CHAPTER THREE: RESEARCH METHODOLOGY

### 3.0 Introduction

This chapter sets out to discuss the research methodology that will be adopted for conducting the study. It starts out by defining a few research terms, approach to be used in this study and method of data collection employed.

### 3.1 Definitions

**3.1.1 Research** – Kothari (2004) defines research as scholarly or scientific investigation or inquiry to be search for knowledge or any systematic investigation to establish facts. The primary purpose for applied research (as opposed to basic research) is discovering, interpreting, and the development of methods and systems for the advancement of human knowledge on a wide variety of scientific matters of our world and the universe. He further expounds that research can be either scientific or exploratory:

**3.1.2 Scientific research** - relies on the application of the scientific method, a harnessing of curiosity. This research provides scientific information and theories for the explanation of the nature and the properties of the world around us.

**3.1.3 Exploratory research** – this is conducted into an issue or problem where there are few or no earlier studies to refer to. Descriptive research describes phenomena as they exist. Here data is often quantitative and statistics applied. It is used to identify and obtain information on a particular problem or issue. Exploratory research studies are also termed as formulative research studies. According to Kothari (2004) the main purpose of such studies is that of formulating a problem for more precise investigation or of developing the working hypotheses from an

operational point of view. The major emphasis in such studies is on the discovery of ideas and insights.

### **3.2 Research Design**

Since this is an initial and exploratory study of the adoption of outsourcing information systems in Kenya Armed Forces, the researcher has considered using the survey method as a suitable research method for this investigation. As highlighted in Chapter Two research in this area of outsourcing has dwelt more on profit making institutions as well as business with less emphasis on security based institutions. The research aims at applying TAM in the questionnaire design by having questions that address the two crucial factors presented in it i.e. perceived usefulness and perceived ease-of-use of a technology.

### **3.3 The Population**

The study will focus on senior level policy makers at Ministry of State for Defence – Defence Headquarters in Kenya Armed Forces. They will be represented by the relevant management staff especially from Information Systems Department as well as personnel at the Information Technology Centre. The study aims at doing a study of the entire Information Systems Department. Although the survey method has some limitations including inaccuracies in the analysis, it will provide a proportion of the total understanding of outsourcing.

### **3.4 Data Collection**

Primary data will be collected for the purpose of this study. This will be done using a self-administered questionnaire available in the appendix. The questionnaire is going to be semi-structured, having both open-ended and closed-ended questions. It will be administered to the interviewees at their offices as well as through their electronic mail where applicable.

The questionnaire was divided into three parts. The objective of the first part is to get general information on the understanding that Information Systems Managers deem relevant for the study. The second part of the questionnaire will be used to examine whether there is any outsourcing adoption of information systems in the IS Department. The third part will be used to find out if outsourcing of Information Systems is feasible in the IS department and the Kenya Armed Forces at large.

Use of rating scale will be adopted which will help in qualitative description of a limited number of aspects of outsourcing aspects to be addressed in the questionnaires. Kothari (2004) describes a rating scale as a set of categories designed to elicit information about a quantitative or a qualitative attribute. He further states that in the social sciences, common examples are the Likert scale and 1-10 rating scales in which a person selects the number which is considered to reflect the perceived quality of a product. The main advantages of using rating scale are: they require less time, are interesting to use and results obtained from their use compare favorably with alternative methods.

### **3.5 Data Analysis**

The data collected was edited for accuracy, standardization, consistency and completeness and arranged to enable coding and tabulation before final analysis. The data collected from this study is mainly be presented through the use of summarized percentages, proportions and tabulations in all the three sections of the questionnaire. Measures of dispersion such as variance and standard deviations were evaluated and ranked to give the relative importance of the various variables of the study. The analysis was done using the SPSS software for accurate results.

## CHAPTER FOUR

### DATA ANALYSIS, FINDINGS AND DISCUSSIONS

#### 4.1 Introduction

The chapter presents data analysis, findings and discussion of the study in line with the research objective

#### 4.2 Demographic information

This section of the questioner aimed at determining the personal information of the respondents such as the length of period of service that they have worked in the organisation as well as academic profiles.

**Fig 4.2.1 Duration involved in making strategic policy decisions**

	Senior policy makers		Information Technology Centre staff	
	percent	Cumulative Percent	Percent	Cumulative Percent
Less than 2	36.40	36.4	44.4	44.4
2 -5	54.50	90.9	18.5	63.0
6 - 10	9.10	100.0	22.2	85.2
Over 10	-		14.8	100.0
Total	100		100.0	



The findings above shows that 54.5% of the management staff has been involved in making strategic policy decisions for a period of between 2 and 5 years. 36.4% have been involved for a period less than 2 years while 9.1% have been involved for a period of between 6 and 10 years. Majority of the respondents have been making the policy decisions for some time and therefore they have experience on policy making.

Regarding Information Technology Centre staff duration of working with the Kenya Armed Forces Information System department, 44.4% of the staff said they have worked for a period of less than 2 years, 22.2% said they have worked for between 6 and 10 years while 18.5% have worked for between 2 and 5 years and the other 14.8% have worked for over 10 years. Duration worked by the staff varies as there are those who have worked for a longer duration thus having the experience and at the same time there are those who have worked for a shorter period of time.

**Fig 4.2.2 Extent information system is articulated and understood**

	Senior policy makers		Information Technology Centre staff	
	frequency	Percent	Frequency	Percent
Not at all	2	18.2	4	14.8
Fairly clear	0	0	6	22.2
Vaguely	7	63.6	12	44.4
Clear	1	9.1	5	18.5
Very clear	1	9.1	0	0
Total	11	100.0	27	100.0

Outsourcing of the information systems have not been clearly articulated and understood as 63.6% of the senior policy makers said it was vaguely understood, 18.2% said it was not understood at all while 9.1% said it was clearly understood and the other 9.1% also said it was very clearly understood. The concept of outsourcing has not been clearly articulated and understood in the Armed forces.

The Information Technology Centre staff said the concept of outsourcing information systems has not been clearly articulated and understood as 44.4% of the staff said it was vaguely understood, 22.2% said it was fairly clear while 18.5% said it was clear. 14.8% of the staff said it was not clearly understood at all. From the findings it can be concluded that the concept of outsourcing information systems has not been clearly understood and therefore the benefits of it needs to be articulated clearly.

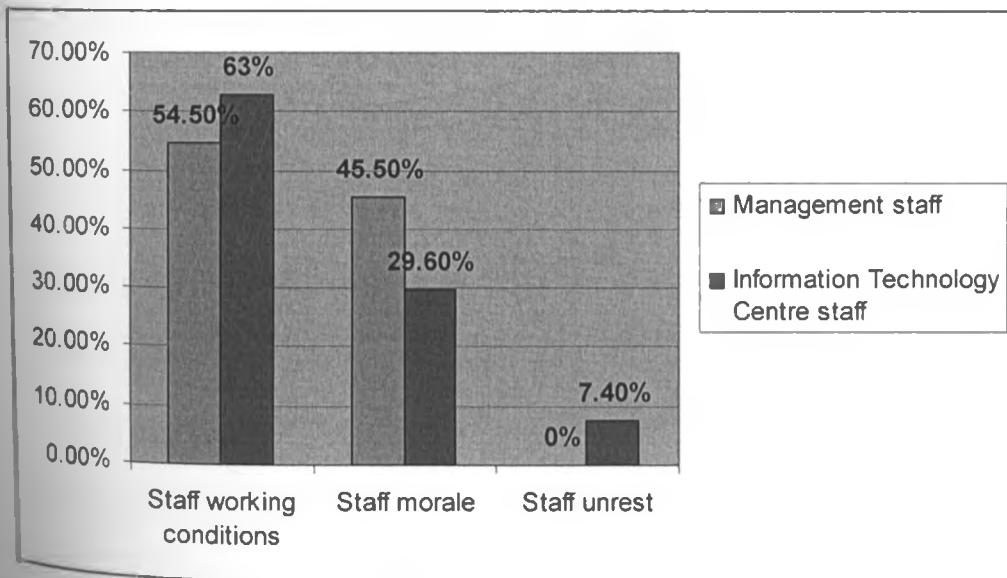
**Table 4.2.3 Extent information system has been supported**

	Senior policy makers		Information Technology Centre staff	
	Frequency	Percent	Frequency	Percent
Not at all	1	9.1	2	7.4
Less extent	7	63.6	14	51.9
Moderate extent	3	27.3	7	25.9
Large extent	0	0	3	11.1
Very great extent	0	0	1	3.7
Total	11	100.0	27	100.0

The senior policy makers have not been supportive to the concept of outsourcing as 63.6% of the respondents said they supported it to a less extent, 27.3% said they supported it to a moderate extent while 9.1% said they it has not been supported at all. Outsourcing of the information systems cannot needs the support of the policy makers and if they do not then it means that they do agree with the idea of outsourcing as they think it is exposing themselves to the outsiders.

The Information Technology Centre staff said outsourcing of the information systems have been supported to a less extent (51.9%) while 25.9% of the respondents said it has been supported to a moderate extent, 11.1% said it has been supported to a large extent while 7.4% said it has not been supported at all. 3.7% said it has been supported to a very great extent. Despite majority of the information technology staff saying the concept of outsourcing has been supported to a less extent, there are some who said it has been supported signaling that those who carry out the task of implementing the policy decisions favours outsourcing of the systems.

**Fig 4.2.4 Staff issues playing a critical role in IS outsourcing decision**



According to the management staffs who are the policy makers, 54.5% of them said staff working conditions would play a critical role in information system outsourcing while 45.5% said the staff morale is the one which will be critical. The staffs are the ones who are responsible for implementing the policies set by the management and that could be the factors the policy makers considered as they said the staff factors are what affects outsourcing.

The findings show that 63% of the information technology staff said staff working conditions would play a critical role in outsourcing, 29.6% said staff morale would be the factor while 7.4% said staff unrest would be the factor. The staff working conditions should be favorable so that the staff can enjoy serving the force but if it's not then it will necessitate outsourcing.

#### 4.3 Extent of Information Systems Outsourcing Policy

The section aimed at determining from the respondents the cadre of employees' best placed to undertake or initiate the business outsourcing practices in the firm.

**Table 4.3.1 Management best placed to initiate outsourcing process**

	Senior policy makers		Information Technology Centre staff	
	frequency	Percent	Frequency	Percent
Senior policy makers	0	0	3	11.1
Senior policy makers in collaboration with IS department	11	100	14	51.9
IS department personnel	0		10	37.0
Total	11	100.0	27	100.0

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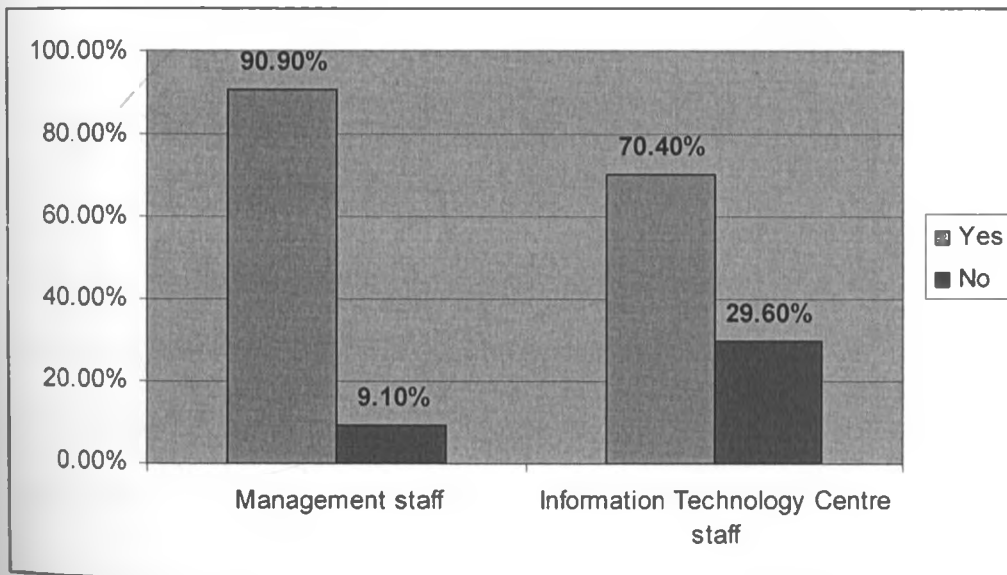
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Senior policy makers in collaboration with IS department	11	100	14	51.9
IS department personnel	0		10	37.0
Total	11	100.0	27	100.0

The findings according to the senior policy makers shows that 100% of the respondents said the senior policy makers in collaboration with the information system department are the ones best placed to initiate the outsourcing process. According to 51.9% of the information technology centre staff, senior policy makers in collaboration with IS department are the one best placed to initiate the outsourcing process, 37.0% of the staff said the IS department personnel are the ones best placed while 11.1% said senior policy makers. Initiation of the process should be consultative and that entails collaboration between the management and the concerned department and that was well articulated by the respondents.

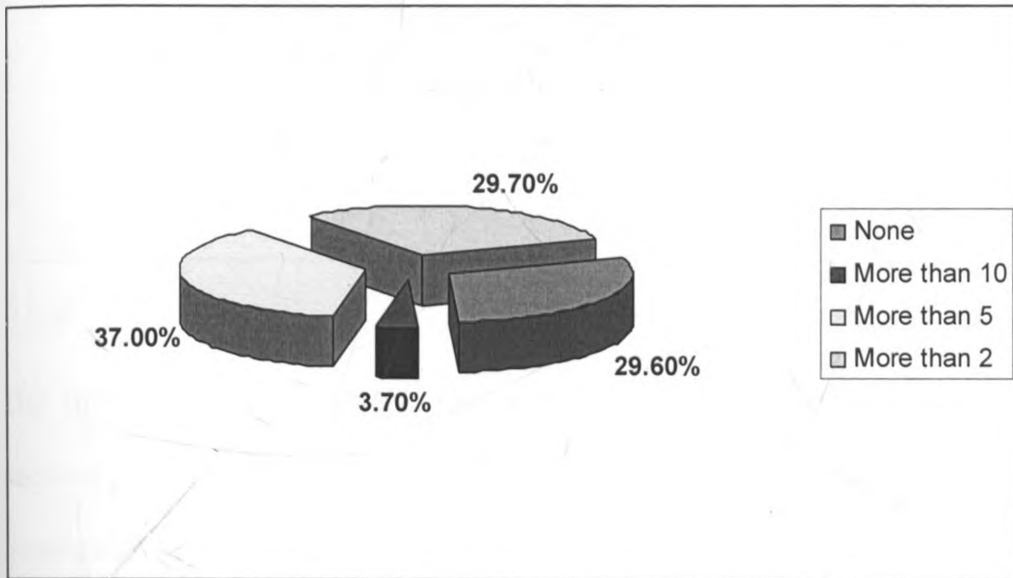
**Fig 4.3.1 Outsourcing some of information systems**



Majority of the senior policy makers (90.9%) said they constantly contract out some of the information systems to outsiders while 9.1% said they do not contract out. The findings suggest that the policy makers normally contracts out the IS. On the other hand, 70.4% of the

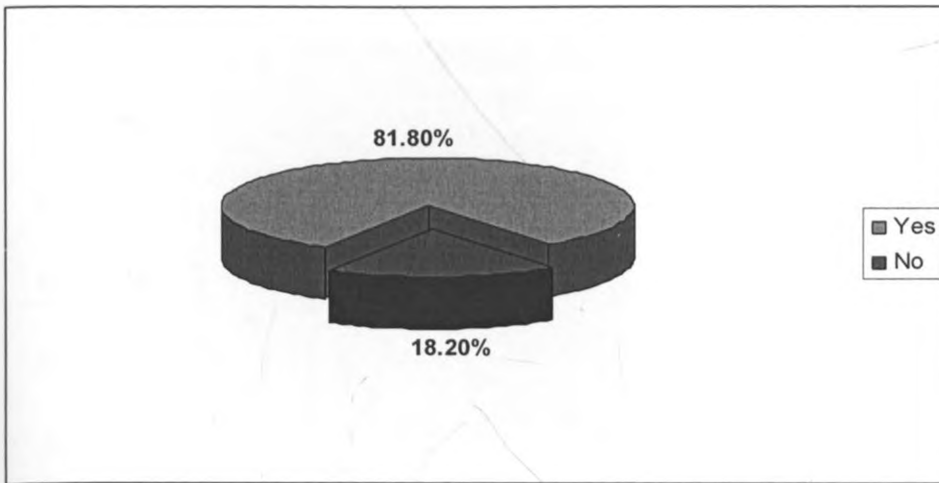
information technology centre staff said the force normally contracts out some IS while 29.6% said they do not contract out. The findings from the staff confirm the management position that they normally contract out the IS.

**Fig 4.3.2 Duration the department has been involved in outsourcing Information Systems**



According to the information technology centre staff, 37.0% of them said they have been contracting out some of the information system for more than five years but less than ten years. 29.7% of the respondents said the force had contacted out some of the IS for more than two years but less than five years while 29.6% were the employees who had said they the force does not contract out some of the information to the outsiders. 3.7% of the employees said the force had contracted out the IS for more than ten years. There is variation from the employees on the duration the force has been contracting out some IS and these could be attributed to the duration the employee has worked in the department thus answering the question based on the time they knew the force outsource some of the IS.

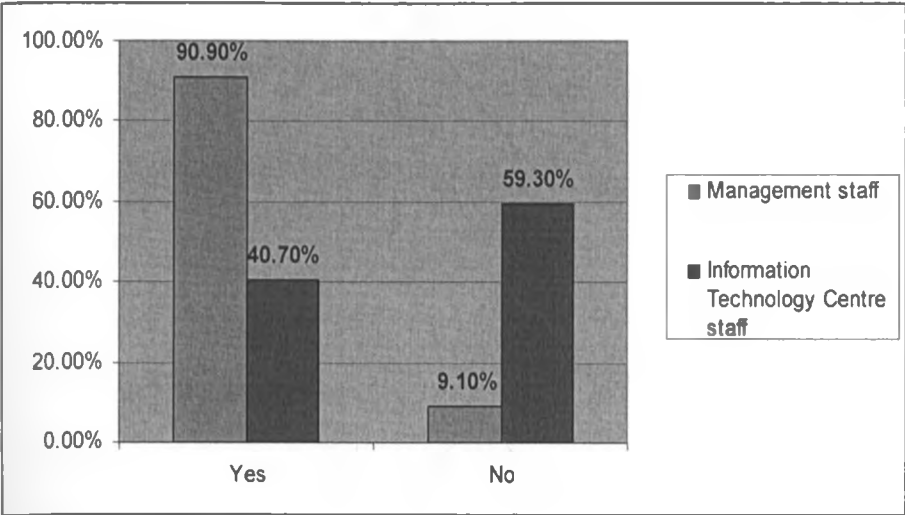
**Fig 4.3.2 Senior policy makers familiar with the outsourcing decision making process**



The findings regarding whether the senior policy makers are familiar with the outsourcing decision making process indicates that 81.8% are aware while 18.2% are not aware. The outsourcing decision making process should be known by all the senior policy makers so that whenever they want to outsource some of the information system they know the criteria to use.



**Fig 4.3.3 Armed forces use the services of a qualified expert in law and finance**



According to the senior policy makers, 90.9% said they use the services of a qualified expert in law and finance in negotiation of IS outsourcing acquisition while 9.1% said they do not use the services. On the contrary, 59.3% of the information technology centre staff said the armed forces do not use the services of a qualified expert while 40.7% said the force uses the services. There is contradiction between the senior employees and the other employees and these may suggest that the force uses at some other instances while at times they do not use.

**Table 4.3.4 Type of IS considered for outsourcing**

	Frequency	Percent	Cumulative Percent
Financial management information system	9	33.3	33.3
Personnel management systems	4	14.8	48.1
Decision support systems	4	14.8	63.0
Logistics/Procurement information system	9	33.3	96.3
Management information system	1	3.7	100.0
Total	27	100.0	

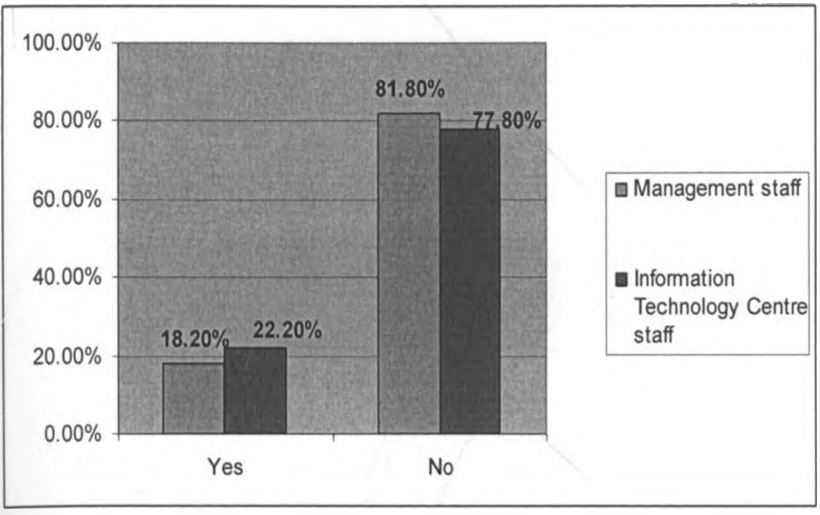
According to the information technology centre staff, the type of IS to be considered for outsourcing is the financial management information system and logistics/Procurement information system each at 33.3% followed by personnel management systems and decision support systems also each with 14.8% while only 3.7% said management information system should be considered. The type of IS to be outsourced should be one which the force do not have the expertise in it, expensive for the force to acquire it or develop theirs.

**Table 4.3.5 Key personnel involved during the signing of the contract**

	Frequency	Percent	Cumulative Percent
Senior policy makers	1	9.1	9.1
Head of IS department	3	27.3	36.4
Legal branch senior personnel	3	27.3	63.6
Logistics/Finance personnel	4	36.4	100.0
Total	11	100.0	

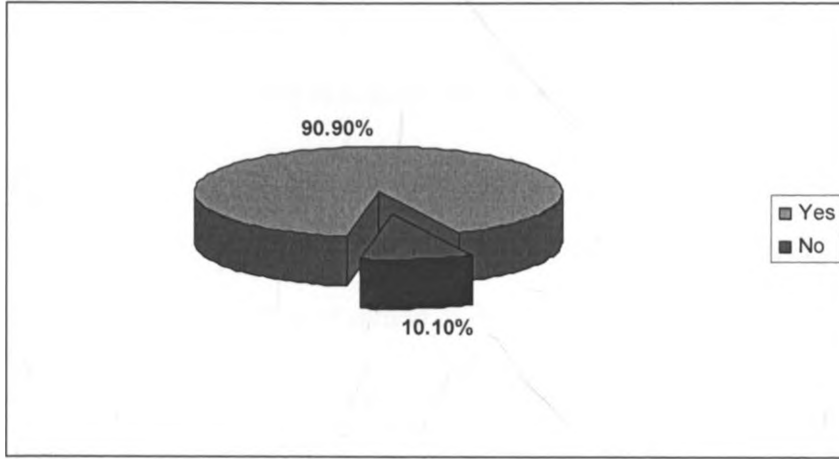
The key personnel involved according to the senior policy makers are the logistics/finance personnel with 36.4% rating while 27.3% said it's the head of IS department and the other 27.3% said it's the legal branch senior personnel. 9.1% said the senior policy makers are the ones best placed to be involved in signing of the contract. The armed forces should ensure that all the key personnel are involved in the signing of the contract so that they can scrutinize all the documents to ensure that it conforms to the contract terms and the force requirements.

**Fig 4.3.6 Department outsource**



The results regarding outsourcing of strategic and sensitive information, 81.8% of the senior policy makers said they would not outsource such IS while 18.2% said they would outsource. The same scenario was confirmed by the information technology centre staff with 77.8% saying they would not outsource the IS while 22.2% saying they would outsource the IS. The IS to be outsourced by the armed forces should be one which cannot be known by the outsiders as they can use it in some critical times or expose the force to foreigners by giving out the sensitive information.

**Fig 4.3.7 Role played by financial cost in decision making**



Majority of the senior policy makers (90.9%) said financial cost plays a role in decision making while 10.1% said it does not play a role. If the cost of outsourcing the information system is lower than the cost of acquisition then the armed forces is in a better position if they can outsource the IS.

**Table 4.3.8 Cost implication of outsourced information**

	Frequency	Percent	Cumulative Percent
Buy the system	2	18.2	18.2
Train the personnel to the expertise required to design such a system	9	81.8	100.0
Total	11	100.0	

The findings above indicates that 81.8% of the senior policy makers said that they better train the personnel to the expertise required to design such a system while 18.2% said they better buy the system. The response by the senior policy makers could have been informed by the fact that training the personnel will retain and possibly pass the knowledge to others in the armed forces rather than outsourcing at almost the same cost without the knowledge being passed to others.

#### 4.4 Factors influencing information system outsourcing

This part of the questioner aimed at determining the factors that will influence an organizations decision to out source some of its services.

**Table 4.4.1 Approaches applied when Kenya Armed Forces Outsource**

	Senior policy makers		IT centre staff	
	frequency	Percent	Frequency	Percent
Competitive bidding	5	45.5	17	63.0
Single sourcing	5	45.5	8	29.6
Any approach	1	9.1	2	7.4
Total	11	100.0	27	100.0

According to the senior policy makers, outsourcing of information system is done by competitive bidding 45.5% while another 45.5% said it's done using single sourcing approach. 9.1% of the respondents said it's done using any approach. The IT centre staff on the other hand said that they use competitive bidding approach (63.0%) while 29.6% said they use single sourcing and the other 7.4% said they use any approach. The approach used to outsource depends with several factors which in this instance shows that it varies.

#### 4.4.2 Factors considered when making decisions on whether to outsource

The respondents were to give their independent opinion on the factors they consider when making decision on whether to outsource or not in a five point Likert scale. The range was ‘very weak (5)’ to ‘very strong’ (1). The scores of very strong/strong have been taken to present a variable which had mean score of 0 to 2.5 on the continuous Likert scale ;( $0 \leq S.E < 2.4$ ). The scores of ‘Moderately strong have been taken to represent a variable with a mean score of 2.5 to 3.4 pm on the continuous Likert scale:  $2.5 \leq M.E. < 3.4$ ) and the score of both weak/very weak have been taken to represent a variable which had a mean score of 3.5 to 5.0 on a continuous Likert scale;  $3.5 \leq L.E. < 5.0$ ). A standard deviation of  $> 1.5$  implies a significant difference on the impact of the variable among respondents.

**Table 4.4.2: Factors influencing outsourcing**

	Senior policy makers		IT centre staff	
	Mean	Std. Deviation	Mean	Std. Deviation
Government policy	2.0000	1.4142	1.6667	1.2709
Reputation	2.5455	1.6348	1.9259	.9971
Performance of previous supplier	3.0000	1.7320	2.9630	1.2241
Lack of qualified internal competencies	2.0909	1.0444	2.8519	1.3785
Confidentiality	1.9091	1.5782	1.7037	1.0675

The findings suggested by senior policy makers in table 4.4.2 above show that only two factors had a mean ranking of above 2.5 (moderate strong). These two factors describe instances where the level of consideration is low and their low ratings (mean 2.5455 for reputation and 3.000 for performance of previous supplier) indicate the factors do not affect outsourcing or not. However there was a high degree of variation among respondents, an indication that some factors do affect the decision on whether to outsource or not. This is indicated by standard deviation of 1.6349 and 1.7321 for reputation and performance of previous supplier respectively. On the other hand, confidentiality with a mean of 1.9091 and standard deviation of 1.5783 was rated as the factor which is mostly considered before making decision followed by Government policy mean 2.000 and standard deviation of 1.4142 while lack of qualified internal competencies had a mean of 2.0909 and a standard deviation of 1.0444.

The results from the information technology centre staff shows that government policy was the factor been considered mostly (mean 1.6667 and standard deviation 1.2709), followed by confidentiality with (mean 1.7037 and standard deviation of 1.0675) then reputation (mean 1.9259 and standard deviation mean 0.9971). Lack of qualified internal competencies and Performance of previous supplier had a mean of above 2.5 indicating that the factors are not been considered greatly. The findings from the two sets of respondents show that there are some major factors which they all agree that it's considered when making decisions whether to outsource or not.



#### 4.4.3 Risk of outsourcing

The respondents were to give their independent opinion on risks of outsourcing in a five point Likert scale. The range was 'strongly disagree (5)' to 'strongly agree' (1). The scores of strongly agree/agree have been taken to present a variable which had mean score of 0 to 2.5 on the continuous Likert scale ;( $0 \leq S.E < 2.4$ ). The scores of 'Moderately agree have been taken to represent a variable with a mean score of 2.5 to 3.4 pm on the continuous Likert scale:  $2.5 \leq M.E. < 3.4$ ) and the score of both disagree/strongly disagree have been taken to represent a variable which had a mean score of 3.5 to 5.0 on a continuous Likert scale;  $3.5 \leq L.E. < 5.0$ ). A standard deviation of  $>1.5$  implies a significant difference on the impact of the variable among respondents.

**Table 4.4.3 Risk of outsourcing**

	Senior policy makers		IT centre staff	
	Mean	Std. Deviation	Mean	Std. Deviation
Loss of control	2.2727	1.0090	2.3704	1.3052
Loss of jobs by employees	3.9091	.9438	3.0741	1.1068
Unmet time frames/delays	2.7273	1.6180	3.3704	1.0794

From the findings to the senior policy maker's respondents and the information technology centre staff, they agreed that outsourcing of information systems leads to loss of control (mean 2.2727 for senior policy makers and 2.3704 for information technology centre staff). They

moderately agreed that it leads to unmet time frames/delays (mean 2.7273 for senior policy makers and mean 3.3704 for information technology centre staff). However, the senior policy makers said there is no risk of loss of jobs by the employees if they outsource (mean 3.9091) but the information technology centre staff moderately agreed (mean 3,0741).

#### 4.4.4 Main reasons for outsourcing of information services in the IS department

The respondents were to give their independent opinion on the factors they consider when making decision on whether to outsource or not in a five point Likert scale. The range was 'very weak (5)' to 'very strong' (1). The scores of very strong/strong have been taken to present a variable which had mean score of 0 to 2.5 on the continuous Likert scale; ( $0 \leq S.E < 2.4$ ). The scores of 'Moderately strong have been taken to represent a variable with a mean score of 2.5 to 3.4 pm on the continuous Likert scale:  $2.5 \leq M.E. < 3.4$ ) and the score of both weak/very weak have been taken to represent a variable which had a mean score of 3.5 to 5.0 on a continuous Likert scale;  $3.5 \leq L.E. < 5.0$ ). A standard deviation of  $> 1.5$  implies a significant difference on the impact of the variable among respondents.

**Table 4.4.4 Main reasons for outsourcing**

Reasons for outsourcing	Mean	Std. Deviation
Reduce costs	3.0000	1.3587
Increased efficiency	2.5926	1.3939
Enhance data integrity	2.5926	1.2171
Improve skills of employees	2.7407	1.5087

All the reasons advanced was rated as moderately strong and the respondents (information technology centre staff) strongly felt that the main reasons for outsourcing is to increase efficiency and enhance integrity (each with a mean of 2.5926) but the standard deviation varied indicating that there was a high degree of variation among respondents' staff. Improvement of employee skills and cost reduction (mean 2.7407 and 3.000 respectively) was rated as moderate. All the factors were rated as moderate and these implies that all the factors are considered before outsourcing of information services in the information technology.

#### **4.5 Barriers to Outsourcing at Kenya Armed Forces**

In an attempt to find out the hindrance to effective outsourcing, this section of the questioner aimed at establishing what factors the Kenya armed forces encounter in their attempt to outsource some of its services.

##### **4.5.1 Organizational barrier**

The respondents were to give their independent opinion on risks of outsourcing in a five point Likert scale. The range was 'strongly disagree (5)' to 'strongly agree' (1). The scores of strongly agree/agree have been taken to present a variable which had mean score of 0 to 2.5 on the continuous Likert scale ;( $0 \leq S.E < 2.4$ ). The scores of 'Moderately agree have been taken to represent a variable with a mean score of 2.5 to 3.4 pm on the continuous Likert scale:  $2.5 \leq M.E < 3.4$ ) and the score of both disagree/strongly disagree have been taken to represent a variable which had a mean score of 3.5 to 5.0 on a continuous Likert scale;  $3.5 \leq L.E. < 5.0$ ). A standard deviation of  $> 1.5$  implies a significant difference on the impact of the variable among respondents.

**Table 4.5 1: Organizational factors**

Type of barrier	Senior policy makers		IT centre staff	
	Mean	Std. Deviation	Mean	Std. Deviation
Employees negative attitude	2.6364	1.2863	3.0741	1.7743
Senior management commitment lacking	2.0909	1.3004	1.8519	1.0991
Lack of knowledgeable IT staff	3.0909	1.6404	2.2222	1.4233
Poor IT infrastructure	3.7273	.7863	2.5185	1.3118

The major organizational barrier according to senior policy makers to effective outsourcing of information systems are lack of senior management commitment (mean 2.0909), followed by negative employee attitude and lack of knowledgeable information technology staff (mean 2.6364 and 3.0909 respectively) were moderately rated. The respondents strongly disagreed (mean 3.7273) that poor information technology infrastructure is a barrier to effective outsourcing.

The information technology staffs on the other hand were of a similar opinion like the senior policy makers that the senior management lack commitment (mean 1.8519) followed by lack of knowledgeable information technology staff (mean 2.2222) while poor information technology infrastructure and employees negative attitude (mean 2.5185 and 3.0741 respectively) were rated as moderate in affecting effective outsourcing. The armed forces should critically scrutinize the factors highlighted if they want to outsource information systems so that they can get the best service.

**4.6 Trust of the system**

Majority of the senior policy makers indicated that fear of information sabotage in relation to secret information (mean 2.0909) was the major barrier to effective outsourcing of information systems while insecurity of the outsourced systems (mean 3.3636) was rated moderate but the respondents said lack of trustworthy system providers (mean 3.4545) was not a factor. The findings could be attributed to the fact that the system will be managed and controlled by the company awarded the contract and therefore they may leak sensitive information to the outsiders.

**Table 4.6.1 Trust of the System**

Type of barrier	Senior policy makers		IT centre staff	
	Mean	Std. Deviation	Mean	Std. Deviation
Outsourced systems are insecure	3.3636	.92442	2.0741	1.14105
Lack of trustworthy system providers	3.4545	.82020	2.6667	1.46760
Fear of information sabotage in relation to secret information	2.0909	1.22103	2.0000	1.24035

The information technology staffs on the other hand were of a similar opinion as they agreed that fear of information sabotage in relation to secret information (mean 2.0000) was of more concern while insecurity of outsourced systems followed with (2.0741). The respondents moderately

agreed that lack of trustworthy system providers (mean 2.6667) was a barrier to effective outsourcing of information systems.

#### 4.7 Legal support

**Table 4.7.1 Legal support**

Type of barrier	Senior policy makers		IT centre staff	
	Mean	Std. Deviation	Mean	Std. Deviation
Lack of reputable legal firms knowledgeable on handling dispute resolution	3.4545	1.03573	2.5926	1.57527
Lack of clear laws governing handling outsourcing legal disputes	2.7273	.90453	3.1111	1.36814

The findings above according to both the senior policy makers and the information technology staff indicate that the two factors moderately affects the effectiveness of information system outsourcing as shown by lack of reputable legal firms knowledgeable on handling dispute resolution (mean 3.4545 for senior policy makers and 2.5926 for information technology staff) while lack of clear laws governing handling outsourcing legal disputes was indicated by (mean 2.7273 for senior policy makers and 3.1111 for information technology staff).

## CHAPTER FIVE

### SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

#### 5.1 Introduction

This chapter presents summary, discussions, conclusions and recommendations in relation to results and findings on consumer perception on information systems outsourcing adoption process at Kenya Armed Forces; in addition it presents policy recommendations based on study findings and conclusions.

#### 5.2 Summary of findings

The study shows that majority of the respondents have worked in the information system department for more than two years and therefore they have known what is happening in the department and also they have the necessary experience to make policy decisions in the military. It is apparent from the findings that the concept of outsourcing has not been clearly articulated and understood and therefore the decisions made or to be made may not reflect the true position on the ground. Both the senior policy makers and the information technology centre staff have not been supportive to the idea of outsourcing information systems and these could be attributed to the nature of the armed forces who want to keep whatever they do as secret and by outsourcing, they will be exposing themselves to the outsiders.

From the findings on the staff issues which will play a critical role in IS outsourcing, the respondents cited staff working conditions and staff morale as the crucial factors as majority of

the staff will be rendered jobless if the force outsource IS and at the same time the staff morale will go down since they will view the policy makers as underrating their capability. Respondents were of the opinion that the senior policy makers in collaboration with IS department and also the IS department personnel are the best placed staff to initiate the outsourcing process as they are the ones who are involved in policy making and also operate the force IS. The Armed Forces according to the respondents normally outsource some of the IS although some of the respondents disputed these assertion, majority said they normally outsource.

The IS department has been outsourcing some IS for quite some time now as the respondents indicated that the department has been outsourcing IS for more than two years and therefore they should have identified the organization which offers the best service. There was conflicting response regarding whether the IS department uses the services of a qualified expert in law and finance in its negotiation as the management staff respondents said they use while majority of the information technology centre staff said they do not use their services. The use or not use of the law and finance expert could be attributed to maybe some of the contracts signed having some serious flaws which could indicate that their services were not used. The role played the experts include; laying out contract details on confidentiality, support and back-up, to assess the options for usability in the long run, providing legal advice on contractual obligations and for advice and guidance. The senior policy makers are aware of outsourcing decision making process and therefore whenever they want to outsource they know the procedure to be followed but when the decision makers are not familiar with the process, the decision to outsource would be arrived through ministerial level decision and cost benefit analysis would be considered.



The respondents (senior policy makers and the information technology centre staff) were divided on the type of IS to be outsourced but financial management information system, personnel management systems, decision support systems, logistics/Procurement information system and management information system were the suggested IS to be outsourced. The various reasons advanced by the respondents for outsourcing the type of IS was decision support systems are normally difficult to develop, the IS would be tailored and made by experts in regard to national procurement procedures, outsourcing provides quality for systems and also good user support and updates, free time of IT personnel would be freed as time and logistics involved in procurement would be utilized doing some other things and little security concerns goes with logistics and procurement information system.

The respondents (senior policy makers) felt that the logistics/Finance personnel, legal branch senior personnel, Head of IS department and the senior policy makers should be involved during the signing of contract document when outsourcing information systems. The Armed forces would not outsource IS if it manages strategic and sensitive information because it would be exposing their information to outsiders. The respondents said that the financial cost of the IS to be outsourced play a major role in determining whether to outsource or not because the cost of outsourcing should not be more than the cost of designing a new IS. The reasons advanced for financial cost playing a role includes; the cost being weighed with the benefits the IS will bring to the organization and in-house development of IS would result in cost cutting as well as building a skilled resource pool. The respondents (senior policy makers) were of the opinion that training the personnel to the expertise required to design such a system would be the best criteria to determine whether to train IS department personnel or outsourcing.

The respondents (senior policy makers) opinion on approach used to outsource differs, that is, 45.5% felt that they use competitive bidding, 45.5% said they use single sourcing and 9.1% said they use other approaches. The information technology centre staff on the other hand fell short of endorsing competitive bidding while others said its single sourcing and a few said its other approaches. The respondents' were in agreement that Government policy, reputation, confidentiality and lack of qualified internal competencies are the factors considered when making decisions on whether to outsource or not. Outsourcing of IS could lead to loss of control and unmet time frames/delays while loss of jobs by employees was not cited as one of the risk factors. The respondents (information technology centre staff) strongly felt that the main reasons for outsourcing are to increase efficiency, improve skills of employees, reduce costs and enhance data integrity.

From the findings the following barriers were cited as affecting the effectiveness of outsourcing; lack of senior management commitment, lack of knowledgeable IT staff, employees negative attitude, fear of information sabotage in relation to secret information, outsourced systems are insecure, lack of trustworthy system providers, lack of clear laws governing handling outsourcing legal disputes and lack of reputable legal firms knowledgeable on handling dispute resolution. The respondents said the future of outsourcing of IS in Kenya Armed Forces is being slowly accepted in Kenya, has potential if senior management guarantees support, it is risky to outsource as security is of utmost importance, some IS will have to be outsourced prior to development of a pool of resources and qualified personnel to meet the Armed Forces requirements, the armed forces should train its personnel in IT department, employ more

qualified IS staff and proper laws governing outsourcing and more knowledge should be imparted on the IT personnel and

### **5.3 Conclusions**

From the research findings and the answers to the research questions, some conclusions can be, made about the study.

#### **5.3.1 State of outsourcing of information systems in Kenya Armed Forces**

The Armed Forces as a security institution do not like a lot of its information to be in public domain due to security reasons and that could be the reason the respondents said the senior policy makers in collaboration with IS department are ones the best placed to initiate outsourcing process as they will be able to determine whether the IS to be outsourced is sensitive or will handle sensitive information. The Armed Forces has been outsourcing some of it's IS for some time now and in order for the force to sign legitimate and binding contracts they should ensure that they use the services of a qualified expert who will scrutinize the documents thoroughly. The Armed forces should train its IT personnel so that they can be developing some IS in-house thus avoiding outsourcing.

#### **5.3.2 Factors influencing information systems outsourcing**

The Armed Forces should ensure that before deciding to outsource some IS they will have considered all the factors highlighted as the government policy, reputation, confidentiality and lack of qualified internal competencies. These will make the outsourcing process to be transparent and less questions in future as to the criteria which was considered before

outsourcing. The policy makers should ensure that outsourcing of the IS does not lead to loss of jobs by employees, delays and loss of control but it should reduce costs, increase efficiency, enhance data integrity and improve skills of employees.

### **5.3.3 Factors that necessitate efficient and effective information systems outsourcing adoption in Kenya Armed Forces.**

The success of outsourcing information system depends largely on the management commitment to ensure it succeeds. Management being the act of guiding human and physical resources into dynamic organizational units which attain their objectives to the satisfaction of those served and with a high degree of morale and sense of attainment on the part of those rendering the service, we can only conclude that the success in outsourcing of IS or any other service by the Armed Forces or any other public organization is largely dependent on the kind of management steering the organization. The other factors which necessitate outsourcing of IS are poor infrastructure, lack of knowledgeable IT staff, cost reduction, increased efficiency and enhanced data integrity.

## **5.4 Recommendations**

The study recommends the following:-

### **5.4.1 State of outsourcing of information systems in Kenya Armed Forces**

The Armed Forces should take into consideration the sensitivity of the IS before outsourcing to avoid a situation whereby the strategic and sensitive information is being exposed to people who should not have known and also reduce the chances of sabotage from the outsourced organization. The Force should also use qualified experts before entering into any contract to

outsourcing. The policy makers should ensure that outsourcing of the IS does not lead to loss of jobs by employees, delays and loss of control but it should reduce costs, increase efficiency, enhance data integrity and improve skills of employees.

### **5.3.3 Factors that necessitate efficient and effective information systems outsourcing adoption in Kenya Armed Forces.**

The success of outsourcing information system depends largely on the management commitment to ensure it succeeds. Management being the act of guiding human and physical resources into dynamic organizational units which attain their objectives to the satisfaction of those served and with a high degree of morale and sense of attainment on the part of those rendering the service, we can only conclude that the success in outsourcing of IS or any other service by the Armed Forces or any other public organization is largely dependent on the kind of management steering the organization. The other factors which necessitate outsourcing of IS are poor infrastructure, lack of knowledgeable IT staff, cost reduction, increased efficiency and enhanced data integrity.

## **5.4 Recommendations**

The study recommends the following:-

### **5.4.1 State of outsourcing of information systems in Kenya Armed Forces**

The Armed Forces should take into consideration the sensitivity of the IS before outsourcing to avoid a situation whereby the strategic and sensitive information is being exposed to people who should not have known and also reduce the chances of sabotage from the outsourced organization. The Force should also use qualified experts before entering into any contract to

ensure that the contract is will fulfill the Force aspirations and to reduce outsourcing in future, the Force should train or employ personnel on the various fields to avoid outsourcing in future.

#### **5.4.2 Factors influencing information systems outsourcing**

The Armed Forces policy makers should be conversant with all the factors which need to be taken into consideration before outsourcing which includes government policy, reputation, confidentiality and whether there is lack of qualified internal personnel. To ensure that the best organization is awarded the contract, the Force should use competitive bidding which will give the Force a chance to evaluate the capability of each company.

#### **5.4.3 Factors that necessitate efficient and effective information systems outsourcing adoption in Kenya Armed Forces.**

There certain factors that is very crucial for any organization to remain on top of its game. For instance aspects such as employee's attitude, management commitment, information technology, trustworthy systems providers and clear laws governing legal disputes. The study carried out at Kenya Armed Forces has indicated that fear of information sabotage in relation to secret information, insecurity of the outsourced systems, lack of clear laws governing handling outsourcing legal disputes, employees negative attitude and lack of senior management commitment were cited as factors hindering efficient and effective information systems and the Force management should do all they can to change the perception.

#### **5.5 LIMITATIONS OF THE STUDY**

This study narrowed down its study to Kenya Armed Forces only. It did not cover other Security Institutions. Research should be done in all the security institutions in the country and the

findings compared if they all follow the same outsourcing process. This would help in unraveling the mystery that surrounds outsourcing process in Security Institutions in relation to the type of Information such institutions hold.

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## Appendices



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### **LETTER OF INTRODUCTION**

Dear Sir/Madam,

#### **RE: MASTERS IN BUSINESS ADMINISTRATION (MBA) PROJECT**

I am a post graduate student at the University of Nairobi doing a research as part of the requirements for the degree in MBA.

The research project aims at finding out the extent of adoption of outsourcing Information Systems by the Kenya Armed Forces in Kenya. It further seeks to establish the factors considered by the Kenya Armed Forces when outsourcing. The information collected will be used only for academic purposes and will be treated confidentially. Your name will not be mentioned in the report. Where possible a copy of the research project will be availed to you on request.

Your assistance and cooperation will be highly appreciated.

Thank you. \_\_\_\_\_

\_\_\_\_\_

**GATHITU ROMANA WAMBUI**  
MBA STUDENT

**DR. NIXON MUGANDA**  
SUPERVISOR

# QUESTIONNAIRE

## INVESTIGATING ADOPTION OF OUTSOURCING OF INFORMATION SYSTEMS IN

### KENYA ARMED FORCES

Thank you for taking the time to complete this questionnaire.

Kindly ensure that you complete all questions.

Completion of this questionnaire is voluntary and all responses will be handled with confidentiality.

#### PART A: General Information (tick where applicable)

1. What is your position in the Information Systems department?

\_\_\_\_\_

2. For how long have you worked with the Kenya Armed Forces Information Systems Department? \_\_\_\_\_

3. To what extent has the understanding of outsourcing of information systems been clearly articulated and understood in the Kenya Armed Forces? (Please tick one)

Not at All ( ) Fairly Clear ( ) Vaguely ( ) Clear ( ) Very Clear ( )

4. To what extent has outsourcing of Information Systems been supported by the IT Staff?

Not at All ( ) Less Extent ( ) Moderate extent ( ) Large Extent ( ) Very Great Extent ( )

5. Which of the following staff issues would play a critical role in IS outsourcing decision?

Please tick one

(a) Staff Working Conditions ( )

(b) Staff morale ( )

(c) Staff unrest ( )

**PART B: Extent of Information Systems Outsourcing**

6. If the Kenya Armed Forces is to outsource Information Systems (IS) who is best placed to initiate the outsourcing process? (Tick one)
- (a) Senior policy makers ( )
  - (b) Senior policy makers in collaboration with IS department ( )
  - (c) IS department personnel ( )
  - (d) Anyone ( )
7. (i) Does the Information Systems department constantly contract out some of Information Systems to outsiders? Tick one
- Yes ( ) No ( )
- (ii) If your answer above is YES, approximately how long has the department been involved in outsourcing of Information Systems? Please tick as appropriate
- (a) More than ten years ( )
  - (b) More than five years ( )
  - (c) More than two years ( )
  - (d) Other (specify) \_\_\_\_\_
8. Does the department use the services of a qualified expert in law and finance in its negotiation of IS outsourced acquisitions? Tick One YES ( ) NO ( )
9. (i) Which type of IS should be considered for outsourcing? (Tick one)
- (a) Financial management Information Systems ( )
  - (b) Personnel Management systems ( )
  - (c) Decision Support Systems ( )
  - (d) Logistics/Procurement Information Systems ( )

(e) Management Information Systems ( )

(ii) Explain your reason for the choice of IS chosen in (i) above

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10. (i) If an outsource information system manages strategic and sensitive information, would the department outsource? YES( ) NO ( )

(ii) If your answer is Yes explain

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**PART C: Factors Influencing Information Systems Outsourcing**

11. When your department outsource, which of the following approaches do you mainly apply (Please tick one)

(i) Competitive Binding ( )

(ii) Single Sourcing ( )

(iii) Any approach ( )

12. There are many factors that are considered when making decisions on whether to outsource or not. Please tick a number that best describes the level of importance of the following factors

(1- for very strong and 5- for very weak)

	1	2	3	4	5
Government policy	( )	( )	( )	( )	( )
Reputation	( )	( )	( )	( )	( )
Performance of previous supplier	( )	( )	( )	( )	( )
Lack of qualified internal competencies	( )	( )	( )	( )	( )

Confidentiality ( ) ( ) ( ) ( ) ( )

Others please list

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**Key:**

1. Very strong 2. Strong 3. Moderately strong 4. Weak 5. Very weak

13. Risk is one of the factors that influence Information Systems Outsourcing. To what extent do you agree or disagree with the following statements about the risks of outsourcing. Please tick in the relevant box using the five point scale below

Outsourcing leads to	<b>Strongly agree</b>	<b>Agree</b>	<b>Moderately agree</b>	<b>Disagree</b>	<b>Strongly disagree</b>
Loss of control					
Loss of jobs by employees					
Unmet time frames/delays					

14. Using the five point scale below, rate by ticking the main reasons for outsourcing of Information services in the IS department.

	1	2	3	4	5
Reduce Costs	( )	( )	( )	( )	( )
Increase efficiency	( )	( )	( )	( )	( )
Enhance data integrity	( )	( )	( )	( )	( )
Improve skills of employees	( )	( )	( )	( )	( )



**Key**

1. Very strong 2. Strong 3. Moderately strong 4. Weak 5. Very weak

15. The following factors are possible barriers to effective outsourcing of Information Systems in Kenya Armed Forces. Use the rating scale below to guide you in answering the questions. 1.

Strongly Agree 2. Agree 3. Moderately Agree 4. Disagree 5. Strongly Disagree

<b><u>Type of Barrier</u></b>	<b>Strongly agree</b>	<b>Agree</b>	<b>Moderately agree</b>	<b>Disagree</b>	<b>Strongly disagree</b>
<b><u>Organizational Barrier</u></b>  (i) Employees negative attitude.  (ii) Senior Management commitment lacking.  (iii) Lack of knowledgeable IT staff  (iv) Poor IT infrastructure					
<b><u>Trust Of the System</u></b>  (i) Outsourced systems are insecure  (ii) Lack of trustworthy systems providers  (iii) Fear of information sabotage in relation to Secret information					
<b><u>Legal support</u></b>					

(i)Lack of reputable legal firms knowledgeable on handling dispute resolution					
(ii)Lack of clear laws governing handling outsourcing legal disputes					

16. Based on your experience what is the future of outsourcing of Information Systems in Kenya Armed Forces?

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Thank you for your cooperation

God Bless.

# QUESTIONNAIRE FOR SENIOR POLICY MAKERS AT KENYA ARMED FORCES

## INVESTIGATING ADOPTION OF OUTSOURCING OF INFORMATION SYSTEMS IN KENYA ARMED FORCES

Thank you for taking the time to complete this questionnaire.

Kindly ensure that you complete all questions.

Completion of this questionnaire is voluntary and all responses will be handled with confidentiality.

### PART A: General Information (tick where applicable)

1. What is your managerial position in the Armed Forces? \_\_\_\_\_
2. For how long have you been involved in making strategic policy decisions in the Armed Forces?  
\_\_\_\_\_
3. To what extent has the understanding of outsourcing of information systems been clearly articulated and understood in the Kenya Armed Forces? (Please tick one)  
Not at All ( ) Fairly Clear ( ) Vaguely ( ) Clear ( ) Very Clear ( )
4. To what extent has outsourcing of Information Systems (IS) been supported by the Senior Policy Makers in the Kenya Armed Forces?  
Not at All ( ) Less Extent ( ) Moderate extent ( ) Large Extent ( ) Very Great Extent ( )
5. Which of the following staff issues would play a critical role in IS outsourcing decision?  
Please tick one  
(d) Staff Working Conditions ( )

(e) Staff morale ( )

(f) Staff unrest ( )

**PART B: Extent of Information Systems Outsourcing Policy**

6. Within the management of Kenya Armed Forces who is best placed to initiate the outsourcing process? (Tick one)

(a) Senior policy makers ( )

(b) Senior policy makers in collaboration with IS department ( )

(c) IS department personnel ( )

(d) Anyone ( )

7. Does the Kenya Armed Forces constantly contract out some of Information Systems to outsiders? Tick one

Yes ( ) No ( )

8. (i) Are the Senior Policy makers familiar with the outsourcing decision making process? Tick one Yes ( ) No ( )

(ii) If your answer is NO above, explain how the decision to outsource would be arrived at \_\_\_\_\_

9. (i) Does the Armed Forces use the services of a qualified expert in law and finance in its negotiation of IS outsourced acquisitions? Tick One YES ( ) NO ( )

(ii) What is the main role played by such an expert in the outsourcing negotiation process?  
\_\_\_\_\_

10. Which key personnel are involved during the signing of contract document when outsourcing information systems?

(a) Senior Policy Makers ( )

(b) Head of IS department ( )

(c) Legal Branch Senior Personnel ( )

(d) Logistics/Finance Personnel ( )

(e) All of the above ( )

11. (i) If an outsourced information system manages strategic and sensitive information, would the Kenya Armed Forces outsource? YES ( ) NO ( )

(ii) If your answer is Yes explain

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12. Does financial cost of the outsourced information system play any role in the decision to outsource? YES ( ) NO ( )

(ii) If your Answer is Yes explain

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13. If the cost implication of the outsourced information system versus training the Information System department Personnel is considered, which criteria would be used to make the best decision?

(a) Buy the system ( )

(b) Train the personnel to the expertise required to design such a system ( )

**PART C: Factors Influencing Information Systems Outsourcing**

14. When the Kenya Armed Forces outsource, which of the following approaches do you mainly apply

(Please tick one)

(i) Competitive Binding ( )

(ii) Single Sourcing ( )

(iii) Any approach ( )

15. There are many factors that are considered when making decisions on whether to outsource or not.

Please tick a number that best describes the level of importance of the following factors (1- for very strong and 5- for very weak)

	1	2	3	4	5
Government policy	( )	( )	( )	( )	( )
Reputation	( )	( )	( )	( )	( )
Performance of previous supplier	( )	( )	( )	( )	( )
Lack of qualified internal competencies	( )	( )	( )	( )	( )
Confidentiality	( )	( )	( )	( )	( )

Others please list \_\_\_\_\_

**Key:**

1. Very strong    2. Strong    3. Moderately strong    4. Weak    5. Very weak

16. Risk is one of the factors that influence Information Systems Outsourcing. To what extent do you agree or disagree with the following statements about the risks of outsourcing. Please tick in the relevant box using the five point scale below

Outsourcing leads to	<b>Strongly agree</b>	<b>Agree</b>	<b>Moderately agree</b>	<b>Disagree</b>	<b>Strongly disagree</b>
Loss of control					
Loss of jobs by employees					
Unmet time frames/delays					

17. The following factors are possible barriers to effective outsourcing of Information Systems in Kenya Armed Forces. Use the rating scale below to guide you in answering the questions.

1. Strongly Agree 2. Agree 3. Moderately Agree 4. Disagree 5. Strongly Disagree

<u>Type of Barrier</u>	<b>Strongly agree</b>	<b>Agree</b>	<b>Moderately agree</b>	<b>Disagree</b>	<b>Strongly disagree</b>
<b><u>Organizational Barrier</u></b>					
(i) Employees negative attitude.	( )	( )	( )	( )	( )
(ii) Senior Management commitment lacking.	( )	( )	( )	( )	( )
(iii) Lack of knowledgeable IT	( )	( )	( )	( )	( )

16. Risk is one of the factors that influence Information Systems Outsourcing. To what extent do you agree or disagree with the following statements about the risks of outsourcing. Please tick in the relevant box using the five point scale below

Outsourcing leads to	Strongly agree	Agree	Moderately agree	Disagree	Strongly disagree
Loss of control					
Loss of jobs by employees					
Unmet time frames/delays					

17. The following factors are possible barriers to effective outsourcing of Information Systems in Kenya Armed Forces. Use the rating scale below to guide you in answering the questions.

1. Strongly Agree 2. Agree 3. Moderately Agree 4. Disagree 5. Strongly Disagree

<u>Type of Barrier</u>	Strongly agree	Agree	Moderately agree	Disagree	Strongly disagree
<u>Organizational Barrier</u>					
(i) Employees negative attitude.	( )	( )	( )	( )	( )
(ii) Senior Management commitment lacking.	( )	( )	( )	( )	( )
(iii) Lack of knowledgeable IT	( )	( )	( )	( )	( )



staff	( )	( )	( )	( )	( )
(iv) Poor IT infrastructure					
<b><u>Trust Of the System</u></b>					
(i) Outsourced systems are insecure	( )	( )	( )	( )	( )
(ii) Lack of trustworthy systems providers	( )	( )	( )	( )	( )
(iii) Fear of information sabotage in relation to Secret information	( )	( )	( )	( )	( )
<b><u>Legal support</u></b>					
(i) Lack of reputable legal firms knowledgeable on handling dispute resolution	( )	( )	( )	( )	( )
(ii) Lack of clear laws governing handling outsourcing legal disputes	( )	( )	( )	( )	( )

18. Based on your experience what is the future of outsourcing of Information Systems in Kenya Armed Forces?

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Thank you for your cooperation

God Bless.

