

**ICT OUTSOURCING AT NAIROBI CITY WATER AND  
SEWERAGE COMPANY**

**BY**

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for the award of the degree of Master of Business Administration, School of  
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## **DECLARATION**

### **Declaration by Student**

This research paper is my original work and has not been presented in any other institution of learning. No part of the paper may be reproduced without the permission of the author or University of Nairobi.

Sign .....

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### **Declaration by Supervisor**

This research paper has been submitted for examination with my approval as the University Supervisor

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## **DEDICATION**

*To my dear wife Gladys, son Eric and daughter Zuri  
for their love, encouragement and support*

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## List of Abbreviations

AWSB	Athi Water Services Board
CMS	Customer Management System
DMS	Document Management System
FMS	Financial Management System
HRMS	Human Resource and Management System
IBM	International Business Machines
ICT	Information Communication & Technology
ITO	Information Technology Outsourcing
MRS	Meter Reading System
NCC	Nairobi City County
NCWSC	Nairobi City Water and Sewerage Company
SLA	Service Level Agreement
SPA	Service Provision Agreement
SPMS	Stores and Procurement Management System
SPSS	Statistical Package for the Social Sciences
WSP	Water Services provider

## **ABSTRACT**

ICT outsourcing has steadily grown in popularity over the last two decades. However many outsourcing arrangements do not last due to various reasons such as mismanagement of the outsourcing contract, inadequate supplier selection processes, poor requirements definition amongst others. This paper looked at ICT outsourcing at NCWSC with an aim of establishing the following objectives; the reasons why ICT services were outsourced at NCWSC, the factors that hinder the success of ICT outsourcing at NCWSC and finally establishing the employee attitudes towards the outsourced services at NCWSC. The study employed the case study design. Judgmental sampling was used to sample 97 employees at NCWSC from various departments. Data was collected from the respondents using a questionnaire. Analysis of the data was done using percentages and proportions. Factor analysis was also employed to bring out the various distinct factors that could be hindering the success of ICT outsourcing. The study established that the main reasons why NCWSC outsourced ICT were to improve maintenance and servicing of ICT equipment, to reduce downtime on broken down ICT equipment, to improve quality of ICT services, to enable NCWSC focus on its core services, to improve management of ICT services and finally to access latest technologies from service providers. The study also established that the main factors that hindered the success of ICT outsourcing at NCWSC were; poor management of the outsourcing contract, poor working relationship between the outsourcing vendor and NCWSC, failure of NCWSC to put in place internal measures to prevent over reliance on specific ICT outsourcing service providers and finally ineffectiveness of the ICT outsourcing vendor selection process. The employee attitude towards outsourced services, varied from the various aspects of the outsourced ICT services. On software related services, aspects such as the service provider availing competent staff were positive. Other aspects such as effective resolution of issues and innovations from service providers were negative however the employees were generally satisfied with the software related outsourced ICT services. On the hardware/ICT Equipment related services, positive aspects were on issues such as timely resolution of reported issues, scheduled preventive maintenance and effective resolution of problems.



# CHAPTER ONE

## INTRODUCTION

### **1.1 Background of the Study**

In recent years, information communication and technology (ICT) outsourcing has received much attention and has become a widespread phenomenon both in the private and public sectors (Currie, 1996). The past decade has seen an increasing interest in information technology outsourcing (ITO) as it promises companies several economic benefits, such as cost reduction, the possibility to focus on core activities, access to the providers' expertise and skills, improved business and process performance, as well as better scalability (Lacity, et al., 2009). According to Goodman and Ramer, (2007), in today's globalized world, organizations make use of ICT to optimize processes, save costs and gain competitive advantage. It is with this in mind, that organizations source for ICT resources from all over the world as a way to extend the possibilities and effectiveness of outsourced services. Organizations aim at achieving many different benefits through successful outsourcing, however there are significant risks that they face which have a direct impact on the outcome of outsourcing. It is therefore paramount for any organization venturing into outsourcing to have a good understanding of the risks and challenges they are likely to encounter and the possible ways of mitigating and overcoming them.

ICT outsourcing refers to the third-party management of Information system assets, people and/or activities required to meet pre-specified performance levels (Lacity and Hirschheim, 1995). The outsourced work may include operating data centers, network and telecommunication management, systems development and maintenance, ICT hardware maintenance and general ICT support. ICT being an enabler is a very important part of the business organizations in many industries. Due to the constant change in the business strategies and technologies, ICT managers are continuously trying to find the best ways of organizing and managing ICT in a constantly changing environment. ICT outsourcing is an effective strategy for gaining and maintaining competitive advantage when it is executed as part of an overall strategy to build a high-performance IT organization (Lankford and Parsa, 1999). The decision to outsource needs careful consideration due to the fact that if unsuccessfully done, it can lead to ICT services disruptions which ultimately have a negative impact on an organizations output. A Service level agreement (SLA) is an important component of the outsourcing contract as it fosters

commitment and trust which in turn leads to the success of the outsourcing relationship (Goo and Nam, 2007). Organizations outsource ICT for various reasons. Gonzalez et al., (2009) identified the following as being the most common reasons for outsourcing; focusing on strategic issues, increasing flexibility, improving quality of ICT services, getting rid of routine tasks, facilitating access to latest technologies, reducing the risk of obsolescence, saving staff costs, saving technology costs and finally to follow the fashion i.e. some organizations venture into outsourcing so as to copy the successes of other organizations.

There are various challenges however that these organizations face while pursuing the above goals. Kremic et al., (2006) identified some of the challenges as being; unrealized cost savings, less flexibility, poor contract or selection of service provider, loss of control/core competence, loss of knowledge, skills and corporate memory, poor performance of service providers, opportunistic behavior of service providers, poor employee morale, security issues, skills erosion among others. This goes to show that there are many potential challenges that an organization is bound to face as it ventures into ICT outsourcing. This then implies that for the ICT outsourcing arrangement to be successful, the outsourcing organization needs to have ways of overcoming the many challenges. One of the ways is by establishing some of the underlying factors that give rise to this challenges and putting in place effective measures to overcome them.

From the viewpoint of the outsourcing organization, the ICT sourcing can be termed as successful if the outsourcing organization is satisfied with the services to the extent that they would like to continue outsourcing with the same service-provider under the same conditions or similar conditions adjusted appropriately by market or other organizational circumstances. According to the outsourcing centre study (2009) various outsourcing clients define success in various ways such as achieving the projected cost reduction, delivering best-in-class services, achieving the SLAs , decreasing cycle times and time to market, achieving initial process improvements, achieving continual process improvements, achieving successful implementation, achieving increased business agility, increasing innovation or lastly as working together seamlessly despite ongoing change. This shows that ICT outsourcing success factors may differ from organization to organization depending on the reasons behind the outsourcing.

## **1.2 Nairobi City Water and Sewerage Company (NCWSC)**

The enactment of the Water Act 2002 created new institutions to manage water resources in Kenya. Among these institutions are the Water Services Providers (WSP). NCWSC was incorporated in December 2003 under the Companies Act Cap 486 and was officially launched on August 19th 2004. It is a wholly owned subsidiary of the Nairobi City County (NCC) and has its headquarters along Kampala Road, Industrial Area, Nairobi with six regional offices spread out across the city of Nairobi. The company has been licensed by the Athi Water Services Board (AWSB) to provide water and sewerage services to the people of Nairobi and its environs. The license is based on an agreed framework specified in the Service Provision Agreement (SPA) that ensures adequate and quality supply of water at affordable tariffs. The Company is managed by a board of directors made up of individuals drawn from private sector organizations, professional bodies, the NGO sector, the board of management and the Nairobi City County.

The company in its strategic plans recognizes the tremendous role that ICT has to play in meeting its laid down goals. Implementation of several integrated systems that comprise of the Customer Management system (CMS) for handling customer data and billing, Oracle Financials for Accounting and Financial Management (FMS), Stores and Procurement Management System (SPMS) for the supply chain, Human Resource Management System (HRMS), Fleet management, Meter reading system (MRS) and Document Management System (DMS) has been completed. Due to changes in business processes or changing demands of the organization, the above systems are from time to time modified and updated to ensure that they perform their functions as required. This then makes it imperative to have maintenance contracts in place for the various systems.

The ICT directorate is comprised of four departments; Infrastructure, Business Applications, Databases and Research & development. The Infrastructure department manages all the company's ICT equipment which includes Servers, Personal Computers, Laptops, Printers, Copiers, Network management equipment such as Switches and Routers, and also hand held computing devices mainly used for meter reading. The department also manages the computer networks and telecommunication equipment and services within the company. The main function of the department is to provide an effective and efficient ICT infrastructure in the company.

The Business Applications department supports the various business systems in the company. They offer the first line support and are the contact point between the company and the particular system's service providers.

The Databases department manages all the company's electronic databases which mainly include the databases of the company's business systems. They ensure that all the data in the databases is protected, secured, backed up and availed as needed to authorized parties. The Research and development department is tasked with initiating research activities through established guidelines aimed at improving operational efficiency in all service areas. They carry out continuous process analysis with a view of identifying areas that require re-engineering and carry out research in order to improve work performance. Some of the company's critical functions such as billing, cash collection, procurement, payments and payroll are totally dependent on ICT which makes ICT a crucial business enabler in NCWSC. The ICT directorate is therefore tasked with ensuring that it provides the best ICT services with minimal disruptions and in the most cost effective way. It is with this that the ICT directorate has implemented a partial outsourcing model of ICT service provision. Some ICT services are provided in-house by the ICT staff, some are partly outsourced and finally some are outsourced on need basis to ICT service providers.

The following are the fully outsourced ICT services in the company: Second level maintenance and support of the company's business systems. This includes major changes in the systems such as enhancements, low level debugging, process flow changes among others. The company has signed annual maintenance and support contracts with the respective system service providers and the ICT department is the liaison point between the company and the outsourcing service provider. The company has also outsourced preventive and corrective maintenance of the following hardware: servers, printers, copiers and hand held computing devices which are the data loggers used for meter reading. This entails routine maintenance and repairing any break downs of the same. However first level troubleshooting and resolution is done by the in-house ICT staff; in instances where the problem cannot be resolved in-house, it is escalated to the concerned service provider.

The other services outsourced are the wide area network connectivity services i.e. providing wide area network links from the HQ to the various regional offices across the city. The laying and setup of large Local Area Networks is also outsourced in cases when the scope of work is too wide for the internal staff to handle. Bill printing for customers has been partly outsourced where the bill printer is leased and is fully maintained and serviced by a service provider but the operators are NCWSC staff. The service provider also supplies consumables for the printer and the service is charged on a number of bills printed basis with an agreed minimum number per month.

### **1.3 Problem Statement**

The software engineering Institute technical report (2010), showed that over the last two decades, ICT outsourcing has grown steadily in popularity however many ICT outsourcing arrangements do not last. The report further revealed that 20 to 25 percent of large information technology (IT) acquisition projects fail within two years and 50 percent fail within five years. Mismanagement, poor requirements definition, lack of comprehensive evaluations, which can be used to come up with the best candidates for outsourcing, inadequate supplier selection and contracting processes, insufficient technology selection procedures, and uncontrolled requirements changes are some of the factors that contribute to the failure.

In the past six years , Nairobi City Water and Sewerage company has invested heavily on ICT to ensure that the company reaps all the benefits of having computerized and efficient systems among them being faster service delivery and secure systems, part of this ICT investment include costs relating to outsourced ICT services. Despite the heavy investment the company continues to experience a number of challenges mainly related to ICT service delivery. The challenges include prolonged and frequent downtime of systems, frequent downtime of Wide Area Networks (WAN), poor and ineffective ICT service from service providers of outsourced ICT services, high costs associated with the outsourced ICT services rendered, poor systems security and ultimately a general dissatisfaction with ICT services rendered. An ICT satisfaction survey carried out in NCWSC in March 2012 found that the satisfaction level of employees with outsourced ICT services was at 50%.

These challenges have hindered the company from achieving its targeted goals and have made it unable to reap the benefits of successful ICT outsourcing such as delivery of world class services and increased innovation. Among the things the company needs to do to overcome the challenges, is to ensure the success of the ICT outsourcing venture. To do this, the underlying factors hindering the success of ICT outsourcing at NCWSC need to be established. It is with this that this research sets out to establish these underlying factors so that effective measures can be taken to reverse the trend.

#### **1.4 Research Objectives**

The objectives of this research were:

- a) To establish reasons why NCWSC outsourced ICT
- b) To establish the factors hindering the success of ICT outsourcing at NCWSC.
- c) To establish the NCWSC employees attitude towards outsourced ICT services at NCWSC

#### **1.5 Value of the Study**

The study will give NCWSC an insight as to reasons why the company is not reaping the intended benefits from ICT outsourcing. This will enable NCWSC to take appropriate measures to ensure that the company reaps the benefits of ICT outsourcing.

The study will also equip similar companies with information on issues to anticipate when venturing into ICT outsourcing. This information will be especially useful to senior management and more so in ICT departments to help them anticipate and effectively deal with potential challenges that may arise in the course of managing the ICT outsourcing arrangements. The study will assist the key decision makers on matters of ICT outsourcing to make informed decisions on issues regarding ICT outsourcing.

The research will also be very beneficial to ICT service providers as it will give them a better understanding of some of the issues that may arise in the ICT outsourcing relationship with client organizations which in turn will help them take necessary measures so as to provide better outsourced services to their clients.

The study will contribute to the body of knowledge on ICT outsourcing and more so in the challenges of ICT outsourcing.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

Various definitions of IT outsourcing can be found in literature as described in the outsourcing literature overview from Dibbern et al. (2004). Elements that can be found in most definitions are “turning over IT functions and activities to third parties and getting back the results” The definition used in this research is that of Willcocks & Kern, (1998) "...the handing over to a third party management of IT/IS assets, resources, and/or activities for required results”.

Past studies in ICT outsourcing have identified various models of outsourcing that various organizations have taken up. The outsourcing models can be classified in several ways. Leite, (1994) classified the models of outsourcing based on the number of suppliers involved. He argued that depending on the outsourcing strategy, the organization may choose to outsource ICT to a single vendor (homogeneous model), or multiple vendors (heterogeneous model).

In the homogenous model the organization is very dependent on the supplier, thereby increasing their vulnerability. In this model, it is easier to integrate the various outsourced services hence there is a reduced cost of coordination, since it involves managing only one vendor. The second model, heterogeneous, consists of contracting multiple vendors. In this model the organization seeks to gain access to better skills and abilities. For this reason, it delegates the management of ICT services to many suppliers by selecting those that offer better conditions for each activity. Although this choice may seem beneficial, it can reach a level of great diversity, making it difficult to manage both technically and administratively.

Saravanja (2008), in her conference paper on ICT outsourcing models and experiences, highlighted the following models: Selective outsourcing, tactical outsourcing, facilities management, transformational outsourcing, joint ventures, transitional outsourcing, business process outsourcing, back-sourcing and offshore outsourcing. Cohen and young (2006) identified eight different models listed as: internal delivery, shared services, independent company, total outsourcing, prime contractor, best-of-breed consortium, selective outsourcing and joint venture.

In the internal deliveries model, all ICT services are provided by internal staff and thus is a homogenous model. Shared services model in essence creates an internal department to provide services to the organization as a whole. A build up from the Shared services model is the independent company model where a new company is formed to offer the ICT services not only for the company but also to the ICT market. In the total outsourcing model, the company outsources through a single contract to a single vendor. Best-of-breed involves selecting the best service providers for various outsourced ICT services and then getting a vendor to manage them all.

## **2.2 Reasons why organizations outsource ICT**

Organizations are motivated to outsource ICT services by factors such as cost saving, focus on organization's core business, improvement of technology and service quality, access to knowledge and technology that the organization does not have among others (Prado & Takaoka, 2002). Most organizations decide to outsource ICT services in the hopes of attaining some expected benefits from the outsourcing relationship. Kremic, et al., (2006) tabulated the following as some of the common expected benefits sought from outsourcing: cost savings, reduced capital expenditure, capital infusion, transfer fixed costs to variable, quality improvement, increased speed, greater flexibility, access to skills, talent and latest technology, increased focus on core functions, get rid of problem functions, better accountability and management. All these reasons can be classified into three major categories: cost, strategy, and politics. The first two drives outsourcing by private industry. Political agendas often drive outsourcing by public organizations (Kakabadse and Kakabadse, 2000a).

In theory, outsourcing for cost reasons can occur when suppliers' costs are low enough that even with added overhead, profit, and transaction costs suppliers can still deliver a service for a lower price (Bers, 1992; Harler, 2000). This is normally possible through specialization and economies of scale (Kakabadse and Kakabadse, 2000a). A desire to save indirect costs may also drive outsourcing. Having fewer employees requires less infrastructure and support systems (Fontes, 2000) which may result in a more nimble and efficient organization. However despite all this it is not a guarantee that cost savings will be achieved. The effects of outsourcing on an organization's cost are not yet fully understood and perhaps the variables and their relationships are more complex than expected. (Kremic, et al., 2006).



On a strategic perspective, the most often cited strategic reason for outsourcing is to allow the organization to better focus on its core competencies (Quinn, 1999). Due to intense competition, organizations are forced to reassess and redirect scarce resources to where they will make the greatest positive impact, which is the organizations core functions. (Quinn ,1999) In addition to refocusing resources onto core competencies, other strategy issues which encourage the consideration of outsourcing are restructuring, rapid organizational growth, changing technology, and the need for greater flexibility to manage demand swings (Kakabadse and Kakabadse, 2000a). Outsourcing may also be perceived as a way to reduce the organization's risk by sharing it with suppliers and at the same time acquire the positive attributes of those suppliers.

On the aspect of politically driven outsourcing Avery, (2000) established that factors that may drive outsourcing by public organizations include the agendas of elected officials, public opinion, and current national or international trends. Because public organizations are sometimes perceived as inefficient and bureaucratic, political candidates may promote outsourcing ideas, particularly at election time, to demonstrate their willingness to make positive changes in the district. Once laws are enacted, the public organization has no choice but comply. In such situations the outsourcing drivers are the governing laws and executive orders; another recognized reason for outsourcing by public organizations (Kakabadse and Kakabadse, 2000a). Gonzalez et al. (2009), identified other various reasons why companies outsource; among them was increasing flexibility by preventing being technically obsolete without investing heavily in technology.

The quest for Improved quality of services was another identified reason. It was also identified as a way of getting rid of time consuming routine tasks. Outsourcing brings client firms advantage related to technology as these organizations can have access to specialized state-of-the-art technology supplied to them by the provider. (Jurison, 1995). Another reason identified is saving staff costs where outsourcing paves way to a more specialized IT management as the provider firm finds itself in a better position to select, train and manage its technological staff thus the clients can have at their disposal high level specialists without them having to be permanent members of their staff. (Alner, 2007; Ang and Straub, 1998).

### **2.3 Factors hindering successful ICT outsourcing**

There are various challenges associated with ICT Outsourcing. These challenges mainly emanate from underlying factors and have an impact on the success of the ICT outsourcing venture. Some human factors such as an initial tendency to overstate benefits or service providers performing better at the beginning of contracts to make good impressions are some of the factors highlighted by Schwyn, (1999). Although organizations may outsource for cost related reasons, there are no guarantees that expected savings will be realized. There is increasing evidence that cost savings have been overestimated and costs are sometimes higher after outsourcing (Bryce and Useem, 1998; Vining and Globerman, 1999). In addition to not realizing the costs that originally drove the outsourcing initiative, there are also some additional indirect and social costs such as contract monitoring and oversight, contract generation that may be incurred (Gillett, 1994).

In such cases the ICT outsourcing is deemed to be unsuccessful since the expectation of reduced costs is not realized.

Another factor believed to cause some outsourcing failures is the lack of a methodology (Bounfour, 1999; Lonsdale, 1999). Lonsdale suggests that most outsourcing failures are due to lack of a guiding methodology for the managers as opposed to inherent problems with outsourcing. (Lonsdale, 1999). Failure to assure the employees of their Job security prior to Outsourcing may result in the employees having low morale, low productivity and high absenteeism etc. (Kakabadse and Kakabadse, 2000a). This ultimately would have a negative impact on the organisation. Outsourcing for the wrong reasons has also been identified as a factor that may lead to an organization developing gaps in their learning or knowledge base which may preclude them from future opportunities (Earl, 1996; Prahalad and Hamel, 1990).

Kremic, et al., (2006) identified the following factors as being potential risks of outsourcing: Unrealized savings or hidden costs, Less flexibility, Poor contract or poor selection of partner, Loss of knowledge/skills and/or corporate memory, loss of control/core competence, power shift to supplier, supplier related problems such as poor performance, bad relations, opportunistic behavior, not giving access to best talent or technology, losing customers, opportunities or reputation; uncertainty/changing environment, poor morale/employee issues, loss of synergy, conflict of interest, security issues, legal obstacles and skills erosion.

Arshad, et al., (2007) in their research on challenges facing ICT outsourcing in Malaysian government agencies identified the following factors which give rise to ICT outsourcing challenges; inappropriate ICT outsourcing, this is where the agencies ended up outsourcing the wrong services such as the strategic services which ended up being duplicated and thus lost their strategic role. The lack of a specific standard for project documentation was a factor that led to Poor documentation where the service providers failed to provide clear documentation of the services offered. They also identified factors such as lack of adequate skill or internal staff turnovers and transfers gave rise to the transfer of technology challenge where the service provider failed to transfer knowledge to internal staff.

Other factors identified included over dependence on vendors, lack of transparency in award of the outsourcing project and the lack of expertise in producing good specifications which led to some organizations turning to service providers for ideas and recommendations and as a result some of the specifications were influenced by the service provider which ended up not meeting the organizations needs.

## **2.4 ICT Outsourcing Success Cases**

Different organizations venture into ICT outsourcing for various reasons as seen previously in the various studies carried out. This therefore means the success factors are dependent on the reasons that led to the ICT outsourcing in the first place. Cullen, et al.,(2008) argue that ICT Outsourcing success should be assessed by, first, asking organizations to nominate the outcomes that were/are most important to them at various times in the life of the contract, then second, gauging the extent to which each organization has achieved its nominated outcomes during the period when those outcomes were being pursued. Having this in mind, there are some ICT outsourcing ventures that have been considered a success. Some of this include Altium Ltd which is a company based in Sydney Australia which wanted to reduce the amount of time wasted managing email and also increase collaboration across the organization. As a solution they outsourced their Email services by implementing Google Apps to reduce spam, ensure uptime, and enable intuitive email search. Their accomplishments were that they freed time for revenue-generating activity by reducing hours wasted on email management, built productivity and teamwork with real-time collaboration on documents and increased efficiency and collaboration worldwide.

3M a company based in Minnesota consolidated their distributed systems while minimizing the need for additional staff by outsourcing the management of their HP e3000 systems to Hewlett-Packard (HP). As a result 3M has had continued satisfaction, quality systems, services and a guaranteed level of support which has given them peace of mind.

ABN AMRO a major bank in Europe set out to improve customer service and retention rates while at the same time reducing costs and improving efficiency. In addition to the need to respond better to customers, other industry benchmarks indicated local service centers had a number of process efficiency and cost issues. ABN AMRO needed to make a major shift to its customer service structure to consolidate operations, improve process efficiencies, reduce costs and improve its level of customer support. They transformed their customer service operations by implementing the IBM Global Business Services an outsourced service leveraging on the latest customer relationship management systems and telephony equipment. As a result they were able to Increased efficiency and cost savings, reduce overall resources by 21%, while increasing the number of calls handled, eliminate high risk audit issues within client services, reduce operational risk and improved employee satisfaction.

## **2.5 Theories in the research of Outsourcing process**

Outsourcing has been grounded on many theories. Perunovic and Pedersen (2007), analyzed various papers in outsourcing to depict some of these utilized theories. Some of the theories they identified include: Transaction Cost Economics which was perceived to provide the best decision making tools to help organizations decide on whether to outsource and prepare for forthcoming arrangements, Agency theory to understand the relationship between vendor and outsourcer, Social Exchange theory to explain interpersonal relationships by positing the economical cost benefit analysis as a precondition for social engagement and exchange, Knowledge based view to provide insight in understanding how individuals co-operate to produce goods and services and other theories.

## **CHAPTER THREE**

### **RESEARCH DESIGN AND METHODOLOGY**

#### **3.1 Research Design**

A case study approach was used and NCWSC was the basis of the study. The case study approach was chosen as it entailed an extensive analysis of an individual unit which in this case was NCWSC.

#### **3.2 Methods of Data Collection**

The main method of data collection was the questionnaire. The questionnaire was administered to the top five levels of ICT directorate staff and other employees at NCWSC who use ICT services on a day to day basis and had been employees during the year 2012. A total number of 97 respondents were targeted. 22 from the ICT directorate and 75 from the other departments. The 75 employees were selected by Judgmental random sampling where 3 employees were selected from each of the 25 departments.

The questionnaire (Appendix A) contained three sections; sections A, B and C. Section A collected demographic data and contained questions followed by possible responses and the respondent ticked on his appropriate response. Section B collected data aimed at establishing the main reasons why the company went for ICT outsourcing and also data in relation to problem areas identified from previous studies in ICT outsourcing that have led to the failure of ICT outsourcing. This section targeted respondents from the ICT directorate only. Section C collected data that helped establish the attitudes of the ICT outsourced services from an end user point of view. It had statements and a five point likert scale ranging from “strongly agree” through “neutral” to “strongly disagree”. The respondents indicated to what extent they agreed or disagreed with the statements. The ICT target respondents were instructed to respond to all the sections but the other employees target group were instructed to respond to sections A and C only.

### **3.3 Methods of Data Analysis**

The completed questionnaires were then coded and keyed into the computer for analysis with the aid of the statistical package for the social sciences (SPSS) software. The questionnaire was analyzed as follows, the first section was analyzed using percentages and proportions and was presented in tables. The other sections were analyzed using descriptive statistics where the mode was the measure of central tendency. Factor Analysis was also carried out on the various identified factors to bring out the distinct factors.

## CHAPTER FOUR

### DATA ANALYSIS AND FINDINGS

#### 4.1 Response Rate

The total number of respondents was 79 out of the targeted 97 representing a response rate of 81%.

#### 4.2 Demographic Data

Table 1 represents the distribution of the respondents by gender. There were 56 male respondents representing 70.9% whereas the female respondents were only 23 representing 29.1%.

Table 1. Gender of Respondents

Gender	Frequency	Percent
Female	23	29.1
Male	56	70.9
Total	79	100.0

Source: Field data (2013)

The distribution of the respondents by age is shown in Table 2. 86% of the respondents were in the age bracket of 26 years and 44 years. The other 14% of the respondents were above 45 years but below 55 years.

Table 2. Age of Respondents

Age (Years)	Frequency	Percent
26 - 34	34	43.0
35 - 44	34	43.0
45 - 54	11	14.0
Total	79	100.0

Source: Field data (2013)

Table 3 represents how long each of the respondents had worked for NCWSC. The highest percentage of respondents (58.2%) had worked for NCWSC for over 5 years but less than 10 years. 19 % of the respondents had worked for over 2 years but less than 5 years while 17.8% had worked for over 10 years. The remaining 5% of the respondents had worked for 1 year or more but less than 2 years.

Table 3. Duration of Employment

Duration	Frequency	Percent
1 year or more but less than 2 years	4	5
2 - 5 years	15	19
5 - 10 years	46	58.2
Above 10 years	14	17.8
Total	79	100.0

Source: Field data (2013)

The respondents level of education is represented in Table 4. The highest level of education for 54.4% of the respondents was an undergraduate degree. 34.2% had a postgraduate degree as their highest level of education while 5.1% had a diploma. The remaining 6% had an O-level Certificate as their highest level of education.

Table 4. Level of Education

Highest Level	Frequency	Percent
Diploma	4	5.1
O - level Certificate	5	6.3
Post Graduate Degree	27	34.2
Under Graduate Degree	43	54.4
Total	79	100.0

Source: Field data (2013)



### **4.3 Reasons For ICT Outsourcing at NCWSC**

The extent to which the respondents agreed or disagreed to the various cited reasons that could have led to ICT outsourcing at NCWSC are presented in Table 5. The analysis shows that more than half of the respondents either strongly agreed or agreed with the following six reasons for ICT outsourcing at NCWSC. The six reasons and their percentages were as follows; 76.4% either strongly agreed or agreed that ICT was outsourced to reduce the downtime on broken down ICT equipment, 70.6% to enable NCWSC focus and concentrate more on its core services, 58.8% to improve the management of the ICT services, 53% to improve the quality of ICT services, 52.9% to improve the maintenance and servicing done on ICT equipment and finally 52.9% to access latest technologies from service providers.

There were five reasons for ICT outsourcing at NCWSC with which more than half of the total respondents strongly disagreed or disagreed with. The five reasons and their percentages were as follows; 70.6% to reduce capital expenditure incurred from purchase of new ICT equipment, 70.6% to save on ICT staff training costs, 58.8% to provide better accountability of ICT services, 53% to save on costs incurred from repairs and finally 52.9% to copy what was happening in other companies.

Table 5. Reasons for Outsourcing

Statement	Percentage of the responses per statement				
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Reduction of the downtime on broken down ICT equipment was a reason for outsourcing ICT at NCWSC.	11.8%	0	11.8%	58.8%	17.6%
One of the reasons why ICT was outsourced at NCWSC was to improve the maintenance servicing done on ICT equipment	5.9%	17.6%	23.5%	52.9%	0
ICT outsourcing was done to improve the management of the ICT services at NCWSC	5.9%	23.5%	11.8%	41.2%	17.6%
Improving the quality of ICT services in NCWSC was a reason for outsourcing	5.9%	0	41.2%	41.2%	11.8%
The need to access latest technologies from service providers led to ICT outsourcing at NCWSC	11.8%	17.6%	17.6%	35.3%	17.6%
ICT services were outsourced to enable NCWSC focus and concentrate more on its core services	5.9%	23.5%	0	29.4%	41.2%
NCWSC ventured into ICT outsourcing to Provide better accountability of ICT services	5.9%	52.9%	0	29.4%	11.8%
Due to the increased ICT services demand at NCWSC, some of the ICT services were outsourced.	5.9%	29.4%	29.4%	29.4%	5.9%
ICT outsourcing was done to improve efficiency of ICT services delivery at NCWSC	5.9%	41.2%	17.6%	29.4%	5.9%
ICT Outsourcing at NCWSC was done to copy what was happening in other companies	17.6%	35.3%	17.6%	29.4%	0

Table 5. Reasons for Outsourcing

Statement	Percentage of the responses per statement				
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
ICT outsourcing at NCWSC was done to leverage on the skills from ICT service providers	23.5%	11.8%	23.5%	23.5%	17.6%
ICT Outsourcing at NCWSC was aimed at increasing the speed at which ICT services were offered.	11.8%	17.6%	35.3%	23.5%	11.8%
NCWSC outsourced ICT services to save on costs incurred from repairs of ICT equipment	41.2%	11.8%	23.5%	17.6%	5.9%
NCWSC outsourced ICT services to save on ICT staffing costs	41.2%	17.6%	23.5%	17.6%	0
ICT outsourcing at NCWSC was done to transfer some of the risks in ICT service delivery to the ICT service providers.	5.9%	23.5%	52.9%	17.6%	0
ICT services at NCWSC were outsourced to reduce the capital expenditure incurred from the purchase of new ICT equipment.	5.9%	64.7%	11.8%	17.6%	0
Saving on ICT staff training costs was one of the reasons that led to outsourcing of some ICT services at NCWSC	58.8%	11.8%	23.5%	5.9%	0
ICT outsourcing was done to complement the internal ICT staff skills	11.8%	0	58.8%	0	29.4%
ICT outsourcing was used to create a business opportunity for an influential person in NCWSC	11.8%	11.8%	76.4%	0	0

Source: Field data (2013)

## Factors affecting the Success of ICT outsourcing at NCWSC

The potential factors affecting the success of ICT outsourcing are presented in Table 6.

Table 6. Potential factors affecting ICT outsourcing

S1	ICT directorate is not involved in the selection process for ICT service providers at NCWSC leading to selection of incompetent vendors
S2	The specifications for ICT services to be outsourced at NCWSC are not clearly defined.
S3	NCWSC fails to meet its obligations to the service providers
S4	The selection process of ICT vendors is not effective and often leads to selection of incompetent vendors
S5	The ICT vendors do not provide clear documentation of the services they have offered/are offering
S6	The vendors providing ICT outsourced services to NCWSC are not able to avail adequate required resources such as personnel
S7	The internal ICT staff at NCWSC do not have a smooth working relationship with the ICT service providers
S8	NCWSC's data is not secured from unauthorized access by ICT service providers
S9	There is an over reliance on particular ICT service providers at NCWSC leading to opportunistic behavior from the service providers.
S10	The financial budget allocated to ICT is not adequate leading to sourcing of cheaper ICT services at the cost of quality
S11	NCWSC does not have signed SLAs with all ICT service providers to ensure that they get a good level of service
S12	The SLAs with service providers are not monitored for compliance
S13	NCWSC has not put in place measures to counter the failure of critical ICT outsourced services leaving the company exposed to risk.
S14	NCWSC does not periodically review the performance of outsourced ICT service providers.
S15	NCWSC has not ensured that there is a transfer of knowledge from the ICT service providers to the internal ICT staff.
S16	NCWSC has failed to develop internal capacity in ICT skills due to over reliance on external ICT service providers
S17	Outsourcing of some of the ICT services has resulted in poor morale for the ICT employees due to job security uncertainty
S18	Benchmarking with other companies outsourcing similar ICT services is not done

The correlation between the various potential factors is shown in the correlation matrix in Table 7.

Table 7. Correlation Matrix

	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12	S13	S14	S15	S16	S17	S18
Correlation S1	1.000	.045	.779	.544	.202	.675	.613	.260	-.182	-.774	.371	.282	.566	.755	.390	.580	.607	.525
S2	.045	1.000	-.103	.549	.800	.433	.409	-.229	.647	-.242	-.110	.106	.543	.236	.435	.229	.398	.467
S3	.779	-.103	1.000	.539	.093	.744	.580	.237	-.289	-.415	.657	.543	.756	.756	.402	.617	.775	.673
S4	.544	.549	.539	1.000	.576	.905	.294	-.300	.183	-.521	.554	.807	.814	.746	.860	.451	.767	.893
S5	.202	.800	.093	.576	1.000	.454	.452	-.486	.061	-.030	-.094	.215	.593	.584	.569	.693	.539	.440
S6	.675	.433	.744	.905	.454	1.000	.420	-.181	.144	-.540	.742	.678	.880	.826	.814	.500	.929	.934
S7	.613	.409	.580	.294	.452	.420	1.000	.483	.106	-.409	-.040	-.004	.676	.477	.083	.619	.528	.419
S8	.260	-.229	.237	-.300	-.486	-.181	.483	1.000	.236	-.426	-.229	-.293	-.006	-.320	-.617	-.194	-.236	-.166
S9	-.182	.647	-.289	.183	.061	.144	.106	.236	1.000	-.365	-.064	-.098	.149	-.350	.000	-.500	-.023	.217
S10	-.774	-.242	-.415	-.521	-.030	-.540	-.409	-.426	-.365	1.000	-.183	-.181	-.387	-.322	-.215	-.080	-.283	-.411
S11	.371	-.110	.657	.554	-.094	.742	-.040	-.229	-.064	-.183	1.000	.668	.490	.570	.675	.105	.720	.745
S12	.282	.106	.543	.807	.215	.678	-.004	-.293	-.098	-.181	.668	1.000	.609	.569	.734	.271	.575	.769
S13	.566	.543	.756	.814	.593	.880	.676	-.006	.149	-.387	.490	.609	1.000	.746	.613	.660	.888	.861
S14	.755	.236	.756	.746	.584	.826	.477	-.320	-.350	-.322	.570	.569	.746	1.000	.790	.815	.887	.750
S15	.390	.435	.402	.860	.569	.814	.083	-.617	.000	-.215	.675	.734	.613	.790	1.000	.398	.787	.849
S16	.580	.229	.617	.451	.693	.500	.619	-.194	-.500	-.080	.105	.271	.660	.815	.398	1.000	.650	.386
S17	.607	.398	.775	.767	.539	.929	.528	-.236	-.023	-.283	.720	.575	.888	.887	.787	.650	1.000	.897
S18	.525	.467	.673	.893	.440	.934	.419	-.166	.217	-.411	.745	.769	.861	.750	.849	.386	.897	1.000

Source: Field data (2013)

Table 8 represents the table of communalities after extraction. The communalities in the extraction column represent the common variance in the data structure.

Table 9 lists the Eigen values associated with each component. All factors with Eigen values greater than 1 were extracted to give four main factors

Table 8. Communalities

	Initial	Extraction
S1	1.000	.843
S2	1.000	.998
S3	1.000	.957
S4	1.000	.918
S5	1.000	.994
S6	1.000	.974
S7	1.000	.912
S8	1.000	.936
S9	1.000	.974
S10	1.000	.731
S11	1.000	.904
S12	1.000	.753
S13	1.000	.889
S14	1.000	.964
S15	1.000	.937
S16	1.000	.982
S17	1.000	.908
S18	1.000	.955

Source: Field data (2013)

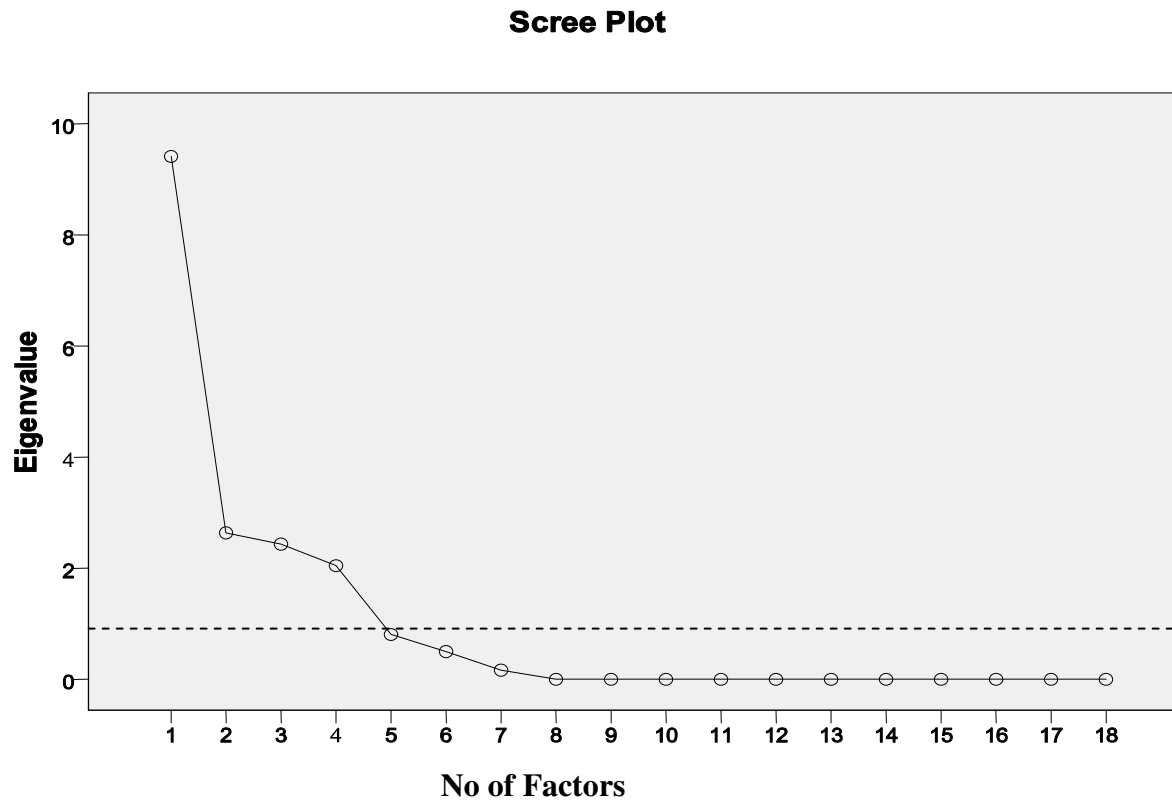
Table 9. Eigen Values

Component	Eigenvalues		
	Total	% of Variance	Cumulative %
1	9.414	52.298	52.298
2	2.636	14.644	66.943
3	2.432	13.511	80.454
4	2.046	11.366	91.820
5	.809	4.492	96.312
6	.499	2.770	99.083
7	.165	.917	100.000
8	0	0	100.000
9	0	0	100.000
10	0	0	100.000
11	0	0	100.000
12	0	0	100.000
13	0	0	100.000
14	0	0	100.000
15	0	0	100.000
16	0	0	100.000
17	0	0	100.000
18	0	0	100.000

Source: Field data (2013)

Figure 1 represents the scree plot. Using the latent root criterion, the only factors having eigenvalues greater than 1 are considered significant. In this case, the dotted line indicates the point where the eigenvalue is equal to 1. The number of factors with an eigenvalue greater than 1 are the ones appearing above the dotted line and are four in number hence the significant factors considered were four.

Figure 1. Scree Plot



Varimax rotation with Kaiser normalization was performed on the components converging in 11 iterations to produce the matrix in Table 10.

Table 10. Rotated Component Matrix

	Component			
	1	2	3	4
S1				.621
S2	.980			
S3		.510		
S4				.839
S5			.734	
S6	.874			
S7		.648		
S8			.876	
S9		-.611		
S10				-.766
S11	.905			
S12	.861			
S13			.649	
S14	.687			
S15			.870	
S16			.959	
S17			.779	
S18	.892			

Source: Field data (2013)



Using the component scores, the four factors can be grouped and represented as follows

#### Factor 1

- The specifications for ICT services to be outsourced at NCWSC are not clearly defined
- The vendors providing ICT outsourced services to NCWSC are not able to avail adequate required resources such as personnel
- NCWSC does not have signed SLAs with all ICT service providers to ensure that they get a good level of service
- The SLAs with service providers are not monitored for compliance
- NCWSC does not periodically review the performance of outsourced ICT service providers.
- Benchmarking with other companies outsourcing similar ICT services is not done

This factor represents Poor management of the ICT outsourcing contract

#### Factor 2

- NCWSC fails to meet its obligations to the service providers
- The internal ICT staff at NCWSC do not have a smooth working relationship with the ICT service providers
- There is an over reliance on particular ICT service providers at NCWSC leading to opportunistic behavior from the service providers

This factor represents a Poor working relationship between the outsourcing vendor and NCWSC

#### Factor 3

- The ICT vendors do not provide clear documentation of the services they have offered/are offering
- NCWSC's data is not secured from unauthorized access by ICT service providers
- NCWSC has not put in place measures to counter the failure of critical ICT outsourced services leaving the company exposed to risk.
- NCWSC has not ensured that there is a transfer of knowledge from the ICT service providers to the internal ICT staff.
- NCWSC has failed to develop internal capacity in ICT skills due to over reliance on external ICT service providers

- Outsourcing of some of the ICT services has resulted in poor morale for the ICT employees due to job security uncertainty

This factor represents the failure of NCWSC to put in place internal measures to ensure that NCWSC is not solely dependent on the ICT outsourcing service providers

#### Factor 4

- The selection process of ICT vendors is not effective and often leads to selection of incompetent vendors
- ICT directorate is not involved in the selection process for ICT service providers at NCWSC leading to selection of incompetent vendors
- The financial budget allocated to ICT is not adequate leading to sourcing of cheaper ICT services at the cost of quality

This factor represents an ineffective selection process of the ICT outsourcing vendor

The result of the factor analysis is that the factors hindering the success of ICT outsourcing at NCWSC were reduced to the following four significant factors; Poor management of the ICT outsourcing Contract, Poor working relationship between the outsourcing vendor and NCWSC, failure of NCWSC to put in place internal measures to ensure that NCWSC is not solely dependent on the ICT outsourcing service providers and finally ineffective selection process of the ICT outsourcing vendors.

#### 4.4 Employee Attitude towards Outsourced ICT services at NCWSC

##### i) Employee attitude towards Software Related Outsourced ICT Services

Table 11. Distribution of Respondents per software used

Software	Frequency	Percentage
CMS	40	51%
SPMS	52	66%
HRMS	20	25%
MRS	14	18%
Oracle Financials	11	14%
Fleet Management	3	4%
DMS	3	4%

Table 11 represents the distribution of respondents as per the software they used on a daily basis. From the responses it can be established that most of the users used SPMS and CMS on a daily basis. Fleet management and DMS had the least number of users who used them on a daily basis.

Source: Field data (2013)

##### Employee attitude towards software related outsourced ICT services

Table 12 represents the extent to which the employees agreed or disagreed with the various questions and statements related to software at NCWSC. The analysis of the data is as follows, 76% of the respondents indicated that they were satisfied with the services. 51.9% were of the opinion that the systems had made their work easier. 41.8% felt that the service provider had availed competent staff to offer support. However in spite of that, 48.1% indicated that the service provider had not come up with new innovations to improve the running of the system. 56.9% agreed that the service provider had not implemented a helpdesk system and finally 41.8% felt that the service provider did not resolve all issues effectively.

Table 12 . Distribution of the Employee responses to statements related to software services

Statement	Percentage of Respondents				
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I am satisfied with the ICT services offered in relation to ICT systems	1.3%	3.8%	19%	45.6%	30.4%
All system related problems are resolved within 24 hrs	10.1%	26.6%	24.1%	25.3%	13.9%
The service provider has implemented a helpdesk system to help track resolution of customer queries	29.1%	27.8%	16.5%	12.7%	13.9%
The system has helped make my work easier	0	13.9%	34.2%	40.5%	11.4%
The service provider avails competent staff to offer the required support	2.5%	21.5%	34.2%	30.4%	11.4%
I experience at least one Prolonged System failure lasting more than 24 hrs every month	12.7%	25.3%	36.7%	13.9%	11.4%
The service provider responds courteously to service requests	3.8%	22.8%	46.8%	19%	7.6%
The service provider comes up with new innovations from time to time to improve the running and operations of the system	19%	29.1%	31.6%	13.9%	6.3%
The service provider responds quickly when called upon to offer service	7.6%	24.1%	34.2%	29.1%	5.1%
The service provider effectively resolves all reported issues	1.3%	40.5%	27.8%	27.8%	2.5%

Source: Field data (2013)

ii) Employee attitude towards Hardware/ICT Equipment Related Outsourced Services

The distribution of the respondents is presented in table 13. The most widely used ICT equipment was the laptop with 76% of the respondents followed by the copier printer with 51% and then the desktop computer with 47%. Handheld devices and the bulk printer had the least number of users each having 4% and 5% of the respondents respectively.

Table 13. Distribution of the Respondents who used ICT equipment on a daily basis

ICT Equipment	Frequency	Percentage
Handheld Device	3	4%
Bulk Printer	4	5%
Desktop Printer	23	29%
Desktop Computer	37	47%
Copier Printer	40	51%
Laptop	60	76%

Source. Field data (2013)

Table 14 represents the extent to which the employees agreed or disagreed with the various questions and statements related to ICT Equipment at NCWSC. The analysis of the data is as follows, 87.4% of the respondents indicated that the ICT equipment had enabled them perform their job more efficiently. 55.7% agreed that all reported problems are resolved at longest within 2 working days. 54.4% agreed that they experienced less than 3 technical problems on their equipment per week. 45.6% agreed that preventive maintenance was done at least once every 3 months and with that, 51.9% were generally satisfied with the services. 68% however indicated that they did not get an alternative replacement when their equipment is down for repairs and 48% agreed that they are not kept updated on the progress of repairs on their equipment. 53.1% disagreed that the ICT equipment failure had hindered them from achieving their job targets.

Table 14. Distribution of the employee responses to statements related to ICT equipment

Statement	Percentage of respondents				
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
The devices enable me perform my job more efficiently	1.3%	1.3%	10.1%	38%	49.4%
All reported problems on the equipment are resolved at longest within 2 working days	11.4%	15.2%	17.7%	25.3%	30.4%
On average per week I normally experience less than 3 technical problems on the equipment.	11.4%	17.7%	16.5%	31.6%	22.8%
Preventive maintenance for the equipment is done at least once every 3 months	20.3%	15.2%	19%	26.6%	19%
Am satisfied with the ICT services offered in relation to my devices.	12.7%	0	36.4%	36.7%	15.2%
The failure of devices has hindered me from achieving my job targets	21.5%	31.6%	24.1%	11.4%	11.4%
When my equipment is down I normally get an alternative replacement until the equipment is repaired	40.5%	27.8%	11.4%	10.1%	10.1%
Am kept updated on the progress of repairs whenever the equipment is undergoing repairs	25.3%	21.5%	15.2%	29.1%	8.9%
All reported equipment problems are resolved effectively	3.8%	12.7%	34.2%	41.8%	7.6%

Source: Field data (2013)

## CHAPTER 5

### SUMMARY, RECOMMENDATIONS AND CONCLUSIONS

#### 5.1 Summary

NCWSC outsourced some of its ICT services for the following reasons; to improve the maintenance servicing done on ICT equipment, to reduce the downtime on broken down ICT equipment, to improve the quality of ICT services, to enable NCWSC focus and concentrate more on its core services, to access latest technologies from service providers and finally to improve the management of the ICT services at NCWSC.

Some of the factors hindering the success of ICT outsourcing at NCWSC include; poor management of the ICT service outsourcing contract, poor working relationship between the outsourcing service provider and NCWSC, failure of NCWSC to put in place internal measures to ensure that NCWSC is not solely dependent on the ICT outsourcing service providers, and finally ineffectiveness of the selection process of ICT outsourcing service providers

The employee attitude towards outsourced services varies from the various aspects of the outsourced ICT services. On software related services, employees felt that the service provider availed competent staff. On the issue of effective resolution of issues and innovations from service providers, the employees felt that this were lacking. The employees however were generally satisfied with the software related outsourced ICT services. On the hardware/ICT Equipment related services, employees felt that there was timely resolution of reported issues and scheduled preventive maintenance was done. They also indicated that there was effective resolution of problems and there was the realization that the equipment had enabled them perform their jobs more efficiently. The employees however indicated that they were not provided with alternative replacement during the time when the broken down equipment were under repair and that they were not updated on the progress and status of the repairs being undertaken on the equipment.

## **5.2 Recommendations**

Some of the recommendations that can be made as a result of the findings of this study and which would go a long way in improving the ICT outsourcing at NCWSC are as follows; NCWSC needs to develop better ways of managing the outsourcing contracts. The contracts need to be prepared well incorporating all required specifications, they should also be monitored effectively for compliance and performance. The selection process of outsourcing service providers needs to be critically re-examined to ensure that it leads to the selection of competent and effective service providers.

It is also recommended that NCWSC puts in place measures to ensure that outsourced services are clearly documented and that there is a transfer of knowledge to the internal ICT staff so as to avoid over reliance on service providers. The working relationship between the service provider and NCWSC needs to be improved. Each party should ensure that they play their part as stipulated in the outsourcing contract to ensure that there is a smooth working relationship.

To improve the user experience with outsourced ICT services, it is recommended that the service providers resolve all issues pertaining to either the software or ICT equipment in a timely manner and conclusively. It is also recommended that the outsourcing agreement include clauses that require the service providers to avail a help desk system for tracking issues and also a clause that will require the service provider to come up with innovations and system updates to improve the working of the system. The agreement should also factor in provision of replacement equipment to users for the period when their equipment have broken down completely and are undergoing repairs.

## **5.3 Limitations**

The limitations in the study were that the research was primarily focused on the client's perspective in this case NCWSC. It would have enriched the research to have the service providers perspective too. Another limitation was that due to time constraint, the study focused on only a few specific aspects of ICT outsourcing at NCWSC which were the reasons that led to outsourcing, factors hindering its success and employee attitude towards outsourced services. The other limitation to this research was that not all the aspects of the research can be generalized since this was a case study and some of the findings are specific to NCWSC.



## **5.4 Conclusion**

The findings of this study will go a long way in enabling NCWSC or any other organisation that has ventured into ICT outsourcing to improve on the performance of the ICT outsourcing venture. It will also enable ICT outsourcing service providers to better their services by identifying the key aspects of the outsourced ICT services that need to be addressed in order to realize success in ICT outsourcing.

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## **Appendix A.**

### **QUESTIONNAIRE**

Dear Respondent,

I am a post graduate student at the University of Nairobi specialising in Management Information Systems. As part of this course, I am carrying out a research on Outsourcing of ICT services at Nairobi City Water and Sewerage Company (NCWSC) specifically looking at reasons that led to ICT Outsourcing, factors hindering the success of ICT Outsourcing and employee attitude towards the outsourced services.

This is to request you kindly to fill in this questionnaire by responding to the questions concerning the outsourced ICT services at NCWSC. All responses will be handled with utmost confidentiality and will not be used for any purpose other than this academic study.

Thank you in advance.

Signed

Date

Jimmy Thuo

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## **SECTION A**

### **Demographic Data**

1. In which directorate at NCWSC do you belong?
  - a) Finance
  - b) Commercial
  - c) Technical
  - d) Human Resources and Admin
  - e) Risk and Audit
  - f) Legal
  - g) ICT
  
2. What is your Age?
  - a) 25 or below
  - b) 26 -34
  - c) 35 – 44
  - d) 45 – 54
  - e) 55 or above
  
3. What is your Gender?
  - a) Male
  - b) Female
  
4. What is your highest level of education?
  - a) Doctorate
  - b) Post graduate Degree
  - c) Under graduate Degree
  - d) Diploma
  - e) O-level Certificate
  
5. How long have you worked at NCWSC?
  - a) 2 – 5 years
  - b) 6 – 10 years
  - c) Above 10 years

## **SECTION B**

### 1. Reasons for ICT outsourcing at NCWSC

(Please indicate the extent to which you agree/ disagree with the following statements with regards to ICT outsourcing at NCWSC)

<b>Statement</b>	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Neutral</b>	<b>Agree</b>	<b>Strongly Agree</b>
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
1. NCWSC outsourced ICT services to save on costs incurred from repairs of ICT equipment					
2. NCWSC outsourced ICT services to save on ICT staffing costs					
3. ICT services at NCWSC were outsourced to reduce the capital expenditure incurred from the purchase of new ICT equipment.					
4. Saving on ICT staff training costs was one of the reasons that led to outsourcing of some ICT services at NCWSC					
5. ICT outsourcing was done to improve efficiency of ICT services delivery at NCWSC					
6. ICT outsourcing at NCWSC was done to leverage on the skills from ICT service providers					
7. The need to access latest technologies from service providers led to ICT outsourcing at NCWSC					
8. One of the reasons why ICT was outsourced at NCWSC was to improve the maintenance servicing done on ICT equipment					
9. Reduction of the downtime on broken down ICT equipment was a reason for outsourcing ICT at NCWSC.					
10. Improving the quality of ICT services in NCWSC was a reason for outsourcing					
11. ICT Outsourcing at NCWSC was					



Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
	1	2	3	4	5
aimed at increasing the speed at which ICT services were offered.					
12. NCWSC ventured into ICT outsourcing to Provide better accountability of ICT services					
13. ICT services were outsourced to enable NCWSC focus and concentrate more on its core services					
14. ICT outsourcing was done to improve the management of the ICT services at NCWSC					
15. ICT outsourcing was done to complement the internal ICT staff skills					
16. Due to the increased ICT services demand at NCWSC, some of the ICT services were outsourced.					
17. ICT outsourcing was used to create a business opportunity for an influential person in NCWSC					
18. ICT Outsourcing at NCWSC was done to copy what was happening in other companies					
19. ICT outsourcing at NCWSC was done to transfer some of the risks in ICT service delivery to the ICT service providers.					

9. Please list down any other reasons for ICT outsourcing at NCWSC not mentioned above

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10. Factors that affect ICT outsourcing success at NCWSC

(Please indicate the extent to which you agree/ disagree with the following statements)

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
	1	2	3	4	5
1. ICT directorate is not involved in the selection process for ICT service providers at NCWSC leading to selection of incompetent vendors					
2. The specifications for ICT services to be outsourced at NCWSC are not clearly defined.					
3. NCWSC fails to meet its obligations to the service providers					
4. The selection process of ICT vendors is not effective and often leads to selection of incompetent vendors					
5. The ICT vendors do not provide clear documentation of the services they have offered/are offering					
6. The vendors providing ICT outsourced services to NCWSC are not able to avail adequate required resources such as personnel					
7. The internal ICT staff at NCWSC do not have a smooth working relationship with the ICT service providers					
8. NCWSC's data is not secured from unauthorized access by ICT service providers					
9. There is an over reliance on particular ICT service providers at NCWSC leading to opportunistic behavior from the service providers.					
10. The financial budget allocated to ICT is					

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
	1	2	3	4	5
not adequate leading to sourcing of cheaper ICT services at the cost of quality					
11. NCWSC does not have signed SLAs with all ICT service providers to ensure that they get a good level of service.					
12. The SLAs with service providers are not monitored for compliance					
13. NCWSC has not put in place measures to counter the failure of critical ICT outsourced services leaving the company exposed to risk.					
14. NCWSC does not periodically review the performance of outsourced ICT service providers.					
15. NCWSC has not ensured that there is a transfer of knowledge from the ICT service providers to the internal ICT staff.					
16. NCWSC has failed to develop internal capacity in ICT skills due to over reliance on external ICT service providers					
17. Outsourcing of some of the ICT services has resulted in poor morale for the ICT employees due to job security uncertainty					
18. Benchmarking with other companies outsourcing similar ICT services is not done					

11. Please list down any other factors not mentioned above that affect success of ICT outsourced services at NCWSC?

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## **SECTION C**

Employee attitude towards ICT outsourced services during the year 2012

### **i. Software related services**

1. Which of the following ICT systems do you use on a day to day basis?
  - a) Customer Management System CMS
  - b) Stores & Procurement Management system SPMS
  - c) Human Resource Management system HRMS
  - d) Oracle Financials (FMS)
  - e) Meter Reading System (MRS)
  - f) Fleet Management
  - g) DMS
  
2. On a scale of 1 - 5 where 1 = Strongly Agree (SA) , 2 = Agree (A) , 3 = Neutral (N), 4 = Disagree (D) and 5 = Strongly Disagree (SD), (Please indicate the extent to which you agree/ disagree with the following statements with regards to the various systems you have selected above).

Statement	SA	A	N	D	SD
	1	2	3	4	5
All system related problems are resolved within 24 hrs					
The service provider avails competent staff to offer the required support					
The service provider responds quickly when called upon to offer service					
The service provider comes up with new innovations from time to time to improve the running and operations of the system					
The service provider has implemented a helpdesk system to help track resolution of customer queries					
The service provider responds courteously to service requests					

The service provider effectively resolves all reported issues					
I experience at least one Prolonged System failure lasting more than 24 hrs every month					
The system has helped make my work easier					
I am satisfied with the ICT services offered in relation to ICT systems					

## ii. Hardware Related Services

1. Which of the following ICT equipment do you use on a day to day basis?

- a) Desktop Computer
- b) Laptops
- c) Desktop Printer
- d) Copier/Printer
- e) Bulk Printer
- f) Handheld Device (Data logger)

2. On a scale of 1 - 5 where 1 = Strongly Agree (SA) , 2 = Agree (A) , 3 = Neutral (N), 4 = Disagree (D) and 5 = Strongly Disagree (SD), (Please indicate the extent to which you agree/ disagree with the following statements with regards to the various equipment you have selected above)

Statement	SA	A	N	D	SD
	1	2	3	4	5
On average per week I normally experience less than 3 technical problems on the equipment.					
All reported problems on the equipment are resolved at longest within 2 working days					
When my equipment is down I normally get an alternative replacement until the equipment is repaired					
Preventive maintenance for the equipment is done at least once every 3 months					

Am kept updated on the progress of repairs whenever the equipment is undergoing repairs					
All reported equipment problems are resolved effectively					
The failure of devices has hindered me from achieving my job targets					
The devices enable me perform my job more efficiently					
Am satisfied with the ICT services offered in relation to my devices.					

END - Thank You