**AN ASSESSMENT OF OUTSOURCING INFORMATION COMMUNICATION TECHNOLOGY SERVICES IN SELECTED PUBLIC UNIVERSITY LIBRARIES IN KENYA**

**BY**

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**A Thesis Submitted in Partial Fulfilment of the Requirement for the Award of the Degree of Doctor of Philosophy in Library and Information Studies**

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# DECLARATION

**Declaration by Candidate**

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# 

# Dedication

This thesis is dedicated to my father E. Mwai who taught me the art of endurance and my husband Peter and children Amy, Jodie and Cyril for cheeringme on.

# 

# ABSTRACT

Recent developments in Information Communication Technologies (ICTs) haverevolutionized the way library services are provided, giving opportunities to librarians to develop services that are tailor-made to the needs and demands of the users. However, the rapid technological changes and advancement of ICTs require librarians to continuously update their skills and knowledge to enable them cope with the demands imposed by techno savvy users.Due to the increased demand of web-based information resources, librarians are compelled to outsource ICT services to complement the traditional library and information services. The purpose of this study was to investigate the outsourcing of ICT services in selected public university libraries in Kenya and develop a framework for guiding the outsourcing process. The specific objectives of the study were to: examine the range of ICT services outsourced by selected public university libraries in Kenya; establish librarians’ perceptions of outsourcing ICT services in selected public university libraries in Kenya; explore the factors instigating the outsourcing of ICT services; examine the strategies employed in outsourcing ICT services in selected public university libraries in Kenya; review the legal and infrastructural requirements in outsourcing ICT services; establish the challenges associated with outsourcing of ICT services in public university libraries; and propose a framework for effective outsourcing of ICT services in public university libraries in Kenya.The theoretical framework advanced by Pfeffer and Salancik – the Resource Dependence theory (RDT) – and Williamson’s Transaction Cost theory (TCT) informed the study. A multiple case study strategy was adopted involving investigation of outsourcing in four public university libraries comprising Moi, Kenyatta, Jomo Kenyatta and the University of Nairobi. The study purposively selected 38 respondents comprising senior university managers, librarians, ICT Directors and vendors. Data collection was conducted using a semi-structured interview schedule and analyzed using qualitative techniques. The findings indicated that public university libraries in Kenya outsource ICT services guided bysuch factors as cost cutting, technology transfer and inadequate ICT skills. Furthermore, the study noted that there were few system librarians with ICT knowledge and skills and with the ability to design and set up ICT infrastructures. The procurement laws are also an impediment to the outsourcing of ICT services. The study concluded that there was need for the library management to be conversant with outsourcing procedures, such as negotiation of contracts, to gain more from outsourced ICT services. Libraries must also have clear objectives and goals to be achieved by the outsourced services. Libraries need to, carefully and diligently analyze the risks at every step of the outsourcing process for effective identification, navigation and administration of outsourced ICT services. The study recommendsthat the university libraries develop ICT outsourcing policies. The university management should involve librarians in the outsourcing process and implementation. Furthermore, libraries should also form consortiums to negotiate services, as well as benchmark ICT services.

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# ABBREVIATIONS AND ACRONYMS

ABCD Automation of Libraries and Centre’s Documentation,

ASP Application Service Provider

B.P.O Business Process Outsourcing

CCTV Close Circuit Television

CUE Commission for University Education

DDD DigitalDivide Data

ERP Enterprise Resource Planning

FBN Fiber Backbone Network

FM Facilities management

Go Government of Kenya

HINARI Health Internetwork Access to Research Initiative

ICT Information, Communication and Technology

INASP International Network for the Availability of Scientific Publications

IT Information Technology

JKUAT Jomo Kenyatta University of Agriculture and Technology

JKUATL Jomo Kenyatta University of Agriculture and Technology Library

INASP International Network for the Availability of Scientific Publications

K.P.O Knowledge Process Outsourcing

KENET Kenya Education Network

KLISC Kenya Library and Information Services Consortium

KOHA LibLime KOHA

KUL Kenyatta University

LIS Library Information System

LMS Library management systems

MARC Machine Readable Catalogue

MU Moi university

MUL Moi University Library

OPAC On-line Public Access Catalogues.

PC Portable Computer

PERii Programme for Enhancement of Resource Information

PPOA Public Procurement Oversight Authority

RFID Radio Frequency Identification

VPN Virtual Private Network

WAN Wide Area Network

UON University of Nairobi

UONL University of Nairobi Library

# 

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# CHAPTER ONE

# INTRODUCTION AND BACKGROUND INFORMATION

## 1.1 Preamble

Libraries operate within a social environment, which together with economic factors, affect the way they operate. The social and management paradigm shifts that are occurring in the library environment have influenced, as well as affected their growth just like other social and business entities have been affected.Among the dominant factors,affecting business and other entities are Information and Communication Technologies (ICTs), andmany modern organizations are currently outsourcing specific ICT functions(Khalfan & Gough, 2002). Many public university library administrators are looking towards outsourcing as a way of securing critical ICT support services. Hence, the public university library environment is changing dramatically as influenced by such external factors.

Traditionally libraries have performed most of their activities using staff hired by the sponsoring organization or by procuring the services internally from other departments, (insourcing). There are various definitions of in-sourcing; for example, according to Khalfan and Gough (2002) in-sourcing uses internal staff to perform certain activities within the organization, while Hirschheim and Lacity (2000) consider it as the client’s decision to perform and deliver services in-house after evaluating the outsourcing market.

Organizations mainly set up functional departments to take care of the various activities. Where a department lacks staff to perform the activities it may try to procure that service from departments that may have the expertise. In this research, the term in sourcing means delegating ICT services to someone within the organization as opposed to hiring someone outside the organization (outsourcing) to perform the function.

Use of internal staff has certain advantages; for instance, face-to-face interaction with employees and hands-on training is possible considering that the management is dealing with staff under their control. Hence, in sourcing enables the organization to closely monitor the staff’s work, communicate their requirements and company objective more clearly, and build their individual organizational culture.

The term outsourcing originates from the Anglo-Saxon language realm and is an abbreviation of the words “Outside Resource Using”,(Weimer & Seuring, 2007, p.149).There are many definitions of outsourcing. For instance, according to Bordeianu and Benaud (1997) outsourcing is the transfer of an internal service or function to an outside vendor. Authors such as Quinn (2000), Sharpe (1997), Rajabzadeh (2008), and Grover, Cheon and Teng, (1994) view outsourcing as a form of predetermined external provision with another enterprise for the delivery of goods and/or services that could previously have been offered in-house.The acquiescence definition of outsourcing by authors is an organization acquiring goods or services from an outside supplier at a fee instead of obtaining the goods or services on their own. The study will adopt outsourcing to mean the use of outside contractors for important parts of a business’s operations, which were either previously undertaken in the information centres or were brought in as new services.

ICT outsourcing is a decision taken by an organization to contract out or sell some or all of the organization’s ICT assets, people and or activities to a third-party vendor who in turn provides and manages the services for a certain periodand at a monetary fee (Lacity and Hirschheim, 1993b). Outsourcing allows libraries and other organizations to sign a contract with an external organization to provide library functions or services. Organizations see outsourcing as a way of ensuring that the processes outsourced help to fulfill the institution's mission and long-term goals and objectives.

ICT is a term that encompasses the application of forms of computer and communications equipment and software used to create, design, store, transmit, interpret and manipulate information in its various formats. It is the digital processing and utilization of information by use of electronic computers that combines digital processing and electronic communication. According to Islam and Islam (2006), ICT is a diverse set of technological tools and resources used to communicate and to create, disseminate, store and manage information. It incorporates a range of technologies used to support communication and information. Furthermore, Hamlink (1997) views ICTs as those technologies that enable the handling of information and facilitate different forms of communication such as storage technologies like CD-ROM, processing technologies like application software, communication technologies like local area network (LAN), and display technologies like computer monitors.

Information Technology (IT) is the use of computers and software to manage, store, process, manipulate and communicate information. According to the Interpretive Guidance for the Information Technology Management, (2001), IT refers to systems and services used in the automated acquisition, storage, manipulation, management, movement, control, display, switching, interchange, transmission, assurance or reception of information. It includes computers, network components, peripheral equipment, software, firmware, services and related sources. Hence, Islam and Islam (2006) view ICT as a comprehensive concept and parallel with IT that denotes not only a single unit of technology, but also an assembly of technologies like telecommunication equipment, data, process, equipment and semi-conductors.

This study, has adopted the two terms IT and ICT to mean the use of computer and telecommunication equipment and software to harness, store, process, retrieve and manage information. ICT has played a significant role in the provision, storage and retrieval of information in libraries of all types. It has had an impact on the various aspects of libraries and its widespread use is resulting in digital information resources and digital media to an extent of becoming the dominant form of information storage and retrieval.

In this study, ICT services outsourcing will denote decisions taken by the public university library to obtain or acquire some or all the library ICT services to a third party supplier, who in turn supplies and manages the services for a periodat a fee for the services rendered. A library can therefore outsource part or all of its ICT services (Soliman, 2003). Public university libraries exist in the institutions of higher learning funded by the state and they exist to serve the objectives of the university or college (Brophy1998 and Rowley 2000). They operate routinely with known customers and are the heart of the respective universities; hence, they play a significant role of ensuring that the university is achieving its objectives of providing quality education and research to its users.

Public University libraries competitiveness relies heavily on effective and efficient use of ICT for supporting research and education.However, with the state budget cuts, decreasing funding and increasing costs of information materials, it has left many public universities in Kenya in tremendous financial difficulties.To achieve their objectives, the university libraries require technical ICT staff among other resources and facilities. To enhance their services delivery the University libraries have outsourced some of the ICT services.

## 1.2 Conceptual Setting

Since the Industrial Revolution, companies have grappled with how they can exploit their competitive advantage to increase their markets and profits. According to Lonsdale and Cox (2000), the model for most of the 20th century organizations is a large integrated company that can “own, manage, and directly control” its assets. In the 1950s and 1960s, companies moved to diversification and broadening of corporate bases and taking advantage of economies of scale(Lonsdale and Cox, 2000). Through diversification, companies expected to protect profits, even though expansion required multiple layers of management. During the 1970s and 1980s, lack of agility caused by bloated management structures handicapped organizations attempting to compete globally. Large companies developed a new strategy of focusing on their core business, which required identifying critical processes and deciding the ones to be outsourced thereby increasing their flexibility and creativity (Handfield*,* 2006).

Specialize IT contracting started to be popular in the service industry around 1950s, (Lonsdale and Cox, 2000). Timesharing was one of the first types of IT outsourcing services introduced in the 1950s since computers were expensive then and even large companies opted to buy processing cycles in lieu of computers (Gonzales, Dorwin, Gupta, Kalyan, & Schimler).Consultants offering customers professional assistance for streamlining and managing their operational business processes originated business Process Outsourcing (BPO), (Gonzales, Dorwin, Gupta, Kalyan, & Schimler).Dominant outsourcing service providers in the BPO fields, (some of which also dominate the IT outsourcing business) included US companies such as IBM, Accenture and Hewitt Associates, and European and Asian companies such as Capgemini, Genpact, TCS, Wipro and Infosys. Many of these BPO efforts involved off shoring; that is, hiring a company based in another country to do the work. This pushed the large-scale growth of services such as insurance, architecture and engineering. At this time, the companies doing the outsourced work were mostly located in the same country, often in the city, just like the customers.

In the US during 1970s, it was common for computer companies to export their payrolls to outside service providers for processing that continued into the 1980s when accounting services, payroll, billing and word processing all became outsourced work.

According to (Mullin, 1996), outsourcing was formally identified as a business strategy in 1989; Most organizations that were not self-sufficient outsourced those functions for which they had no competency internally. Publishers, for example, often purchased composition, printing and fulfillment services. The use of external suppliers for these essential, but ancillary services might be termed the baseline stage in the evolution of outsourcing.

Outsourcing support services was the next stage as pointed by Mullin (1996). In the 1990s, as organizations began to focus more on cost-saving measures, they started to outsource those functions necessary to run a company, but not related specifically to the core business. Managers contracted with emerging service companies to deliver accounting, human resources, data processing, internal mail distribution, security, plant maintenance, and the like as a matter of “good housekeeping (Handfield, 2006; Lorna, 2005).

As onshore outsourcing continued, manufacturing outsourcing of low-tech items such as toys, shoes and apparel goods began to take place. Thereafter, manufacturing of higher value items like high-tech components and consumer electronics began to appear (Robb, 2000). Hence, manufacturing was the first activity that began to move to offshore destinations in quest for lower costs. Development and improvement in infrastructure such as transportation and logistics affected manufacturing leading to decreased costs, while increasing offshore manufacturing. Moreover, as the education and skills on lower wage countries developed, outsourcing manufacturers also gained more value (Robb, 2000).

The current stage in the evolution of outsourcing is the development of strategic partnerships (Handfield, 2006; Lorna, 2005). Until I980s, it had been axiomatic that no organization would outsource core competencies; that is, those functions that give the company a strategic advantage or make it unique. However, in the 1990s, outsourcing some core functions was a good strategy, not anathema. For example, some organizations outsource customer service, precisely because it is so important. Eastman Kodak has (considered the first ripe fruit of success mega outsourcing) decision to outsource the IT systems that underpinned its business was considered revolutionary in 1989, but it was actually the result of rethinking what their business was about (Alsudairi and Dwivedi 2010; Handfield, 2006; Lorna 2005). Other major corporations whose managers had determined that it was not necessary to own the technology to get access to information they needed followed Eastman Kodak’s decision.

The 1990s also experienced a situation where outsourcing moved into the world of IT, data transcription and call centre operations (Khalfan, 2003). Many companies began to outsource activities that were essential to them, which included data processing and automation. Studies on the history of outsourcing such as that of Alsudari and Dwivedi (2010) conclude that current outsourcing are clearly not just about payrolls and call centres…. any function could, hypothetically, be outsourced (Lankford and Parsa, 1999). Thus, almost every sector including pharmaceuticals, Research and Development, insurance and libraries practice outsourcing. Today, the focus is less on ownership and more on developing strategic partnerships to bring about enhanced results. Consequently, organizations are likely to select outsourcing based on who can deliver effective results for a specific function than on whether the function is core or commodity.

Currently, because of globalization, the trend is towards forcing strategic partnerships. Large companies are ready to outsource even their core activities to service providers to gain competitive advantages. Despite the controversies surrounding outsourcing, almost every activity can be outsourced.

### 1.2.1Outsourcing in libraries

Libraries have followed the general business trend of procuring routine none-library services like cleaning and photocopying through contracts with external vendors. As early as 1901 part of the Library of Congress began mass-producing catalogue cards and providing them to other libraries. In the process of doing so, they became perhaps the first vendor of cataloguing services (Martin et al, 2000).

Over the years, according to Martin et al (2000), libraries have contracted out not only cataloguing services, but also other functions such as automating services and acquisition of materials. Outsourcing of cataloguing is one of the popular services, especially by academic libraries. Among the popular areas of cataloguing outsources is the acquisition of cataloguing copy from vendors like Online Computer Library Center (OCLC).

In UK, outsourcing became an identifiable trend in libraries in the 1990s and was much more extensive, embracing much of the work of the library bookselling industry, Library of Congress cards, book approval plans, retro-conversion projects and computer maintenance for many years (Ball, D., Barton, D., Earl, C., and Dunk, L. 2002).

Lund (1997) found that, in the UK the university sector has been relatively slow to consider outsourcing by comparison with others such as local government, the health service, and central government. Since the early 1980s, when universities in most Commonwealth countries were faced with shrinking financial resources coupled with a need to expand their enrolments many turned to outsourcing as a way to do more with less (Ball et al, 2002). A survey by (Lund, 1997) on outsourcing in 1996 sent to 102 universities across the Commonwealth cited reasons for outsourcing as, lowering of costs at 49% as their first priority, 26% cited improving quality of service, and 13% cited containing the growth of staff. Specific functions, which respondents said had been outsourced, include building design, construction project management, cleaning, catering, and bookshops.

Bordeianu and Benaud, (1997) sees outsourcing as neither good nor bad, but another tool that library can use to improve its operations.However, several events in the mid-1990s led to growing concerns within the library profession about increasing outsourcing of library functions to a point where some librarians were concerned about the complete privatization of publicly funded libraries. These concerns led to American Library Association (ALA) establishing an Outsourcing Task force (OTF) in 1997 (Martin et al 2000).

Among the most noted cases of outsourcing reported and which raised eyebrows is the Hawaii Public Library System’s contract with Baker and Taylor to provide materials (Martin et al, 2000). Budget cuts imposed on the library led Hawaii to outsource to Taylor and Baker, which led to massive loss of 120 jobs, redeployment of 80 members of staff and the closure of 20 branch libraries. An engineering committee appointed proposed that Taylor and Baker to provide book selection services on contract basis, which would cut costs. However, the outsourcing was mismanaged and the library system did not save money as anticipated. This led ALA to constitute and fund OTF to study the impact of outsourcing in libraries (Martin et al, 2000).

Another noteworthy case reported in outsourcing is that of Baker and McKenzie as noted by Benaud and Bordeianu (1998). On 31 March 1995, Baker and McKenzie dismissed the entire library staff at the Chicago office and contracted library services to Barbara A. Schmidd, a librarian (Benaud and Bordeianu, 1998). Other libraries that completely outsourced their library management include Public Library services in Riverside County, which completely outsourced the library management to a private company citing financial problems (Benaud and Bordeianu, 1998).

Outsourcing in academic libraries has existed on moderate scale for years, but its popularity as an alternative to direct in-house services grew rapidly in the 1960s and again in the 1990s (Benaud and Bordeianu, 1998). The libraries mainly outsourced non-core services in peripheral areas such as security, maintenance and courier. In the 1970s and 1980s, some cataloguing functions began to be outsourced (Benaud and Bordeianu, 1998). Libraries contracted with vendors for the provision of retrospective conversion of records, and they began buying indexing and magazines articles from H.W Wilson Company and book cataloguing information, in card form, from Library of Congress (Martin et al, 2000). Among the noted cases was the Wright State University in 1993 where it completely closed its cataloguing department (Martin et al, 2000).

Outsourcingin document delivery, computer services and processing shelf-ready material is a useful practice in libraries. Many academic and public university libraries in UK have outsourced preservation and collection development (Ball et al, 2002). The current trend is to outsource technical services and this type of outsourcing has reached a stage where it is now replacing entire functional areas. Libraries are passing more responsibility to vendors (Ball et al, 2002).

### 1.2.2 Contextual Setting

Research on outsourcing in the Kenyan scene is relatively new. According to (Waema, 2009) Kenya is preparing itself to enter into the global and vibrant Business Process Outsourcing (BPO) and IT Enabled Services (ITES) market but lacks empirical evidence and tailored research to guide its policy decisions and investment options.Kakabadse and Kakabadse (2000) and McKinsey & Company, (2013, November)believe that the potential for outsourcing appears to be particularly high in the various sectors of the Kenyan economy such as agriculture, tourism and commerce, including service areas, due to the increased use of the Internet where organizations are outsourcing as a means of both reducing costs and achieving strategic goals. Kenya is ranked among the top in internet penetration together with Senegal,McKinsey & Company (2013, November).

IDRC Grant researchstudy conducted in June 2008-2009 (Waema,2009), revealed that there was widespread perception that Kenya lacked an effective and focused marketing as a BPO destination and was viewed as a country with challenged infrastructure, poor work culture/ethics and constraining socio-economic environment. This explained why other countries in the study, South Africa, India and Mauritius performed better compared to Kenya in BPO (Waema, 2009).

The Kenya Vision 2030 is the blueprint for the country’s development up to year 2030 whose vision aims to make Kenya a globally competitive and prosperous nation by 2030 using its three pillars namely, economic, social and political(Government of the Republic of Kenya, 2007). Business Process Outsourcing (BPO) is one of the six key sectors in the economic pillar with the vision of being the top off shoring destination in Africa. Among the vision projects for the 2008-2012 period, include establishment of a BPO park in Athi River EPZ and designing and implementing a comprehensive incentive framework to improve the attractiveness of Kenya as a BPO destination and to encourage investments in this field (Government of the Republic of Kenya, 2007).

Kenya ICT Board is a State Corporation within the Ministry of Information and Communications established as a State Corporation under the State Corporations Act 446 with the overall purpose of marketing Kenya as an ICT destination(Kenya ICT Board). In addition, Kenya ICT Board (KICTB) mission is to developoutsourcing industry in Kenya. Kenya ICT Board encourages the growth of the BPO sector by advocating substantial incentives such as bandwidth subsidy as one of the key incentives that BPO operators expect from the Government. The high cost of satellite bandwidth, makes Kenya not able to compete on fair terms with other BPO destinations globally (Kenya ICT Board and Waema,2009).

A study done by Nyaboke, Amemba, and Osoro, (2013) revealed that risk management, use of unqualified vendors and stakeholders exclusions as some of the factors affecting performance of outsourcing practice in public sectors in Kenya. Mogire and Gakure (2014) attributed factors influencing outsourcing of logistic services to reduction of operation costs and need to gain access to quality.

According to Gathara (2010), the Kenyan outsourcing industry has grown in the last few years by a massive 65 per cent between 2005 and 2009, and that BPO and off shoring sector takes up nearly half of the total addressable market for industry, less than 11 per cent of which has been exploited. The country already has local software outsourcing firms such as Vervient Ltd, which services clients from the USA to New Zealand (Gathara, 2010).

Kenya has a growing outsourcing sector with over 50 registered companies and more prospects opening up due to the fact that, in June 2009, Seacom fiber-optic undersea cables was installed, Kemibaro (2009) and Muchai and Acosta (2012). This has resulted in reduced costs, high-speed, more reliable and less expensive telecommunication connectivity to the rest of the world, making outsourcing services even more widespread.

### 1.2.3 Public universities in Kenya

Public universities are those supported financially, or funded, by the government. The Commission for University Education (CUE) has awarded them charters to operate. Universities Act 2012 provides for the development of Public university education, their establishment, accreditation and governance of universities (Commission for University Education, 2013) and (National Council of Law Reporting, 2010, 2012).

At the time of study, public universities in Kenya were seven, namely (1) University of Nairobi (UON), (2) Kenyatta University (KU), (3) Moi University (MU), (4) Jomo Kenyatta University of Agriculture and Technology (JKUAT), (5) Egerton University, (6) Maseno University, and (7) Masinde Muliro University of Science and Technology (MMUST)(Kenya Education Fund, andCommission for University Education, 2013). The table below shows the seven public universities that existed in 2012 and established through individual Acts of Parliament.

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| |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | |  | University name | Area | University status | Original name | Year established | | 1 | University of Nairobi | Nairobi | 1970 | Royal Technical College, Royal College Nairobi | 1956 | | 2 | Moi University | Eldoret | 1984 | Moi University | 1984 | | 3 | Kenyatta University | Nairobi | 1985 | Kenyatta University College | 1965 | | 4 | Egerton University | Njoro | 1988 | Egerton Farm School, Egerton Agricultural College | 1939 | | 5 | Maseno University | Maseno | 1991 | Maseno Govt. Training Institute, Siriba Teachers College | 1955 | | 6 | Jomo Kenyatta University of Agriculture and Technology | Nairobi | 1994 | Jomo Kenyatta College of Agriculture | 1981 | | 7 | Masinde Muliro University of Science and Technology | Kakamega | 2009 | Western College of Arts and Applied Sciences | 1972 |   Table 1: Public universities Created by Individual Acts by 2012  Note : adopted from (Commission for University Education, 2013) |

Individual Acts of Parliament established public universities prior to 13 December 2012. However, enactment of universities Act No. 42 of 2012establishedthe public universities and awarded charter. All individual Acts were repealed and the previous public universities re-accredited through charter award after institutional quality audits, (Commission for University Education, 2013).

The criteria for selecting the four were size, history of the university and integration ICT.

The University of Nairobi, known as the Royal Technical College at inception, was founded in 1956. The College later became the University College of Nairobi at independence in 1963, following a 1961 Act of the East African High Commission. An Act of Parliament in 1970 established University of Nairobi. Kenyatta College, then a diploma-awarding college of education, became a constituent college of the University of Nairobi under the name, Kenyatta University College (Abagi, 1995;Mackey, 1981, Eshiwani, 1990; Ojiambo, 2009, December).

The 1980s saw an unprecedented growth of public universities in Kenya. In 1981, a Presidential Working Party recommended the setting up of the second public university (Mackay, 1981). As a result, Moi University was established in 1984, with the academic mission of producing graduates specialized in technological and environmental fields.

Following the demand for university expansion, three more universities that are publicwere set up within two years. Kenyatta University became a full-fledged university in 1985, with additional faculties of arts, science, commerce and environmental science. The other was Egerton University, which acquired university status in 1987 with specialization in agriculture and environmental science. Jomo Kenyatta University College of Agriculture & Technology, previously a constituent college of Kenyatta University, was elevated to full university status in 1993. Others colleges that have since been elevated to university status include Maseno University and Masinde Muliro University of Science and Technology.

The distribution of the four public universities sampled in this study is as follows: Kenyatta University in Kahawa, (Nairobi); Moi University in Eldoret; University of Nairobi in Nairobi; and, Jomo Kenyatta University of Agriculture and Technology in Juja (Thika).

### 1.2.4 Public university libraries

Public universities libraries in Kenyan perspective have their origin and development from the history of their mother public university. Every one of them has a functional library. It is also the requirement of CUE that every university must set up a functional library based on certain stipulated standards.

Public universities libraries and the public universities share a common bond; both the educational institutions and libraries work with knowledge, each sustaining the other. While public universities spread knowledge, values and beliefs through a system of education, the libraries provide users with access to information and knowledge that is publicly accessible.

The University of Nairobi’s main library is the Jomo Kenyatta Memorial Library (JKLM) situated at the main university campus. Its mission is to provide quality information services that will empower the university in carrying out its core activities of teaching, learning, research, community services and consultancy to the highest international standard (UON, 2010). One of the objectives of the library that has bearing to this study is to provide access to a wide range of information sources through ICT, and to work with other systems to ensure their effective use and development, (UON, 2010). The University of Nairobi library system serves about 53,036 students ranging from certificate level to doctorate, and 5,347 staff members (UoN 2010).

Moi University Library, known as Margaret Thatcher Library (MTL), is in main campus in Eldoret, 310 kilometers northwest of Nairobi. The library was established in 1984 along with the university, and, as it continued to grow and expand, it finally settled within main campus (The Margaret Thatcher Library (MTL) building. The construction of the building began in November 1990, and was completed and occupied in 1994 (Moi University, 2012).

The Moi University Library’smission is to satisfy the information needs and expectations of each individual user all the time through the provision and exploitation of information resources and services. Among the library’s objectives are to acquire and manage relevant information materials and provide information services to the university community and facilitate communication and dissemination and presentation of knowledge (Moi University,2012). The library serves a student population of approximately 31,723, distributed as follows: diploma at 1,029, Government Sponsored (GSSP) at 14,545, Privately Sponsored (PSSP) at 14,306, and postgraduate students at 1,843 (MPhil at 1,577 and DPhil at 266) all undertaking programmes in various disciplines. It also serves over 3,662 staff at different levels.

Kenyatta University’s Main Library is located 16 kilometers from Nairobi City along the Nairobi-Thika Highway. The old library (Kenyatta University College Library) was the first to serve the university when it was set up as a college through the University of Nairobi Act in 1970. In 1978, the Faculty of Education transferred from the University of Nairobi to the College and in 1984 withMoi library serving the main campus. Accelerated growth of the university, saw the need to expand thelibrary to deal with the increased population. This led to building of the new “Kenyatta University Post-Modern library” completed and opened in 2012, (Kenyatta University Library, 2012). This study was conducted at the Moi Library, main campus ofKenyatta University since Post-Modern library was not operational.

Moi Library serve approximately 747 teaching staff, ranging from full Professors to Tutorial Fellows, 1,549 non-teaching staff, and a student population of approximately 30,000. The university has embarked on a rapid expansion strategy aimed at making it an excellent university and at expanding the courses that it offers. To achieve this, the university has created a solid ICT infrastructure, which includes a campus network based on fiber optic technology, gigabit access to the network for both students and staff to facilitate access to the Internet, and localized information services (Kenyatta University Library, 2012).

Jomo Kenyatta University of Agriculture and Technology (JKUAT) is locatedalong the Nairobi-Thika Highway. Its main library system is at the Juja campus. The library service provides access to a wealth of knowledge through the print collections, electronic access and a network of other libraries.

The JKUAT Library has automated its services using KOHA integrated library management system in order to provide relevant information services to meet the teaching, learning and research needs of the university. The objectives of the library include the following: to acquire and provide access to information resources in all formats for teaching, learning, research and innovation, and to strengthen collaboration and partnerships for information sharing (Jomo Kenyatta University of Agriculture and Technology, 2012).

Public university libraries provide various ICT services to their users ranging from e-resources to web-based references. Majority of the librarians lack adequate ICT skills to cope with user demands for quality services (Shibada, 2006). In order to satisfy users demand for ICT-based services, the libraries have entered into outsourcing engagements with vendors. Moreover, they have entered into joint ventures such as Kenya Library and Information Services Consortium (KLISC), a buying club, to benefit from economies of scale from the outsourced services(RotichandMunge, 2007; Otando, 2012).

## 1.3 Statement of the Problem

The advent of ICTs has revolutionized provision of services in the libraries, requiring staff with ICT skills and who are able to develop services that are in line with the current demands of the users. The modern librarian must have sufficient ICT skills in areas such as database management, web design and digitization, as well as an understanding of the application of ICT skills for the best utilization within the library service as a whole. The librarian must also be able to respond to the ever more technically sophisticated information technologies and expectations of their users in a meaningful and timely way.

ICT has revolutionized library service delivery, and users are shifting towards online information. Their expectations are rising and they are more sensitive to “soft” service. In view of the above, the librarians must be technical innovators who can develop high quality ICT services within the overall service framework to cope with the users who are no longer passive and whose expectations of the libraries’ ICT platform is high.

Unfortunately, the majority of the Kenya’s top librarians have been equipped with a traditional set of library skills centred on the acquisition, organization and preservation of print-based information sources, and the provision of retrieval and reference services. Ondari-Okemwa (2000) and Ocholla and Bothma (2007) share the view that facilities for training librarians in Kenya were inadequate and not well maintained, and that the ICT skills taught to students were more theoretical than practical. Furthermore, even those imparted with ICT knowledgemove to alternative professions, leaving a vacuum in libraries.

Moreover, the nature of the ICT services is such that constant changes occur at a faster rate requiring staff to upgrade their technical skills continuously. This leaves the existing librarians struggling to provide quality services due to inadequate technical skills. Their desire to conform to modern librarianship compels them to complement the services with outsourced information technology, especially for online content.

In addition, the university management prefers to hire the services of contracted IT vendors than engaging librarians for ICT services. ICT is prerequisite for driving the library in the right direction being the heart of the university as well as to provide users with quality services. Outsourcing ICT services brings with it enormous benefits to the library such as gaining easier access to expertise and new technological developments and cutting costs, but the outsourcing processes faces challenges such as high costs and rigid procurement laws.ICT outsourcing models in Kenya arescarcewith procedures that arefragmented. There exist no empirical studies in the area to derive policies and procedures. It is with regard to the above that this study sets out to investigate the situation of outsourcing of ICT services in public university libraries in Kenya.

## 1.4 Aim of the Study

This study aimed at investigating outsourcing ICT services inselected public university libraries in Kenya in order to develop a framework for guiding outsourcing, which will improve information service provision.

## 1.5 **Objectives of the Study**

The objectives of the study were to:

1. Examine the range of ICT services outsourced by selected public university libraries in Kenya.
2. Establish librarians’ perceptions of outsourcing ICT services in selected public university libraries in Kenya.
3. Explore the factors instigating the outsourcing of ICT services.
4. Examine the strategies employed in outsourcing ICT services in selected public university libraries in Kenya.
5. Reviewthe legal and infrastructural requirements in outsourcing ICT services.
6. Establish the challenges associated with outsourcing of ICT services in public university libraries.
7. Propose a framework for effective outsourcing of ICT services in public university libraries in Kenya.

## 1.6 Research Questions

The study was guided by the following research questions.

1. Which types of ICT services do public university libraries outsource in Kenya?
2. What are the perceptions of librarians with respect to outsourcing ICT services in public university libraries in Kenya?
3. Why do public University libraries outsource ICT services?
4. Which ICT strategies do libraries utilize and how do public university libraries outsource
5. What are the legal measures adopted by the libraries in the outsourcing of ICT services?
6. What are the opportunities, risks and challenges associated with outsourcing ICT services in public university libraries in Kenya?
7. What are the trends of outsourcing ICT services in public universities in Kenya?
8. What framework can be proposed for effective outsourcing of ICT services in Public university libraries?

## 1.7 Assumptions of the Study

The study made the following assumptions;-

1. Public universities libraries in Kenya outsource ICT services to complement services requiring technical skills and knowledge.
2. Lack of clear policies and guidelines are hampering outsourcing of ICT in public university libraries.

## 1.8 Significance of the Study

Organizations, both private and public, practice outsourcing processes differently and for various reasons. Public university libraries provide various ICT services to their users and some of them are outsourced. Outsourcing is possible from single aspects of ICT to offloading the entire business functions performed, managed by vendors away from clients’ locations, and sometimes in different countries. However, research on outsourcing in the Kenyan scene is relatively new and lacks empirical evidence and tailored research to guide policy decisions and investment options. This leaves outsourcing practitioners short of the proper “tools of trade”.

The research agenda will help generate knowledge to support a drastic reduction in the confusion surrounding the area of outsourcing. This study is significant to all those practicing outsourcing since they will apply validated theories and, in turn, more successfully manage their outsourced operations or contracts.

The study will also be of significanceto the university management, university librarians, and acquisition librarians since they are the decision-makers. It will provide them with practical approach to outsourcing designed to improve policies and practices. The research findings provides empirical findings to help librarians make validated choices to outsourcing decisions, especially ways of outsourcing, critical decisions and risks. This information should safeguard inexperienced library managers and information professional from critical mistakes, and thereby escape from a bad outsourcing experience.

The process framework will act as a practical approach to outsourcing for librarians as well as ICT directorate. Considering that, many libraries lacked documented procedures, the framework will become a model,that library can adopt to guide the outsourcing processes.

The study’s findingsare useful to key ICT and policymakers such as The Kenya Information Communication Board asKenya enters into the vibrant market of BPO.This is because the study provides empirical evidence and tailored research to guide in policy decisions, outsourcing opportunities as well as risk mitigation. The study anticipates to filling information gapsby describingthe outsourcing settings where policies require developed for implementationand alignment with ICT outsourcing.

Finally, the research has generated new findings in outsourcing andhas illuminated areas that need attention as grounds for other scholars to develop research studies.

## 1.9 Scope of the Study

The study was limited to outsourcing of ICT services in four public university libraries in Kenya. Public universities usually share similar characteristics as public funded and operated institutions. Similar laws and structures also govern public university libraries and are accountable to the Ministry of Education. The study adopted a collective or multiple case studies of four selected public universities using qualitative techniques, involving in-depth investigation of issues of outsourcing ICT services. In collective or multiple case studies, one issue of concern is studied and multiple case studies selected to illustrate it. Stake (1995) and Creswell (2007a) indicatethat when one chooses multiple cases, the issue becomes how many; hence, they recommend that one should not choose more than four or five cases. In this case, the study selected four Public universities.

The selected universities for the multiple case studies were as follows: Kenyatta University, Moi University, University of Nairobi, and Jomo Kenyatta University of Agriculture and Technology. The criteria for their selection were their history as the oldest universities, population size and their application of ICT. The major areas of concentration were ICT services that the four public universities outsourced. The study selected only four main campus libraries of each university using purposive sampling. The studywas limited to the main libraries because major policy decisions are centralized and taken at the main libraries.

The study population comprised three major categories of respondents, namely university library managers, vendors/contractors, ICT Director, and Deputy Vice Chancellors in charge of finance and administration, planning and development. The researcher actively selected the most productive sample from the above respondents to answer the research questions.

## 1.10 Delimitations of the Study

The focus of this study is the description of outsourcing ICT services from the prospect of Public University Libraries and limited to the Kenyan contest rather than larger description of outsourcing phenomenon in general. The specific nature of this scope does not allow the deep exploration of the situation as experienced by otherbusiness organizations but rather from the focus of the public university libraries. While the focus is on the overall outsourcing of ICT services in the selected public university libraries, it needs to be restated that not all the study findings may replicate the situation in other private information agencies.

While at the time of the study there were seven public universities, the study selected only four. The study used multiple case studies of the four oldest and largest public university libraries. The study excluded Egerton University, Maseno University and Masinde Muliro University based on history, size and ICT adoption.The study excludedperipheral services that universities in general outsourced for the consumption of the entire university, but paid attention to only ICT services that libraries outsourced.

This study is a case study and therefore strongly tied to the work processes of the case university libraries.The study was mainly qualitative; hence, it considered subjective views of the respondents carefully. However, due to the nature of qualitative research, bias may occur. The study tried to minimize such errors by confirming the information provided. Being a qualitative research, the same samples selected are usually small and not necessarily representative of the broader population, so it is difficult to know how far reachingare the results.

## 1.11 Operational Definitions of Terms

The study provides the following definitions to ensure uniformity and understanding of these terms throughout the study.

* **Core competencies. -** These are specific skills, knowledge, abilities or expertise in a specific subject area that bring a competitive advantage to business or individual, or is operating in an economic market. ARMA International, (2007) definesCore Competencies as the knowledge, skills, characteristics, or traits that contribute to outstanding performance in a particular profession.These competencies are important factors that improve the products produced by the company. Core competency allows an organization or individual to beat its competitors.
* **Core services.** -are those professional activities that define the profession of librarianship. These include collection development and organization; gathering and providing information; making the collection accessible to all library users; providing assistance in use of the collection; and providing oversight and management of these activities,(American Library Association,1999).
* **Information and Communication Technology (ICT). -**Islam and Islam (2006) define ICT as diverse set of technological tools and resources used to communicate and to create, disseminate, store and manage information. These diverse set of technological tools and resources help in communicating, creating, disseminating, storing and managing information that incorporates a range of technologies used to support communication and information.
* **Information services.** - are services provided to the user of a library or an information system byan agency or department responsible for providing processed or published information on specific [topics](http://www.businessdictionary.com/definition/topic.html) to an organization's internal users, its customers, or the public, (Business dictionary.com ,(2013).They consist of a variety ranging from provision of documents and user services, to guiding the user and document delivery. Their aim is to give user information.
* **Information system. -** is an integrated set of components for collecting, storing, and processing data and for delivering information, knowledge, and digital products. (Encylopedia Britannica, 2013).This discipline is concerned with the strategic managerial and operational activities involved in the gathering, processing, storing, distributing and use of information in an information centre.
* **Information technology services. -**These are services that the library provides to their customers using computers and telecommunication cables. They may include information searches and retrieval, reference, circulation, on-line contents, and databases.
* **In sourcing.** This is where a department within an organization arranges to have work done by staff from other departments that are experts in that area. There may or may not be any remuneration given in exchange for the work done. In-sourcing uses internal staff to perform certain activities within the organization, (Khalfan and Gough 2002).
* **Library.** Thisisa collection of books,and other written and printed materials as well as electronic information. It also includes the facility in which information resources arehoused and the institution that is responsible for their maintenance. A library may contain a wide range of materials, including manuscripts and pamphlets, posters, photographs, motion pictures and videotapes, sound recordings and computer databases in various forms as well as digital content.
* **Outsourcer. -**This is the outside agency or vendor that provides the outsourced services.A company that procures some of its goods or services from other specialized companies is an outsourcer, ( Merriam-Webster Dictionary Inc, 2013).
* **Outsourcing. -**An arrangement in which the library hires people from outside the library to do library work at a fee. Outsourcing is the transfer of an internal service or function to an outside vendor, (Bordeianu and Benaud (1997). It is the procuring of services or products from an outside supplier or manufacturer rather than having the services provided by an in-house facility. Libraries outsource such services as acquisition, security, cataloguing and indexing; they do that mainly to cut costs and concentrate on their key competency**.**
* **Peripheral services. -** Activities connected to a computer but not an essential part of it,(Merriam-Webster Dictionary Inc, 2013).These are library activities that are not part of the essential library services, but are situated relatively close and support the essential services; for example, staff training, bookbinding, book transportation and shelving, security and cleaning.
* **Privatization. –**Privatization is the shifting of policymaking and management of library services or the responsibility for the performance of core library services in their entirety, from the public to the private sector,(Martin et al, 2000).
* **Public university library.**-This library caters specifically for the staff and students of a university publicly funded by the state.
* **Public university. -**Thisisan institution of higher education and research, which grants academic degrees in a variety of subjects and is predominantly funded by the government or state through public means.

**Public. -**A group of people having common interests or characteristics and specifically the group at which a particular activity or enterprise aims (Merriam-Webster Dictionary Inc. (2013). Community or communal services or utility that is open to all citizens of a country without restriction.

**1.12 Chapter Summary**

This chapter has shown that libraries have outsourced services as early as 1901 when Library of Congress began mass-producing catalogue cards and providing them to other libraries. Public University libraries in Kenya outsource as a way of securing critical ICT services that they lack since University libraries’ competitiveness relies heavily on effective and efficient use of ICT for supporting research and education. Empirical studies such as that done by Ball et al (2000) and Martin et al (1997) have shown that properly practiced ICT outsourcing increases a university's libraries productivity but can have disastrous outcome if poorly managed. Research on outsourcing in the Kenyan libraries is limited and consists of opinion pieces commenting on the pros and cons of outsourcing.This calls for empirical evidence and tailored research to guide decisions in ICT outsourcing. This study is an investigated of ICT outsourcing services by public university libraries in Kenya with the view of developing a framework for outsourcing processes. The study’s’ contribution is to knowledge input and reference material to support the body of knowledge surrounding the area of outsourcing as well as become a practical approach to outsourcing ICT services processes.

# CHAPTER TWO

# THEORETICAL FRAMEWORK AND LITERATURE REVIEW

## 2.1 Introduction

Any new research depends on the past knowledge. Literature review helps in directing the focus of research and discusses published information in a particular subject area, within a certain period. A well-reviewed literature establishes creditability of the study; hence, the researchers can get the entire benefit of their work (Leary, 2004).

This chapter reviews some of the literature in the area of outsourcing information services. The review not only gives an insight into the various studies done by others, but it also purposes to increase knowledge in the area of outsourcing. Being a qualitative study, the literature review will be exploratory because not much literature on the ICT outsourcing inpublic university libraries in Kenya exists. It will also provide readers with background information to understanding current knowledge on outsourcing and illuminate the significance for this study.

The importance of including literature review in this study was to provide new ideas as well as sharing what other studies closely related in the area of outsourcing have unearthed. According to (Creswell, 2007b) literature review provides a framework for establishing the importance of the study as well as a benchmark for comparing the results with other findings.

A review of the literature revealed that many theoretical concepts of outsourcing in relation to libraries are not well developed. Moreover, there lacks empirical evidence in Kenya tailored to guiding ICT outsourcing policy decisions. There is very little research reported on outsourcing in Kenya, and the literature available is mainly on other areas, especially on telecommunication providers; hence, the need for this study to investigate ICT outsourcing practices in libraries in Kenya. Considering the budget pressures universities face, outsourcing ICT in libraries is an economical alternative to costly in-house development of the services.

## 2.2 Theoretical Framework

Theory is a set of interrelated constructs/variables, definitions and propositions that present a systematic view of a phenomenon by specifying relations among variables with the purpose of explaining natural phenomena,(Kerlinger, 1970). Gill and Johnston (2002) view theories as a means by which expectations about the world are generated, often derived from what is perceived to have happened before; thus, they influence about the future interactions with the world.

According to Sekaran (2003), theoretical framework is a conceptual model of how one theorizes or makes logical sense of the relationships among several factors identified as important to the problem. It is a theoretical rationale, which specifies how and why variables and relational statements are interrelated. It discusses the interrelationships among the variables deemed integral to the dynamics of the situation investigated, and attempts to make sense out of what is known concerning a given phenomenon (Kerlinger, 1970). Kombo and Tromp (2006) view theoretical framework as a systematic explanation of relation among phenomena. It provides a generalized explanation of an occurrence, accounts for, and explains phenomena. It attempts to clarify why things are the way they are, based on the theories.

IS/IT outsourcing studies have utilized several theories and theoretical constructs from across various disciplines such as management, business, finance, marketing and information systems. Among the theories used are Mum Effect, Knowledge-based Theory of the Firm, Contract Theory, Social Exchange Theory, Resource Dependency Theory and Transaction Cost Theory. Mum Effect addresses the risk arising from project members’ reluctance to report negative information. Researchers such as Sajeev and Ramingwong (2007) used the theory to investigate the cultural factors contributing to risks in offshore outsourcing.

The Knowledge-based Theory of the Firm considers knowledge as the most strategically significant resource of a firm. Its proponents, Wemerfelt (1984), Barney (1991) and Conner, (1991), argue that knowledge-based resources are usually difficult to imitate and are socially complex. As a result, heterogeneous knowledge bases and capabilities among firms are the major determinants of sustained competitive advantage and superior corporate performance.

Multiple entities, such as organizational culture and identity, policies, routines, documents, systems and employees embed and carry knowledge. Originating from the strategic management literature, this perspective builds upon and extends the Resource-Based-View of the firm (RBV) initially promoted by Penrose (1959) and later expanded by others such as Wemerfelt (1984), Barney (1991) and Conner (1991). Studies that have used the theory include Alavi and Leidner (2001).

Contract Theory studies how economic actors can and do construct contractual arrangements, generally in the presence of asymmetric information. Contract theory belongs within the field of law and economics (Salanie, 1997). One of the areas of its prominent application is the design of optimal schemes of managerial compensation. Its proponents include Oliver and John (1988), and Bernard and Pierre-Andrew (2000).

Social Exchange Theory proposes that social behaviour is the result of an exchange process. The purpose of this exchange is to maximize benefits and minimize costs. According to this theory, people weigh the potential benefits and risks of social relationships. When the risks outweigh the rewards, people will terminate or abandon that relationship. Studies that have used this theory include Homans (1958), Emerson (1962) and Blau (1964).

Other studies done on outsourcing have drawn their study on Transaction Cost Theory (TCT) put forward by Williamson (1975) such as the work of Ang and Cummings (1997), Barthélemy (2001), Grover, Cheon and Teng (1996), and Lacity and Willcocks (1995). TCT tries to explain the reasons that determine why firms produce specific goods or services internally or contract them outside through a market transaction.

This study draws upon theoretical approach provided by Pfeffer and Salancik (2003), Resource Dependency Theory (RDT) and TCT put forward by Coarse (1937) and modified by Williamson (1985).

### 2.2.1 Resource Dependency Theory (RDT)

The procurement of external resources is an important tenet of both the strategic and tactical management of any company. RDT, developed in the 1970s by Pfeffer & Salancik (1978) and modified by Pfeffer & Salancik (2003), has implications regarding the way libraries outsource their services to outside contractors to fill in gaps in the systems.

The basic argument of RDT is that- organizations are dependent on resources that originate from their environment. The environment contains other organizations with resources that one organization needs and therefore places an organization without those resources in the hands of organizations with those resources. This gives organizations with resources power over those without resources, making legally independent organizations become dependent on others.

RDT theorizes that resource supply is contingent on the complexity, dynamism and richness of the environment. A poor environment faces scarce resources. The theory proposes that an organization’s goal is to minimize its reliance on other organizations for the supply of scarce resources. Thus, according to Pfeffer (1978), two facets of resource dependence must be managed; that is, one, an organization must exert influence to get resources and; two, it must respond to the needs and demands of others in its environment.Since organizations are not self-reliant or autonomous, they rely on the environment to provide support and in the process;they interact with others in the environment.

Dependence is contingent on two factors, namely how essential the input is to survival, and the degree to which others control the resource. An organization is more dependent if the resource is critical to its survival and tightly controlled. One central hypothesis in RDT, according to Pfeffer and Salancik (2003: 44), is that “Whoever controls resources has the power over those actors who need these resources”.Organizations work towards two related objectives: acquiring control over resources that minimize their dependence on other organizations; and, control over resources that maximize the dependence of other organizations on themselves, (Pfeffer and Salancik, 1978). Figure 1 illustrates RDT in relation to outsourcing in libraries.

|  |
| --- |
| ***Resource dependency model***Description: Diagramofdependencytheory  *Adopted from Lensic (1984,p.53)* |

Figure 1: Resource Dependency Model

The environment consists of various scarce resources and the public university libraries may not have these resources. Vendors have resources from the environment that they control; they extract resources from the periphery and eventually return those resources as services or goods. Thus, vendors maintain their superiority over the libraries, while libraries try to decrease their dependency on vendors limiting their power over them. The main dependent constructs or factors is power of one organization upon another, while the main independent construct(s) or factor(s) are the resources.

Pfeffer (1981) defines organizational success as organizations maximizing their power. RDT characterize the links among organizations as a set of power relations based on exchange of resources. RDT proposes that actors lacking in essential resources will seek to establish relationships with (i.e., be dependent upon) others in order to obtain the needed resources. In addition, organizations attempt to alter their dependence relationships by minimizing their own dependence or by increasing the dependence of other organizations on them. Within this perspective, organizations are coalitions asserting their structure and patterns of behaviour to acquire and maintain needed external resources. Acquiring the external resources needed by an organization comes by decreasing the organization’s dependence on others and/or by increasing other’s dependency on it (Casciaro and Piskorski, 2005).

A particular resource may only constitute a very small part of total resource needs or costs, but it is critical if missing that resource endangers the ability of the organization to function. Therefore, RDT makes assumptions about actors and their relation to the environment, first, in formulating, solving complex problems and in processing information, the organizations considers the rationality, and second, organizations strive to reduce or avoid uncertainty. According to Pfeffer and Salancik (2003:67), “Uncertainty refers to the degree to which future states of the world cannot be anticipated and accurately predicted”. If one organization exists with a vast reserve of resources, this reduces the dependency on and conflicts with other actors. Concentration of resources means above all concentration of power. The fewer the number of resources, the higher the concentration of power in the environment, and the more numerous the connections between actors (i.e. complexity). Problems arise in the case of high uncertainty and dependency on specific resources.

Management, according to RDT, plays a significant part. Subjective perceptions and interpretations of the environment influence decisions and actions that management make. Pfeffer and Salancik (2003: 13) purport that, organizational environments are not given realities; they are created through a process of attention and interpretation. There is no way of knowing about the environment except by interpreting ambiguous events, it is important to understand how organizations come to construct perceptions of reality.

RDT is relevant to this study as it provides useful insight into why public university libraries outsource certain ICT services. First, RDT holds that public university libraries’ lack of certain resources makes them outsource as a way to fill gaps. Public university libraries are not self- sufficient in all that they need to provide quality ICT services to the users. Secondly, RDT proposes that public university libraries lacking in essential resources will seek to establish relationships with (i.e., be dependent upon) others in order to obtain needed resources. This helps to explain measures that libraries adopt in order to reduce overdependence on the vendors for ICT services that are critical.

Public university libraries try to minimize their own dependence on vendors’ relationships by taking various options, such as entering into joint ventures and other inter-organizational relations and appointment of boards of directors. Thus, as Pfeffer (1981) asserts, organizational success in RDT is organizations maximizing their power. Furthermore, the outsourcing decision is normally a managerial one and therefore RTD explains how managerial decisions affect resource accumulation and the direction of library growth as well as resource utilization by using outsourcing strategy to supplement their efforts in providing services.

### 2.2.3 Transaction Cost Theory (TCT)

Ronald Coase developed TCT in 1932 but, arguably, transaction cost reasoning became most widely known through Williamson’s *Transaction Cost Economics* (1981: 85). Ronald Coase coined the term “transaction cost” to develop a theoretical framework for predicting when firms would perform certain economic tasks, or performed on the market. Today, transaction cost economics explain a number of different behaviours’ including outsourcing. Often this involves considering as “transactions” not only the obvious cases of buying and selling, but also day-to-day emotional interactions and informal gift exchanges.

Outsourcing starts when an organization evaluates whether it is cheaper to produce required infrastructure services internally or to buy them externally. Williamson (1979: 85: 2002) calls the ‘in-source’ decision the choice of hierarchical governance and the ‘outsource’ decision the choice of market governance. Markets offer scale economies, and hence lower production costs than hierarchical governance.

Transaction is a process of exchange, which consists of contact, contract and control phases (Nooteboom, 1993). Nooteboom continues to say that, in outsourcing, vendor search causes contact costs, the drafting, negotiating and safeguarding of an outsourcing agreement, which creates contract costs. Control costs occur during the outsourcing process; for example, when changes to the contract or an additional governance structure are established. Thus, transaction cost refers to the cost of providing for some good or service through the market rather than having it provided from within the firm.

In order to carry out a market transaction it is necessary to among others;-discover who it is that one wishes to deal with and to conduct negotiations leading up to a bargain. In addition, it is necessary to draw up the contractby establishing policies, enforcement and bargaining costs, undertake the inspection needed to make sure that the terms of contract areobserved. Coase (1932) contends that, without taking into account transaction costs it is impossible to understand properly the working of the economic system and have a sound basis for establishing an economic policy. In order for an organization to be as efficient as possible, organizations must match the governance structure (contract) to the attributes of the transaction.

TCT has facilitated an analysis of the comparative costs of planning, adapting and monitoring task completion under alternative governance structures (Williamson, 1985: 2). The unit of analysis in the theory is a transaction, which “occurs when a good or service is transferred across a technologically separate interface” (Williamson, 1985: 1), according to whom transactions costs arise for ex-ante reasons (drafting, negotiating and safeguarding agreements between the parties to a transaction) and ex-post reasons (mal-adaption, haggling, establishment, operational and bonding costs). There are also significant transaction costs, such as search costs, contracting costs and coordination costs, (Ang and Cummings, 1997). Those costs frequently determine whether a company uses internal or external resources for products or services.

Decision-makers must weigh up the production and transaction costs associated with executing a transaction within their firms (in-sourcing) versus the production and transaction costs associated with executing the transaction in the market (outsourcing). If they choose to use the market, they must then determine the appropriate type of contract to use.

Williamson (1985) asserts that there are two human and three environmental factors that lead to transactions costs arising. The human factors include bounded rationality and opportunism. Bounded rationality occurs since humans are unlikely to have the abilities or resources to consider every state-contingent outcome associated with a transaction that might arise. Opportunism refers to situations where humans will act to further their own self-interests.

The three environmental factors are uncertainty, frequency and asset specificity. Uncertaintyrefers toemergence of lack of information due to technological development or unpredictable business needs thus affecting the ability of parties to define the range of future contingencies within contracts. According to Williamson (1985), uncertainty affects behavioural attributes. People tend to make rational decisions to maximize their utility, but due to the scarcity or cost of information, and to limited human information processing capacity, they settle for bounded rationality. Williamson (1985) contends that situations with high uncertainty increases opportunism and signing appropriate contracts can reduce opportunism. All market contracts are incomplete; hence, Williamson (1985) proposes three types of contract, namely classical contract law, neoclassical contract law and relational contracting.

Classical contract law with market governance emphasizes rules and formal documents. The aim is to cover all relevant and future contingencies as literally as possible. Still, certain clauses need modification as time passes. If multiple changes are expected and asset specificity increases, Williamson suggests the use of neoclassical contract law and trilateral governance. Neoclassical contracting law treats future changes within the original classical contract, whereas relational contracting (bilateral governance) evolve over time. The focus is on trust and on the relationship between the parties.

Frequency is the number of times organizations make transactions divided into occasional and recurrent. The main role of frequency is to balance transaction costs. If a service is rarely used, there is no reason to spend too much time in contract negotiations. If only a small number of players exist in a marketplace, a party to a transaction may have difficulty disciplining the other parties to the transaction via the possibility of withdrawal and use of alternative players in the marketplace. According to Hart and Moore (1988), infrequent transactions increase the likelihood of opportunistic behaviour in later periods by reducing the threat of retribution. In situations where broader market reputations are at stake, infrequent transactions may be sustainable. However, even long-term contracts often do not provide sufficient adaptation mechanisms, and inflexibility may actually induce hold-up. Settings in which opportunistic behaviour is likely to occur include where transactions costs offset production cost, advantages of the external supplier or where the firm subsumes the activity – an outcome termed vertical integration or in-sourcing.

Asset specificity is the value attached toa particular asset supporting thetransaction. The party who has invested in the asset will incur a loss if the party who has not invested withdraws from the transaction. The possibility (threat) of this party acting opportunistically leads to the so-called “hold-up” problem. Asset specificity categories are non-specific, mixed and idiosyncratic. According to TCT, standard services are easier to transfer to vendors and offer better re-usability for vendors with their other customers. Such services, according to Williamson’s framework, favour outsourcing (market governance) regardless of how often services are used (frequency).

Williamson argues that the three dimensions of a transaction affect the type of governance structure chosen for the transaction: asset specificity, uncertainty and frequency*.* As asset specificity and uncertainty increase, the risk of opportunism increases. Thus, decision-makers are more likely to choose a hierarchical (firm-based) governance structure. As frequency increases, the comparative advantage of using market governance structures decreases because the costs of hierarchical governance structures amortize across more instances of the transaction.

TCT tries to explain the reasons that would determine why libraries outsource ICT services through market transaction while in sourcing other services. Outsourcing of ICT services is the abdication of the ICT service development, application or maintenance to an ICT provider as opposed to internal development and maintenance of the same. TCT assumes that public university libraries must consider whether to buy or develop the ICT services. If the library decides to outsource ICT services then the argument of TCT is that ICT outsourcing (buying) must incur certain costs. Therefore, ICT outsourcing consideration is on the ICT outsourcing transaction cost being less than costs of developing the service internally.

However drawing on TCT’s postulates, *bounded rationality* (inabilities for human to consider every state-contingent outcome associated with a transaction that might arise) and *opportunism* (situations where humans will act to further their own self-interests) ICT outsourcing is not without flaws. For instance, the librarian’s inability to process all information required in the ICT outsourcing (such as negotiating contracts) may lead to entering into ICT outsourcing contracts surrounded with high levels of uncertainty. In addition, lack of disclosure of all relevant information about the ICT service may be a case of opportunistic behaviour by the vendor. As Williamson (1989) upholds, opportunism is more than the simple defense of one’s interest or value maximization and it is self-interest seeking with guile. Opportunism and bounded rationality, according to TCT, result in information lop-sidedness between the client and vendor, hence adding to transaction costs.

Other factors that add to transaction costs are the environmental uncertainty. The level of uncertainty is the major deterrent to outsource ICT operation activities (Aubert, Rivard and Patry, 2004). ICT outsourcing is a new area that many libraries are just venturing. Lack of information may emerge from technological development or unpredictable business needs. This may affect the ability of parties to define the range of future contingencies within contracts affecting the behaviour of clients during transactions (Dibbern, 2004). Besides, ICT outsourcing requires the vendor or the client to invest heavily on assets. Thus, the party who has invested in the asset will incur a loss if the party who has not invested withdraws from the transaction.

The possibility (threat) of the party who has invested in the asset acting opportunistically leads to bottleneck in outsourcing engagement. Environmental uncertainty may also be compounded with technology-driven uncertainty (extent to which the required technical functions or features of the outsourced application may be changed over time) which may also be a cause of added transaction costs (Dibbern, 2004). Outsourcing decision is a realistic decision made by libraries that have considered transaction-related factors such as asset specificity, environmental uncertainty and other types of transaction costs (Ang and Straub, 1998).Transaction costs will only conclude effectively when the participating parties have the necessary information to enable them logically access ICT outsourcing transaction.

### 2.2.4 Integration of RDT and TCT

TCT and RDT are applicable to this study. According to RDT, libraries comprise internal and external coalitions that emerge from social exchanges formed to influence and control behaviour. The environment contains scarce and valued resources essential to organizational survival; hence, the environment poses the problem of library facing uncertainty in resource acquisition. Libraries develop specific resources and then renew them to respond and adapt to shifts in the changing environment. University libraries are as persistent structures of order under constant interaction with an uncertain environment of turbulence and a multitude of competing interests. Thus, RTD tries to explain why libraries outsource some of their functions.

RDT considers outsourcing of some of the library functions as a strategic decision taken by libraries to fill gaps in their resources and capabilities (Grover *et al.*, 1995). Libraries outsource due to budget limitations, lack of adequate staff, limited technical skills and competing information providers. However, in the process of outsourcing, those who control the resources required by libraries, influence libraries (Pfeffer and Salancik, 2003).The best option is for a library to choose the least-constraining device to govern relations with the exchange partners that will allow the library to minimize uncertainty and dependence and maximize its autonomy. To do that the library must exert influence to get resources and respond to the needs and demands of others in its environment especially the users to provide effective services. Usually libraries try to understand which resources are critical by weighting certain actions.

On another side, TCT expands RDT by suggesting that a library has to consider options of whether to in source or outsource by assessing the transaction costs. According to TCT, transaction costs arise because complete contracting is often impossible due to lack of information, uncertainty and frequency. Incomplete contracts give rise to subsequent renegotiations when the balance of power between the transacting parties shifts (Williamson, 1979). Transaction costs increase due to the necessity of investments in durable, specific assets, infrequency of transacting, task complexity and uncertainty, difficulty in measuring task performance, and interdependencies with other transactions.

The sourcing decision is a rational decision made by firms that have considered transaction related factors such as asset specificity, environmental uncertainty, and other types of transaction costs (Ang and Straub, 1998). Whenever an organization conducts an activity under conditions of high uncertainty, or whenever an activity requires specific assets, transaction costs, the costs of writing, monitoring and enforcing contracts, are likely to be high.

Decision-makers, according to TCT, must weigh up the production and transaction costs associated with executing a transaction within their firms (in sourcing) versus the production and transaction costs associated with executing the transaction in the market (outsourcing). If they choose to use the market, they must then determine the appropriate type of contract to use. Libraries are heterogeneous, and the bundles of resources available to each library are different. This is because libraries have different initial resource endowments and because managerial decisions affect resource accumulation and the direction of library growth as well as resource utilization (Løwendahl, 2000).

RDT holds that libraries lacking certain resources outsource to fill gaps within a system among other reasons. Thus, legally independent organizations, such as libraries, can be dependent on others. In order to generate sustainable competitive advantage, a resource must provide economic value and must be presently scarce, difficult to imitate, non-substitutable, and not readily obtainable in factor markets for it to be outsourced.

## 2.3 Concept of Outsourcing

Outsourcing is a management approach that allows delegating operational responsibility to an external agent for processes or services previously delivered by an enterprise.Authors such as Quinn (2000), Sharpe (1997), Rajabzadeh (2008), and Grover, Cheon and Teng, (1994), view outsourcing as a form of predetermined external provision with another enterprise for the delivery of goods and/or services that could previously have been offered in-house. It is the procuring of services or products from an outside supplier or manufacturer rather than having them provided by in-house facilities. In service organizations, this process usually involves the transfer of operational control to the suppliers.

Alsudairi and Dwivedi (2010), point there is a high degree of evolution and differentiation in outsourcing practices as evident in the variants terms to “outsourcing” that are in use such as contracting out, selective sourcing, back sourcing, international outsourcing, foreign outsourcing, smart sourcing, goal sourcing, and open sourcing. Outsourcing is different from privatization and in sourcing. Privatization involves particular functions of public institutions being transferred to the private sector (Khalfan and Gough, 2002) while in sourcing uses internal staff to perform certain activities within the organization. Organizations see outsourcing as a way of ensuring that the processes outsourced helps to fulfill the institution's mission and long-term goals and objectives. In this respect, the college or university library in question may be contracting out services such as cleaning and security to supplement its activities.

The rapid technological advancement, evolution of Internet, and the availability and adoption of broadband networks has enabled even small and medium enterprises (SMEs) to implement outsourcing strategy (OECD, 2008). Organizations practice outsourcing for wide range of reasons such as to cut costs, to bring in skilled and competent work force and to gain competitive edge over other organizations.

Outsourcing practice dates back to 18th century England. It has been in continuous use in numerous industry sectors since it received impetus in the latter half of the 1980s and 1990s in the emerging service sector (Handfied, 2006). The 20th century business ventures saw the emergence of large integrated companies that could own and directly control their assets with a large workforce. In the 1950s and 1960s, they diversified to broaden corporate bases and take advantage of economies of scale by outsourcing some of their services. Organizations attempting to compete globally in the 1970s and 1980s developed a new strategy of focusing on their core business, which required identifying critical processes and deciding on those that could be outsourced (Handfield, 2006). However, according to Mullin (1996), outsourcing wasidentified formally as a business strategy in 1989 when companies used external suppliers for auxiliary services and later support services were outsourced.

In the 1990s, as organizations began to focus more on cost-saving measures, outsourcing of non-core business (e.g., human resources management, data processing, internal mail distribution, security, plant maintenance, etc.) become the norm for the purpose of saving costs and improving their finances. The current stage in the evolution of outsourcing is the development of strategic partnerships.

Third party outsourcing involvement in IT trace back to the 1960s in the USA. The landmark Eastman Kodak’s decision to outsource its IT to an IBM subsidiary in 1989 was one of the landmark cases in outsourcing that caught the world’s attention (Lonsdale and Cox, 2000). Other companies soon followed, including Continental, Enron, American Standard, National Car Rental, and Copperweld (Lacity and Hirschheim, 1993b). Since then, outsourcing trend has moved into the world of IT, data transcription and call centre operations (Alsudairi and Dwivedi, 2010).

Lankford and Parsa (1999) purports that libraries can no longer assume that all organizational services must be provided and managed internally. When outside suppliers produce products or services, more effectively and efficiently, they gain competitive advantage. Outsourcing utilizes external suppliers to satisfy and supplement any of a company's capital requirements including material, labour, plant and equipment. Rajabzadeh, Asghar and Hosseini (2008) view outsourcing as encompassing every resource acquisition decision. Outsourcing occurs when a business entity takes work traditionally performed internally and contracts it to an external provider for the provision of that work. Gupta, Herath and Mikouiza (2005) feels that while outsourcing was mainly concentrated in the information technology areas, it has now reached the so-called “white collar” realm of the company and any function could hypothetically be outsourced.

ICT has permeated all areas of human development and a technology used in almost all business and public-owned organizations. In recent years, public sector have used ICT outsourcing increasingly as a policy instrument for changing the way publicly funded services are provided (Khalfan and Gough, 2002). Libraries have embraced ICT to perform many of the ICT activities. Therefore, ICT activities are among areas outsourced in university and other types of libraries.

According to Lacity and Hirschheim (1995) IT outsourcing refers to the “… third-party management of IS assets, people and/or activities required to meet pre-specified performance levels” and includes the operating of data centres’, network and communication management, systems development and maintenance, and training.

In conclusion, outsourcing allows libraries to contract with an external organization to provide a traditional library functions or services. The contractor then either takes over the employees of the library or replaces the institutions’ employees with its own staff.

## 2.4 Outsourcing Practices in Kenya

In recent years, advances in ICT have revolutionized the way libraries and companies in Kenya conduct business. Outsourcing of business processes is one of the key outcomes of the technological advancement. Outsourcing practices in Kenya is relatively new compared to other countries, yet the potential is high as indicated by various studies such as, (Wausi, 2000,Mugendi and Ngwenyi, 2003).Increased use of Internet (Kakabadse and Kakabadse), further enhances outsourcing a means of both reducing costs and achieving strategic goals.

A study done by Barako and Gatere (2008) using descriptive analysis of the Kenyan banks found that, in Kenya, there is a significant rise in outsourcing activities especially in the banking sector. The study indicated that Automated Teller Machine (ATM) services are the most outsourced function in the sector, while customer account processing is the least outsourced function**.** Surprisingly, in a survey conducted by the Central Bank of Kenya (CBK), it was found that a number of financial institutions have no risk management frameworks for outsourcing **(**Barako and Gatere, 2008). In addition, there is currently no regulatory guideline on outsourcing **(**Barako and Gatere, 2008).

Kenya has a growing outsourcing sector with over 50 registered companies that are operational, with more prospects showing. This is because the country installed Seacom fiber-optic undersea cables in June 2009. According to Kemibaro (2009), this has resulted in reduced costs, high-speed, more reliable and less expensive telecommunication connectivity to the rest of the world, making outsourcing services even more widespread.

In 2003, the Government of Kenya (GOK) began to implement reforms to address inefficiency in the use of public resources and weak institutions of governance. The reforms included legislation such as the Financial Management Act, 2004, and the Public Procurement and Disposal Act, 2005. An Independent Procurement Review conducted jointly by the Government of Kenya and the European Union in 2005 identified several critical problems with Kenya’s procurement system, (Njuguna,n.d). The review found weak oversight institutions, a lack of transparency, poor linkages between procurements and expenditures, delays and inefficiencies, and poor records management. In effect, GOK enacted the Public Procurement and Disposal Act and created the Public Procurement Oversight Authority (PPOA). The Procurement and Disposal Bill, 2005, introduced some major changes in the Public Procurement System. Some of the changes introduced include the setting up Public Procurement Oversight Authority, establishing an Advisory Board to advise the Authority, barring public servants from participating in the tendering while still in office, maintaining the “Public Procurement Administrative Review Board”, providing for sanction to serve as a deterrent to those who breach the law, and regulating security procurement (NCLR, 2010).

Outsourcing studies in Kenya are not as advanced as in countries like USA, UK, South Korea and Australia, which have recorded the largest amount of published literature as revealed by a study conducted by Alsudari and Dwivedi (2010). Although there is little documented literature on outsourcing in other sectors such as business enterprises, there is almost no documented literature in libraries and information centres. Therefore, it is worth exploring outsourcing practices in libraries.

## 2.5 Range of Outsourced Services in Libraries

Kemibaro (2009), Lawes (1994), Willett (1998) and Lacity, Willcocks and Rottma(2008) consider outsourcing as generally broken down into two distinct focus areas, namely Business Process Outsourcing (BPO) and Knowledge Process Outsourcing (KPO). BPO involves contracting of operations and responsibilities of a specific business functions to a third-party service provider. Examples of BPO services include IT systems management, multimedia and animation, bookkeeping and financial services, business consulting, computer assisted design, call centres, data entry, desktop publishing, typesetting, handwriting services, human resources services, Internet marketing, legal services, medical billing, proofreading, editing, software and technology, transcription, web design, web development, writing and translation.

Knowledge Process Outsourcing (KPO) is outsourcing knowledge-related and information-related work by workers in a different company or by a subsidiary of the same organization. Examples of KPO services include knowledge processing services, intellectual property research, animation and simulation services, data research and analytics, litigation services, medical content and services, and database development services.

The most commonly outsourced activities in colleges and universities libraries include janitorial services, bookstores and security. In recent years,organizations have also outsourced cost-cutting support services such as IT, ventilating and air conditioning maintenance, document delivery, maintenance, printing, security and employee training. However, financial pressures have led many institutions to outsource additional campus functions such as facility management, and administrative services such as payroll (Miles, 1996; Gupta et al., 2005; Glikman et al., 2007).

In university libraries, early-outsourced functions were simple activities such as security and janitorial services, but outsourcing has progressed to include many “higher order” functions such as finance, and even product development and design (Lankford and Parsa, 1999). Hypothetically, any function could be outsourced as observed by (Mohammed, 2005) who envisions “virtual enterprises” existing as a network of partners and allies, each a specialist in their respective areas, reliant on each other for the provision of all essential functions.

Wendy, Currie and Seltsikas (2003) claim that the growth in outsourcing is not limited to volume alone. The scope of functions outsourced in university libraries is enlarging as well. The subscription service is a classic among the favourite means of outsourcing in information centre’s (Petry-Eberle and Bieg, 2009).

Expansion of online resources on offer through libraries and the demand for printed literature within the libraries has markedly decreased. This has led to the idea of establishing a lead supplier for all printed materials as viewed by Petry-Eberle and Bieg (2009) who argue that the new step in the outsourcing process has the goal of increasing the efficiency of the acquisition of specialist literature, currently distributed among several suppliers, through “single sourcing”. The external agency takes care of all book acquisitions as well as the document delivery process as “lead supplier” and as a form of literature acquisition (Petry-Eberle and Bieg, 2009). Thus, libraries acquire online external content resources through a single source by purchasing online content (Petry-Eberle and Bieg, 2009).

According to Ebbinghouse (2002),services outsourced in public university libraries are binding, cataloguing, database design and management, data recovery, disaster recovery, document delivery, indexing, library relocation, microfilming, network management, photocopying services, printing services, records management, research, retrospective conversion, thesaurus development, and web page design and hosting. Ugah,(2010) indicates that most academic libraries outsource indexing and abstracting, photocopying, book repair, and production of book pockets, book cards, borrowers’ tickets and catalogue cards. Outsourcing cataloguing can be a temporary measure to deal with backlogs.

Where libraries have integrated ICT, especially data centre and network management, outsourced functions include application development, PC support, Internet development and support, and enterprise resource planning (ERP) integration. A study done by Claver et al. (2002) to find out what areas are outsourced in IS and involving survey of heads of IS from 47 Spanish public universities revealed that hardware maintenance, followed by programming, software maintenance, applications analysis and staff and/or user training, are the most often outsourced activities. However, external providers did not contract services such as systems implementation, network services, and support to end users, security and system operations.

Libraries and information centre’s contract out by using professional teams engaged temporary and let go according to need or temporary staff that again are dismissed according to need (Lawes, 1994). According to Lawes (1994),contractors in library and information include those specialized in information service companies. They have their market, libraries, information services and records departments, and they normally specialize in areas such as consultancy, training and recruitment. Library and information specialists frequently staff the organizations many of whom are of very high quality, particularly where they are involved in consultancy. Others include specialist suppliersto the library information market dealing with the book or journal trade and acquisitions previously done by libraries.

Global outsourcing via ASP,whose origin iswith the recent development in telecommunications technologies and the phenomenal growth of the Internet in the business world, has become a viable option to many organizations (Kern, Kreijger and Willcocks, 2002). It involves delivering and managing applications and computer services from remote data centresto multiple users via the Internet”. Contracted ASP or rented wholesale service provider own the data centres (Turner, 2000; Soliman, 2003).Data centresinclude providers such as INASP, EBSCO and HINARI.

Facilities management (FM) companies provide a whole range of services to mainly large companies and similar organizations such as IT and fleet maintenance. They have great strengths in handling of staff, financial aspects and tendering process. Management consultants such as PriceWaterHouseManagement Consultants (now PriceWaterhouseCoopers) usually perform management consultancy in areas such as accountancy, knowledge management, ICT, auditing and sourcing staff for organizations, Gable, G. (2003).

Many of the records storage companies see themselves as being in the field of document management. They include storage companies such as British Data Management. Many have diversified into consultancy, and there have been extensive improvements to indexing and retrieval systems, with the aid of computerization over the last few years, (Rowley, 2000). These companies are obtaining contracts to manage a company′s records as well as to provide off-site storage. Since records departments, libraries and information departments are often part of the same grouping within a company, storage companies are therefore beginning to bid for library information services, bidding for a contract within which is included the information service such as Xerox who bid for the reprographics and document management systems within a company.

Lacity and Hirschheim (1993a) have categorized outsourced services from three main areas, including body shop outsourcing. This company provides temporary workers on a contract basis to other companies. ICT body shopping originated during 1996-1999 when huge demand for people with mainframe, COBOL and related technology skills and organizations needed staff to prevent Y2K bug affecting the systems. The function of body shop outsourcing is developing skills for a changing marketplace and catering for skills demand of their global customers.

Management may outsource a specific project or portion of information systems/information technology (IS/IT) work referred to as project management outsourcing. Examples of project management outsourcing include the use of vendors to develop a new system, support an existing application, provide training, and manage a network. Total outsourcing is as that case of Kodak in 1989, where the company outsourced the bulk of its IS/IT (Lacity Willcocks and Feeny, 1995). Lacity and Hirschheim (1993a) explain that in total outsourcing the vendor is in total charge of a significant piece of IS work. However, Lacity et al. (1995) discovered that most companies, who engaged in total outsourcing deals, encountered many difficulties, including the increase in IT costs and poor levels of service. They concluded that total outsourcing be reserved to companies with greater experience in IS/IT outsourcing and in long-term suppliers’ relationships management.

Selective IS/IT sourcing, is a fourth element introduced by Tebboune (2003), which consists of outsourcing specific IS/IT activities so that management has control of core IS/IT activities, while more mature and well-defined IT activities are outsourced. Such core activities include strategic planning.

## 2.6 Public Perception of Outsourcing

Outsourcing has become an extremely political issue in developed economies such as UK and the USA as organizations increasingly outsource many production and service related activities to developing economies such as India in order to avail lower labour rates and more favorable employment and legislation,(McIvor, 2005).

A survey done byBarker, (2012) in UK on public attitudes toward outsourcing indicates that the public does not love outsourcing since the public does not really understand outsourcing. The study also found that more than half of the respondent’s associate outsourcing with job losses, and 65% think it has to do only with cost cutting. According to the “Public Perception of Outsourcing research Barker, (2012)a staggering 80% of the general public do not think the sourcing industry is helping UK. Nearly a quarter (22%) of the public, list outsourcer as a profession they dislike. Perceptions of outsourcing focus on cost cutting (65%), job losses (53%) and various examples of off shoring such as call centers’ and manufacturing (Barker, 2012).

A similar study done by the (National Outsourcing Association, 2012), in the U.K. in April confirmed that outsourcing has an image problem and criticized because it is misunderstood. Statistics from the research show that the public do not believe that outsourcing is a major contributor to the UK economy and only 19% of respondents said they think outsourcing can help the country out of a recession. The NOA research highlights the public misconceptions of what outsourcing even is, let alone what benefits it brings, and details scenarios in which the public would warm to the concept of outsourcing.

A study conducted in U.S.A in a September 2010 by NBC/*Wall Street Journal* poll, 86 percent agreed that U.S. companies outsourcing work to foreign countries is one of the reasons for U.S.A struggling economy and unemployment,(Teixeira, 2012). Similarly, in a December 2010 Allstate/*National Journal* survey, 67 percent thought outsourcing played a major role in high unemployment, compared to just 28 percent who thought it played a minor role and 4 percent who thought it played no role at all.

A study done by (King'ori, 2012) to establish the managers' perception of the impact of outsourcing strategies on performance of Equity bank limited Kenya, revealed positive effect. The study found that outsourcing of services by the bank had resulted in improved performance by making the firms operations cost effective. The study further revealed that outsourcing had increased quality of work life, enabled the bank to be more innovative and skilled in core activities and had allowed the bank to centre on what it can do well.

Yet, in another study in Kenya by Sang, (2010, November ) on Outsourcing in Kenyan Universities found that some staff had negative attitude towards outsourcing. The staff viewed outsourcing as a threat to their jobs since some universities either redeploy affected staff to other areas or retrench those considered surplus or redundant.

Corbett, (2004) points out that the media makes up the public image of outsourcing since the amount and character of media’s coverage of an outsourcing engagement greatly determines the public perception of the deal. He recommends that once the probability of press coverage and negative public reaction is accessed, management that is outsourcing should develop an appropriate action plan to, address how the deal is structured and communicated to reduce negative image of the deal.

Others such as (Mohammed, 2005, Smith et al., 1998, Hayes, et al 2000) perceived outsourcing highly and credited it with helping to cut cost, increase capacity, improve capacity, and improve quality costs. Akewushola and Elegbede (2013) study done in Nigeria manufacturing sector to examine axiomatic relationship between outsourcing strategy and organizational performance revealed that firms that outsource experience reduce average cost, increased sales turnover and profitability, enhance expertise, improve service quality, and save time for core activities. However, others perceive outsourcing as generating some problems such as reducing a company’s control over how outsourced services are delivered which in turn may raise the company’s liability exposure, (Elmuti, 2003). Another big problem with outsourcing comes from the workers, as they fear loss of jobs Akewushola and Elegbede, (2013).Dubberly (1998) sees outsourcing as a universal remedy to all librarians’ problems. Nonetheless, many academic librarians view outsourcing as a threat to the library profession because it strikes at the very heart of the librarian’s identity, and may in due course result in the end of librarianship **(**Benaud &Bordeianu, 1998). Tsiang, (2006), cautions that, outsourcing is a controversial issue that could affect the future of the library profession. In spite of that, librarians do not perceive outsourcing as good or bad in itself but recognize it for what it is, namely a tool in the armory to improve productivity, increase efficiency, and cut costs and as a knowledge base of a library lacking ICT technical capacity, (McIvor, 2005).

## 2.7 Outsourcing Opportunities

For decades, colleges and universities have been able to easily and comfortably provide the needed and highly demanded quality education through financial help and support from public funds, state grants, funding for research, private organizations, and alumni. However, a slowing economy, state budget cuts, increasing students’ enrolments, decreased funding for research, and rapidly increasing costs of higher education have led many public universities into financial difficulties. Consequently, many institutions of higher education have increased their tuition and other fees to meet the increasing costs of inputs for higher education (Gupta, Herath and Mikouiza, 2005) as well as adopting cost-cutting strategies. Among the strategies adopted, as asserted by Gupta et al. (2005) and Mohammed (2005), are the popular management strategies, such as outsourcing.

Gupta et al. (2005) state that outsourcing provides indirect advantage to institutions as it introduces an element of competition. Other benefits of outsourcing by higher education institutions include risk avoidance (such as reducing the risk of obsolescence**)** and variable staffing. Clark et al. (1995), Glickman (2007), Grover, Cheon and Teng (1994), and Gonzalez, Gasco and Llopis (2010) assert that risks, such as liability issues and insurance coverage can be transferred to the vendor. The authors claim that outsourcing minimizes technological risks since the provider own the technology accessed by the client, making the providerassumethe risk and not by the client. Hence, firms can increase their level of flexibility through a process of continuous redesign of the contracts that will help them cover their information requirements (Hayes, Hunton and Reck, 2000).

Another common reason for outsourcing is a firm's desire to focus its resources on those activities considered its strengths, often referred to as core competencies. The outsourcing firm focuses on broader business issues or maintains a clearer strategic focus, while an outside expert assumes operational details (Hayes et al, 2000; Smith, Mitra and Narasimhan, 1998; Grover et al., 1994; Lacity, Hirschheim and Willcocks, 1994; Willcocks, Lacity & Fitzgerald, 1995; Claver, 2002; and Rajabzadeh, 2008).

The outsourcing firm may gain easier access to expertise and new technological developments as professed by Mohammed (2005). He contends that providers are more likely to remain abreast of technological innovations in their field since they can access technologies that are more advanced. Firms can count on more motivated staff and better management systems in order to be able to achieve a better service coordination or control, especially where shortage of ICT professionals is a major factor influencing global outsourcing.

Other reasons why organizations turn to IT outsourcing includes to cut costs (Mohammed, 2005). Among the costs saved are the technology costs and staff costs. Service providers dedicate all their capacity to the provision of IT services thus reducing costs, allowing firms to obtain greater economies of scale and scope (Smith et al., 1998). It is assumed that part of these economies are transferred to the client through lower prices in the achievement of the same services through outsourcing and through the work of the IS internal department.

Hayes, Hunton and Reck (2000), Glover (1996), and McFarlan and Nolan (1995) concur with Smith et al. (1998) in stating that outsourcing equally makes it possible to turn fixed costs (to maintain an IS department) into variable ones (depending on client needs) and, if the contract has been properly designed, into predictable costs**.** What is more, outsourcing contracts will probably mean an injection of liquidity for the client firm when it transfers software licenses and staff to the provider (Alner, 2001).

Outsourcing paves the way to a more specialized IT management, as the provider firm can itself select, train and manage its technological staff, thus saving staff costs. In this way, clients can have high-level specialists at their disposal without them having to be permanent members of their staff (Alner, 2001; Ang and Straub, 1998). Clients can also have reduced staff, thus saving cost.

Computer work is additionally characterized by the deterioration of knowledge and, particularly, by the shortage of specific knowledge. In these circumstances, the effort to retain a permanent workforce with a high-level, up-to-date training is likely to be too expensive for many companies (Slaughter and Ang, 1996; Oslon, 2007). If a company is able to save on costs when they outsource IT services, then costs reduction would be a welcome opportunity.

Claver, Gonzalez, Gasco and Llopis (2002) found that the key for the success of IS outsourcing is cost reduction when they tested the transaction cost theory. Heads of IS from 47 Spanish public universities were surveyed. The results showed that saving staff costs at 68.6 per cent was the highest gain and saving money in technology-related costs was the fifth most important reason for outsourcing.

Development costs are yet another benefit of outsourcing. Mohammed (2005), Fulford and Love (2004) and Robb (2000) cite that the high price tag of IT workers has led many organizations to seek help overseas. For instance, according to Fitzgerald (2003) the US ICT industry saved up to US$390 billion through offshore outsourcing of software development by 2010. In addition, Mohammed (2005) explains that the US government officials have endorsed IT outsourcing for many reasons, including lack of skills, downsizing, accessing new IT technology, a general belief among the public sector managers that the private sector does a better job, and concentrating on “prime responsibilities”.

Outsourcing is as a way of acquiring technology without having to make large investments in technology, thus increasing flexibility. Business organizations can increase their flexibility through a continuous redesign of their contracts that will allow them to meet their information needs at any given time through outsourcing. Additionally, it provides a large degree of flexibility in the utilization of IT resources, as the provider deals with fluctuations in IT workloads (Jurison, 1995). Firms can equally use outsourcing as a strategy to achieve flexibility during a restructuring or reorganization process.

The outsourcing providers can be more flexible with regard to workload than an in-house internal staff (Clarke, Zmud and McCray, 1995). Providers are more inclined to be flexible because of their customer/supplier orientation, an orientation that may well be absent in an in-house arrangement (Rajabzadeh et al., 2008). Baldwing, Irani and Love (2001) and Lee, Huynh and Hirshheim (2008) concur that firms outsource so that they can have a flexible high quality IT services and knowledge at their disposal. Outsourcing very often serves to get rid of routine tasks – which are very time-consuming in IT management a view shared by Grover et al. (1994), Hayes et al. (2000) and Lacity and Hirschheim, 1993c), while Lacity et al. (1994), Jurison (1995), and McFarlan and Nolan (1995) contend that outsourcing can remove or minimize a function that is considered clearly problematic.

Outsourcingfacilitates access to technology since certain contracted firms bring a number of advantages to the performance of its task including access to state-of-the-art technology, economies of scale with regard to hardware, software, and personnel, and aggressive use of low-cost labour pools (Rajabzadeh et al., 2008; Antonucci, Lordi and Turker, 1998). WhileJurison (1995) maintains that outsourcing brings client firms advantages related to technology as these business organizations can have access to specialized, state-of-the-art technology, which the provider supplies. Analysis shows that when the degree of complementarily of knowledge between the employees is high enough, organizations achieve better payoffs if the top management enforces cooperation between the employees (Jiang, Behohlar and Young, 2007).

The efficient use of outsourcing will most probably reduce the need to make investments in mature technology, simultaneously increasing the availability of resources related to new technologies for the client (Clarke et al., 1995). Additionally, organizations – which prefer to wait and see what happens with state-of-the-art technology – may resort to outsourcing as a way to minimize the risks incurred if the technology used is not the most appropriate (Gupta and Gupta, 1992).

Outsourcing can also be a way to experiment with new technologies (Baldwing et al., 2001). It helps to have alternatives to the Information Systems staff since a firm does not have to depend exclusively on its internal IS resources as maintained by Clarke et al. (1995), Rajabzadeh et al. (2008) and Mohammed (2005).

Lacity and Hirschheim (1993b), Gonzalez et al. (2005), and Chen and Soliman (2002) argue that firms may decide to adopt outsourcing in order to copy the success of other organizations that have already outsourced. There are firms that outsource to follow fashion; many firms have a tendency to wait and see and copy what others are doing based on success stories from other organizations. Therefore, certain firms outsource because others are doing it.

In summary, many organizations consider outsourcing as beneficial. From the literature reviewed, many authors and studies in outsourcing have found out reasons why many firms turn to outsourcing. The most cited reasons include economies of scale, improved access to new technology, and the flexibility inherent in the outsourcing relationship. Moreover, outsourcing results in improved strategic triangle of an organization – quality, cost and time.

Proponents of outsourcing recognize that the private sector vendors provide services more efficiently and at lower a cost than the public sector. Organizations further support their outsourcing decisions by reasoning that vendors possess economies of scale that are unavailable to an individual firm, and a political belief that private sector companies are more efficient. In addition, outsourcing produces several benefits, such as reduced saving on office space and costs, improved service quality, increased efficiency and innovation, reduced costs on general overhead, such as company cars, pensions, insurance, and salaries.

## 2.8 Procedures and Processes in Outsourcing

Hasegawa (1997) describes the process of subscribing to journals in university libraries in Japan. He says that subscribing is a fixed process between libraries and the agents. The publisher receives the order and money from the agent and then sends each issue of the journal directly to the library. Libraries make almost all purchases through agents.

Hasegawa (1997) asserts that libraries’ subscription to Western journals follows certain basic rules; subscriptions must be for a period of at least one year and a payment of the whole year’s subscription made in advance. An increase in price occurring during the subscribed time is paid and the publisher sends journals directly to the subscriber or signs “check-in” method.

## 2.9 Outsourcing Strategy

Outsourcing can help control costs, simplify operations and keep a company focused on its core competencies only if properly implemented. Kelley (1995), IT Techcare Group PLC,(2002), Ball (2003) and Jefferies (1996) recommend that it is important for an organization to weight down various factors such as company’s objectives, the vendor, services to outsource, and opportunities and challenges before outsourcing. Gamble (1995), Katila, Rosenberger and Eisenhardt(2008) concur with Kelley (1995), and Jefferies (1996) stating that, the client must not focus too narrowly on a single, isolated process when making an outsourcing decision because it can be dangerous and risky. They recommend that choices be made only after weighting considerations such as net gain or loss in efficiency, cost-effectiveness of using outsourcing, and dependence created on a third party outsourcing.

Willcocks, Cullen, and Craig, (2011), claim that outsourcing allows companies to maintain their strategic focus without the added pressures of maintaining an ever-expanding ICT infrastructure. However, they warn that companies that want to outsource need to consider a number of things. In particular, why outsource in the first place, and what it will take to make the outsourcing move a successful one? Cheon, Grover and Teng, (2005) note that business relationship between the client and the vendor should be viewed as a partnership rather than a buyer and supplier transactional relationship. Larkford and Parsa (1999) suggest that when transiting from an in-house service to an outsourced service, the procurement department must be involved in the negotiations and contract development when entering into a contract. They recommend that corporate risk management, and legal and strategic planning groups should be involved.

Behara et al. (1995) reiterate that the strategic impact of the outsourcing contract, evaluated adequately, and purchasers of outsourced services should not be willing to accept the standard contract offered by most suppliers. Larkford and Parsa (1999) append that an integral part of the planning and conducting of the acquisition process must include purchasing representation and evaluation of suppliers. He suggests that the following criteria be used, flexibility, understanding the company’s business, technology leadership, bid evaluation procedures, precisely defined scope of work, detailing the nature and extent of collaboration between buyer and supplier, safeguards for performance and cost control, and methods and procedures for measuring supplier performance.

Apart from the above, Larkford and Parsa (1999), and Weimer and Seuring, (2008) reiterate that the specific needs of the organization should be matched with the supplier’s capabilities during negotiations to develop a contract around a shared vision. In contemplating outsourcing decision, an organization must be realistic in determining the basic needs of its IT department, evaluating the department’s current strengths and weaknesses, and comparing those to the strategic benefits possible through outsourcing.

A cross-functional team with members from a variety of decision-making levels is required to assess the company’s needs. Such a team is also required to manage the contract after its execution. Outsourcers should have the financial and technological incentive to help the company migrate to technology that is suitable to the organization (Al-Qirim and Nabeel, 2003). Suppliers with good understanding and interest in the outsourcing firm’s business help define mutually beneficial goals to both parties. Thus, McCarthy (1996), Katila et al. (2008), Behara, Gundersen and Capozzoli(1995) and Larkford and Parsa (1999) are in agreement that before the decision to outsource is made, lengthy evaluation must be done so that long-term and short-term gains are considered to avoid repeating. Libraries need to take a long-term view of the move to outsourcing by checking on contractor’s commitment to the library.

## 2.10 Evaluation and Selection of Contractors

Rajabzadeh, et al. (2008) study based on binominal and Friedman tests to determine factors in the selection criteria of the contractor, found that criteria applied included; financial stability, commercial capabilities, famous and past experience of the firm, strategic positioning, suggested cost, and quality of service. The results also showed that contractor's firm size and its attitudes are not essential contractor selection criteria.

Claver et al. (2002) tested the transaction cost theory to find out the key for the success of IS outsourcing, including criteria for the success and failures. The results showed that success factors in outsourcing depend on the provider of the services. Furthermore, respondents ranked service quality higher than price. When choosing the provider, firms placed great significance on the role of cultural and personal matters in an outsourcing relation with quality as the most important aspect.

2.11 Outsourcing Risksand Challenges

Outsourcing benefits are enormous, but identification and management of associated risks and challenges are crucial to achieving outsourcing benefits. According to Ngwenyama (2007), without careful considerations of various risks associated with outsourcing, any gain can be more than offset by significant losses such as financial loss, individual privacy, data security and loss of ICT expertise. The major risks associated with outsourcing are discussed below.

Claver et al. (2002) suggests that although outsourcing facilitates access to the technical knowledge and expertise of IS specialists, the same staff from the client firm support outsourcing firm. If the staff is not committed to the client, most likely, they will not relate well with the contractor and the contractor may not know how to deal with the staff. Moreover, Gonzalez (2010) Arshad, May-Lin& Mohamed, ( 2007) and Miles (1996) warn that many of the firms deciding to outsource may lose business knowledge and experience because after signing a contract, providers may send their most highly qualified workers to other firms within the sector.

In addition, outsourcing generates various staff problems, such as anxiety, low morale and insecurity. Palvia (1995) contends that uncertainty among the staff leads to a decrease in their productivity levels during the period before the signing of the contract and once the contract has been signed due to lack of motivation among the employees since not all are utilized by the vendor. The professionals that are not taken in by the vendor may lack comprehension about their exclusion as part of a specialized team, thereby affecting their performance. Willcocks and Fitzgerald (1996) hold similar views that staff, transferred from one firm to another, may go through a number of changes such as seniority, beneficial conditions and adopting to new corporate culture. Many firms therefore fear a possible opposition of their staff to the outsourcing decision, which poses a threat to their job, this being a risk that becomes even greater in the case of global outsourcing.

The contractor may fail to comply with the terms of the contract. When an agent performs a task for a principal, the latter always faces the risk that the agent might not carry out the task as expected or that the agent might pay less attention and monitor the process less closely than the principal would have done (Clarke et al., 1995; Gonzalez, 2010). Additionally, in the case of IS outsourcing, client needs may not be properly met, or priorities established, because the provider does not quite understand certain facts about the organization (Martinson, 1993). In addition, problems are likely to arise in relation to the dependence generated by this service.

In libraries and other service institutions, it may be difficult to quantify and define their needs in terms of information services. In such a scenario, not all the services have been drawn and agreed in the original contract. An extra fee is applied, thus increasing the total costs (Fower and Jeffs, 1998). This is why Lacity and Hirschheim (1993c) declare that external providers are not strategic partners, since the interest in benefits is not a shared one when clients’ costs grow, so do providers’ benefit.

When a service is outsourced, clients gradually lose their understanding of the service over time. A large proportion of the new knowledge required remains in the hands of the provider and is not transferable to the client. What is more serious, as purported by Clarke et al. (1995), the firm may lose its capacity to stay up-to-date with the technological breakthroughs. Furthermore, since every innovation requires a sufficient availability of technical and economic resources, the firm’s innovation capability reduces (Earl, 1996).

One of the advantages derived from outsourcing is the possibility to access state-of-the-art technology, but this is not always the case. Glass (1996) argues that if providers do not identify clear benefits in the incorporation of new technologies, they may be reluctant to adopt them, since their main concern is to exploit to the full the service that they already offer. Glass (1996) adds that the contract is incomplete if it excludes a clause specifically devoted to technological evolution.

Outsourcing brings with it many hidden costs that the client may not always be aware. First, the client has to source for a contractor and it may be difficult if the firm has no prior knowledge. Secondly, transition costs – the time that internal employees spend helping the outsourcing vendor- may result from the interruptions and from the lack of skill on the part of the vendor to react in a fast, appropriate way to various situations. There are also additional costs linked to provider control and coordination (Willcocks et al., 1995; Barthelemy, 2001).

It is hard to take into account all the relevant outsourcing factors and translate them into monetary terms. As Gupta and Gupta (1992) and Clarke et al. (1995) acknowledge, the client must have knowledge of how to value the potentially better service delivered by the provider. Thus, many firms base their decision to outsource exclusively on the explicit costs generated, leaving aside both the tacit costs and the profits.

Hidden costs taken as outsourcing risks include security problems that may occur when a provider attends to several direct competitors. In such cases, information confidentiality should be strictly kept, (Lacity and Hirschheim, 1993b; Grover et al., 1994, 1995; and Alner, 2001)*.* Security in the IS externalized services, depend on the provider firm. Therefore, negotiation must take place within the framework of the outsourcing contract for the purpose of establishing policies and procedures to ensure that IS security aims (effectiveness, efficiency, adequacy, integrity, validity, authorization and privacy) continue to be achieved (Fink, 1994).

Other unclear cost that firms fear is the irreversibility of the decision to outsource IS. The reasons for this irreversibility include high costs involved in the reconstruction of the IS department and the difficulty in attracting necessary staff (Barthelemy, 2001; Fower and Jeffs, 1998). Claver et al. (2002) reservations to outsourcing include: potential incapacitation of IS departments; providers’ lack of seriousness in complying with the contracts signed; lack of trust on the qualification of the vendor staff; provider inability to adapt to new technologies; externalization of the services causing security risks; and, lack of confidentiality in the information.

One of the challenges a library may experiences while outsourcing and during the contract period is lack of experience on the part of the outsourcing firm. An inexperienced outsourcer may face certain risks such as using an experienced consultant to perform the tasks and failure to sign detailed contracts requiring the vendor firm to specify all costs associated with transitioning services from the outsourcing firm to the vendor organization (Ngwenyama and Sullivan, 2005).

The challenge relating to the experience and expertise of the vendor is an essential problem of any outsourcing engagement. If a vendor is not able to deliver the knowledge and expertise promised, the results can be disastrous for the outsourcing organization (Ngwenyama and Sullivan, 2005). Writing outsourcing contract with vendor require that the vendor possess the requisite skills and experience to fulfill the contract requirements. The contract is not an appropriate mechanism for addressing risks; these should be resolved in the proposal phase as indicated by Ngwenyama and Sullivan (2005).

Libraries and information systems may end up contracting opportunistic vendors termed by Ngwenyama and Sullivan (2005) as “self-interest seeking with guile” leading to shirking, and lying or other unethical behaviour on the part of the agent or the principal. Opportunism is unrealistic or untrue representations about vendor’s capabilities in the proposal phases of the process and shirking under the terms of the contract and its execution. According to Ngwenyama and Sullivan (2005), opportunistic behaviour can occur at any time during the outsourcing process.

Ngwenyama and Sullivan, (2005) view another challenge to outsourcing as the potential loss of core competencies and proprietary information. Lacity and Hirschheim (1993a) admit that although managers are advised to limit outsourcing to non-core activities and to protect the firm's core competence, outsourcing almost always leads to loss of some core competence. This is due to the interconnectedness of processes and activities (Earl, 1996).

Maintaining data security is another challenge of outsourcing contracts (Lacity et al., 1994). Many government organizations handle sensitive information about citizens that may be subject to various legal requirements for non-disclosure. The potential loss of core competencies and proprietary or sensitive information is a significant challenge in any outsourcing contract. As more IT functions are outsourced, organizations run the risk of losing the ability to effectively manage or even perform mission-critical operations for the firm. A related risk is the potential loss of sensitive and/or essential organizational data that could be disastrous for the organization (Lacity et al., 1994).

Contracts should address vendor’s financial stability/instability before signing. Ngwenyama and Bryson, (1999) assert that a vendor contemplating bankruptcy may be more willing to wriggle out of the terms of the contract or to walk out altogether. The effects of becoming dependent upon a vendor who is no longer in business may have serious consequences for the outsourcing organization (Earl, 1996; Gay and Essinger, 2000; Sutton, 2006).

There are many challenges associated with monitoring a vendor's performance under the contract. Ngwenyama and Sullivan (2005), cite monitoring problems that arise from an inability to specify the scope of the work performed while Nelson et al. (1996) cite problems of applying penalties and incentives to contracts that depend upon accurate performance measures. Other problems cited are measuring vendor and system performance leading to declining service levels, and rising costs (Ngwenyama and Bryson, 1999; Bryson and Ngwenyama, 2000). Additional challenges include monitoring changes in people, technology, organizations and their operating environment. The longer the term of the contract, the more flexibility is required to adapt to the changing needs of the organizations and the technological landscape. Besides, the preparation of a thorough technology transition plan that specifies replacement technology as suggested by Lacity and Hirschheim (1993b) and Lacity et al. (1994) is imperative.

Most of the literature is fundamentally in favour of outsourcing, but there are several possible problems or concerns. The concern universally given the most weight is the possible damage to company morale (Petrice, 2000; Antonucci et al., 1998); if savings are to be realized, personnel from outsourced functions will be dismissed or transferred to the provider firm, and personnel in potentially outsourced functions will respond adversely. The nature of outsourcing is that it creates a dependence on the provider firm, with a consequent loss of independence as purported by Antonucci et al. (1998) and Slaughter and Ang (1996). This is because the outsourced department is no longer readily available for use in management training, preventing the creation of easy familiarity with that function**.**

Besides, there are concerns related to the nature of the outsourcing relationship since, over time, outsourcing providers will demand greater premiums (Claver et al., 2002). Most clients will have abandoned the internal functions leading to loss of competence forcing firms to pay increased premiums. Claver et al. (2002) is of the opinion that the provider will not understand a firm's core business needs sufficiently, or the specific demands of the business environment.

Antonucci et al. (1998) disagree with flexibility view and they acknowledge that contracts might actually decrease flexibility, and that provider personnel might be less responsive than internal staff. Moreover, there is a concern about lack of long-term vision or loyalty from providers, especially on a short-term contract as indicated by Gonzalez (2010) and Antonucci et al. (1998). This is because many short-term contracts are short lived and the contractor many not be quite committed, especially if they were only there for money. Besides, clients lack experience in signing outsourcing contracts.

According to Lacity and Willcocks (1995,1997), the unique and distinct characteristics of ITs usually put clients at a disadvantage with respect to IS outsourcing providers, for the following reasons: ITs evolve so fast that there is a high degree of uncertainty involved in any decisions related to outsourcing; and, ITs are present in all business functions. This is why knowing the idiosyncrasy of the organization becomes necessary in order to carry out many IT activities. Another reason is that the costs involved in changing from one IT provider to another are very high, which makes it complicated to encourage competition as a way of discouraging the provider from being opportunistic. Clients often lack experience in signing outsourcing contracts. This is not the case for the provider. Because of this information dissymmetry, providers are in a much better position to favour their own interests.

## 2.12 Chapter Summary

Literature review established that outsourcing originated in the 1950s and has steadily become popular since early 1990s. The 1990s had witnessed a big explosion in outsourcing due to introduction of ICT in all areas of business and information services management. Consequently, outsourcing has become a widely accepted management practice throughout the world. Several studies have cited factors influencing outsourcing decisions such as desire to increase performance, share value and profitability and focus on key competencies. There are certain risks in ICT outsourcing such as loss of business knowledge and experience, loss of technical knowledge and understanding of the service over time.

The review of literature has revealed several gaps in literature that make the justification of the study on outsourcing of information services in public university libraries a possible one. Studies indicate that outsourcing is more popular in businesses and other service organization areas (Gathara, 2010). Majority of the studies are from First and Second World countries such as United States of America, United Kingdom, and Finland (Alsudairi and Dwiwedi, 2010). IS/IT outsourcing studies have used theoretical constructs and models from other disciplines such as management, business, finance, information systems and marketing. Social exchange is the theory most preferred, but this study chose to use Resource Dependency Theory (RDT). The literature revealed literature gaps on outsourcing of ICT services in Kenyan libraries there are no reported cases on any outsourcing studies in libraries or outsourcing framework designed for libraries necessitating this study.

# CHAPTER THREE

# RESEARCH DESIGN AND METHODOLOGY

## 3.1 Introduction

This chapter describes the various methods that the study used to collect and analyze data. A research method involves the forms of data collection, analysis, and interpretation proposed by the study.Research methods are the various procedures, schemes, algorithms used in research and essentially are the procedures by which researchers go about their work of describing, explaining and predicting phenomena,(Rajasekar, Philominathan, and Chinnathambi, 2006).Crotty, (1998, 3) defines methodology as, “the strategy plan of action process or design lying behind the choice and use of particular methods and linking the choice and use of the method to desired outcome”. According to Burns and Grove (2003:488), methodology includes the design, setting, sample, methodological limitations, and the data collection and analysis techniques in a study. Henning (2004:36) describes methodology as “coherent group of methods that complement one another and that have the ability to fit to deliver data and findings that will reflect the research question and suit the researcher purpose”.

In this study,research methodology is the process of carrying out the study. It is the process of obtaining, organizing ,collecting and analysing data.The chapter discusses the research methodology used in the study.

## 3.2 Research Philosophy

Research philosophy is a belief on the way data about a phenomenon should be gathered, analyzed and used. All studies have their perspectives regarding research, including their philosophical interpretation stance, which influences their research process. Guba and Lincoln (1994) point out the need for a study to make explicit both their ontological and epistemological assumptions before embarking on any research project. Jwan and Ong’ondo (2011) point out that ontology is the nature or assumptions that one has about reality or knowledge whilst epistemology refers to the way reality or knowledge is studied.

Ontological assumptions include “realism” and “relativism” (Jwan and Ong’ondo 2011). Realist perspective looks at the world as an objective entity with rules and regulations that govern behaviour and as such there exist an ‘objective truth’ (Denzin and Lincoln, 2005). The realist’s role in research is to be neutral and their purpose is to discover the objective reality.

The relativists on their part take a subjective view: that there is no single viewpoint of the world and therefore reality is internal to and dependent onan individual’s perceptions and experiences (Jwan and Ong’ondo, 2011). There is no objective reality, but multiple realities socially and culturally constructed by individuals from within their own contextual interpretations (Mason, 2002).

The interpretive study’s ontological assumption is that humans, through their action and interaction locally and specifically, construct social reality (Guba and Lincoln, 1994). A view shared by Orlikowski and Baroudi (1991) that social reality is based on people’s definition of it. The interpretive study’s epistemological assumption is that findings are literally created as investigation proceeds and that “understanding social reality requires understanding how practices and meanings are formed by language and tacit norms shared by humans working towards some shared goal,” (Orlikowski and Baroudi, 1991).

The most common epistemological paradigms are positivist and interpretivism-constructivist (Denzin and Lincoln, 2005).

### 3.2.1 Positivism

Positivists believe that reality is stable, hence making its observation possible from an objective viewpoint without interfering with the phenomena that is studied (Levin, 1988). They are of the view that the phenomena can be isolated for study; hence, studies can be able to replicate observations. Denzin and Lincoln, (2005) observe that according to positivists, the objects and events that researchers study exist independently of people’s perceptions and hence can only be one true version. Debate has raged as to whether positivist paradigm is entirely suitable for social sciences (Hirschheim, 1985). The critics argue that positivistic methods strip contexts from meanings in the process of developing quantified measures of phenomena (Denzin and Lincoln, 2005).

### 3.2.2 Interpretivism

Interpretivism implies a subjective epistemology and ontological belief that views reality as “socially constructed”. According to Orlikowski and Baroudi (1991), interpretive studies assume that people create and associate their own subjective as they interact with the world around them.

Interpretive studies attempt to understand phenomena through accessing the meanings that participants assign to them through the social process by getting inside the world of those generating it, (Orlikowski and Baroudi, 1991). They believe in the study of phenomena in its natural setting and assert that scientists cannot avoid affecting those phenomena they study; hence, people gain knowledge of reality through social construction such as language, shared meanings and tools (Walsham, 1993).

The qualitative philosophy in this study aims to understand the world from the viewpoint of librarians/information providers through detailed descriptions of their beliefs’ actions and through the richness of meanings associated with their behaviour. Information science seeks to understand the complex process that involves and requires a number of information related activities, such as information processes, human behaviour, and social and situational processes. Information systems epistemology draws heavily from the social sciences because information systems are fundamentally social rather than technical systems (Hirschheim, 1992). Information science deals with interaction of human with technology as such “the terms used in descriptions can have different meanings (multiple realities) that are not consistent across theories providing different perspectives to the social world (Budd, 2001).

This study took on an interpretivist standpointaccepting as true that there are many interpretations of reality and that these interpretations play a key role in the study bringing such subjectivity to the forefront, backed with quality arguments rather than statistical exactness. The study also adopted interpretivist stance to provide a deeper understanding of reality from the point of view of those who live it.

The study sought to establish how librarians perceive outsourcing, how they adopt and adapt to outsourced ICT environment, and their social realities based on the librarians’ descriptions. It was of the view that those different librarians may not experience outsourcing the same way due to their different circumstances. The study adopted this position with the conviction that realities can only be studied independent of their context. Therefore, qualitative research was best suited for this study.

## 3.3 Research Design

According to Kothari, (2004), research design is the arrangement of conditions for collections and analysis of data in a manner that aims to combine relevance to the research purpose with economy and procedure. Research designs are the procedures for research that span the decisions from broad assumptions to detailed methods of data collection and analysis (Creswell, 2007b). Three types of design are qualitative, quantitative and mixed methods.

Quantitative research is a means for testing objective theories by examining the relationship among variables. It represents the worldview of positivism a term used to refer to research that can be rather easily translated into the examination of functional or cause and effect relationships. Quantitative research uses statistical methods to analyze situations. Positivism represents a world where one cannot be positive about their claims of knowledge when studying the behaviour and actions of humans (Creswell, 2007b). Positivism takes an objective view of the world and thus is inclined to a deductive thinking.

Qualitative research allows one to explore and understand the meaning an individual or groups ascribe to a social or human problem. It focuses on understanding experiences from the point of view of those who live them; hence, it is a form of interpretative/constructivism inquiry in which studies make an interpretation of what they see, hear and understand. Thus, multiple views of the problem emerges (Creswell, 2007b).

The study was conducted through a multiple case study method using purposive samples aimed at investigating the outsourcing ICT services in selected public university libraries in Kenya. The study chose multi-case study methodology because case studies are useful for in-depth investigations on a contemporary phenomenon using multiple sources of evidence within its real-life context (Yin, 2003). Multiple case studies were preferred because the study objective was to describe the outsourcing phenomena and develop a framework. Thus, the research methodology chosen was qualitative using multiple case studies.

### 3.3.1 Qualitative methodology

The approach followed in this study was qualitative. The study adopted the approach because it is particularly suitable for studying phenomena when little or no previous research exists. Besides, the methodology suits studies not supported by a strong theoretical base (Benbasat, Goldstein and Mead, 1987; Walsham, 1995). Qualitative research produces findings arrived from real-world settings. It studies phenomenon in their natural settings, attempting to make sense of or interpret phenomenon in terms of meanings people bring to them. In this type of research, the objectives of inquiry are the human beings and therefore both the study and the respondent may influence each other.

There is not a method sufficiently objective enough to remove the interaction between respondents and the study. In the social setting, it involves collecting qualitative data from the participants in the field. The purpose of using qualitative research was to inquire into individual’s perspective, such as thoughts and feelings, which exist across the university libraries with respect to outsourcing and interpreting these findings in the context of the academic literature on ICT outsourcing. The study used literature to inform it since it does not set out to test hypotheses, but it relies instead upon qualitative data collected using interviews. The study sought to discover and understand the individual and shared sense of meanings regarding outsourcing. The issue of outsourcing needed exploring to understand the complex details and the context or the settings in which the participants in the study address issues relating to outsourcing in the natural setting.

## 3.4 Case Study Strategy

Research strategies are the steps carried out to execute the inquiry into the phenomenon being studied. It outlines the sequence of data acquisition and analysis. A research *method* or *technique* constitutes ways of collecting, analyzing and representing data (Creswell, 2007b).

The case study approach refers to an in-depth study or investigation of a contemporary phenomenon using multiple sources of evidence within its real-life context (Yin, 2003). A case study explores a programme, event, activity, process or one or more individuals in depth with the purpose of obtaining a comprehensive understanding of the case. It involves the study of an issue explored through one or more bounded setting or system.

Denzin and Lincoln (1994) and Yin (2003) present a case study as a strategy of enquiry, a methodology or a comprehensive research strategy. Creswell (2007b) views it as a methodology, a type of design in qualitative research or an object of study as well as a product of enquiry. The investigator explores multiple sources of information such as observation, interviews and documents in an accepted qualitative research strategy. According to Leidner and Jarvenpaa (1993), case study research is appropriate in situations where the research question involves a “how”, “why” or exploratory “what” question, where the investigator has no control over actual behavioural events. It is a particularly powerful technique to answer “how” and “why” questions.

Montealegre (1995) indicates that case study permits a comprehensive approach to historical and social analysis of complex phenomena. The interpretive study attempts to derive constructs from the field by an in-depth examination of exposure to the phenomenon of interest. Through this approach, categories and themes emerge that closely link to the experience of the relevant participants (Orlikowski and Barondi, 1991). In addition, Walsham (1995) suggests that the case study is the preferred method in investigating the use of outsourcing in a social context and it can yield rich insight.

This study adopted multiple case study methodology. Case study methodology is widely advocatedin both qualitative and quantitative approaches using explanatory, exploratory and descriptive studies (Yin, 2003; Walsham, 1995). Moreover, case study is an accepted research strategy in the Library and Information discipline. Studies such as Khalfan (2003), Walker (1996), Khalfan and Gough (2002), and Glickman et al. (2007) have used the case study approach as their research strategy to study various aspects of information systems and information technology. Case study strategy is also useful for practice-based problems where the experience of the study is important and the context of action is critical (Lee, 1989; Galliers, 1991).

Cases can be distinguished by factors such as size (individual, several individuals, group and entire activity) and intent of case analysis (single instrumental case study, collective/multiple and intrinsic). In collective or multiple case studies, one issue of concern is studied and multiple case studies selected to illustrate it. Stake (1995) and Creswell (2007a) indicatethat when one chooses multiple cases, the issue becomes how many; hence, they recommend that one should not choose more than five cases to allow individual cases to be adequately explored.

The strengths of the case study approach are in the degree of breadth and depth obtained in complex real-world situations (Welman and Kruger, 2001). According to Avison (1993), the strength of the case study is also in its use for examining natural situations and the opportunity it provides for deep and comprehensive analysis. Yin (2003) suggests that the validity of multiple case study increase when the study utilizes different research methods pitted against one another in order to crosscheck data and interpretations. They suggest that the study adopt different methodologies like those of interviews and documentary analyses” when possible.

Criticism of case study research on the ground of non-representative, lack of statistical generalizability and especially the value of the study of single events or cases is common. Moreover, the richness and complexity of data collected means that data is often open to difficult interpretation and potential research bias (Conford and Smith, 1996). However, ardent supporters of this approach make strong case for it.

Among the supporters are Rudestam and Newton (2007) who take the view that “concentrating on a single site or event is in no way inferior to more complex technique for it requires a depth of investigating that is both rigorous and thorough; single-site case study is not synonymous with superficiality”. Gill and Johnson (2002) are of the view that an important criterion for judging the merit of the case study is the extension to which the details are sufficient and appropriate for an individual working in a similar situation to relate his decision-making to that described in the case study.

Others who strongly argue for the case study include Hamel, Dufour and Fortin (1993), Bassey (1981), and Yin (1984, 1993, 1994). They argue that the merit of a case study, whatever the size, is the extent to which details are adequate and suitable for someone in a similar situation. Bassey (1981: 85) also states,“reliability of a case is more important than its generalizability”. Walsham (1995) argues that the validity of the case study approach, derived from an interpretative epistemological stance, seems to be implied in believability and strength of logical reasoning applied in describing and presenting the results from cases and in drawing conclusions from them.

Yin (2003) also addresses the limitation of the case study approach by providing a solution arguing that the case studies’ goal is to expand and generalize (analytical generalization) and not to enumerate frequencies (statistical generalizations). Therefore, if conducted properly using case study protocol, their theoretical proposition may be generalized without having to conduct investigations in several organizations, provided the degree of inter-organization difference is not very great.

### 3.4.1 Choice of case study

As mentioned above, the study adopted multiple case studies methodology involving the isolated study of outsourcing in four public university libraries, namely Moi University (MU); University of Nairobi (UoN); Jomo Kenyatta University of Science and Technology (JKUAT); and Kenyatta University (KU). At the time of the study, there existed seven public universities as indicated earlier in (Table 1, Chapter 1). The study selected four Public university libraries based on size, history of the university and adoption of ICT in the library.

The reason for the choice of the case study methodology was that it permitted a comprehensive approach to historical and social analysis of complex outsourcing phenomena from a multi-dimensional aspect of the four university libraries. The methodology was also chosen to enable the researcher explore differences within and between cases with the goal of replicating findings across cases, while the choices of the four libraries as cases were to enable the study predict similar results across cases (Yin, 2003).

Public university libraries have their own institutional culture, which would enable the study to understand in depth the way libraries conducted outsourcing. Multiple cases helped enrich the study by concentrating or focusing on the topic in depth. Secondly, outsourcing is a contemporary issue as opposed to historical phenomenon, thus requiring exploratory and explanatory research, to be able to capture a greater depth and breadth of detail on the subjects’ activities.

The study involved making frequent visits to the four public university sites using face-to-face interviews to gain a deeper understanding of the outsourcing activities. The objectives of the study provided guidance in understanding the complex factors that are operative within public university libraries as an integrated unit system. Multiple case studies enabled the study to understand fully the behaviour pattern of the social unit and deepen the perception of the outsourcing processes in the university information systems. Moreover, the case study drew references from published literature and linked it with the interview data and other relevant materials.

The study adopted an interpretive stance using questions that allowed the complexity of outsourcing in a resource-poor setting such as Kenya, examined holistically. The process involved multiple actors such as the university management, library managers, information providers, and vendors who have heterogeneous interests at various levels of outsourcing processes.

The choice of case study method was also because it provides an opportunity to get a deeper insight into the problem under study since it adopts interpretive explanation and it documents the participant’s point of view translating it into a form that is intelligible to readers. Another reason is that there is minimal research done in this area, considering that outsourcing phenomenon is a contemporary issue where previous empirical research in Kenyan libraries is minimal. This made case study the best choice, as the study was on how people responded to outsourcing process in their context. The multiple case studies methodology employed in the study was because it was important to understand people’s interactions, actions and engagement in the outsourcing process (Creswell, 2007a). Moreover, a multiple case design allows cross-case analysis, comparison and the investigation of a particular phenomenon in diverse setting (Darke, Shanks and Broadbent, 1998). Case study also assumes that the context is important for understanding the phenomenon. Thus, it allowed the study to focus on context in a bounded system, revealing unique details and experiences and other layers of factors instigating outsourcing. Hence, case study was appropriate because it enabled the study to identify various interactive processes at work in the context of public university libraries, that a survey would not have revealed, especially probing of the issues of interest to the study to acquire a deeper understanding of reality.

The study triangulated different data collection tools, unstructured interviews, semi-structured interviews and documentary sources**.** Methodological triangulation overcomes the bias inherent in a single method of data collection in the case study (Creswell, 2007b; Denzin, 1970; Mathison, 1988; Bryman, 2008; Currall, 1999; Rudestam and Newton, 2007 and John and Gill (2002). Trow (1957:57) articulates methodological pluralistic proposing that,

“Different kinds of information about man and society are gathered most fully and economically in different ways and the problem under investigation properly dictates the methods investigation”.

He uses the metaphor of the “social scientist’s kit of tools to which he turns to find the methods and techniques most useful to the problem at hand” to provide an explanation.

### 3.4.2 Case study process

Many well-known case study researchers such as Yin, (1994), Stake (1995), Soy (1997) and Neale, Thapa and Boyce (2006) have written about case study research and suggested techniques for organizing and conducting the research successfully. Yin (1994) offers a straightforward protocol for case study emphasizing field procedure, case study questions and guide for the final write up. On the other hand, Stake, (1995) has proposed a series of necessary steps for completing the case method that included posing research questions, gathering data, analyzing data and interpretation. Yet Neale et al (2006) suggests that casestudy research follows the general process as followed by other research, which includes, planning, collecting data, analyzing data and disseminate findings. Soy (1997) identifiessix steps to be followed in a case study, which involves (1) determining and defining the research questions, (2) selecting the cases and determining data gathering and analysis techniques, (3)preparing to collect data, (4)collecting data in the field, (5)evaluating and analyzing data and (6) preparing a report. This study has adopted this approach.

The first step in the study process was to determine and define the research questions as seen in chapter 1, 1.5 and 1.6. The study set to investigate outsourcing of ICT services in selected Public University libraries. The study identified four libraries ((MUL, UONL, JKUL, and KUL) based on characteristics mentioned earlier.Next, the study identifiedthe information needed to understand outsourcing practices proceeded. Research objectives and questions were formulated to address the issues of outsourcing as provided in chapter one 1.3 and 1.4 of the report. Using a review of the literature (chapter two), the study determinedwhat prior studies have uncovered outsourcing of ICT and utilized the literature to define the questions for the study.

The next phase of the study involved selecting the multiple cases as well as settingthe study boundaries to include only four of the public university libraries. Further, the study confined the boundaries to only the main campus libraries since major ICT polices and ICT decisions transpired in the main library. The study identified the sample using (purposive sampling) as made up of only those with knowledge of outsourcing issues and involvement in ICT outsourcing decisions, choosing to interview the top library management, DVC, in charge of finance and vendors contracted to give the services. In addition, the researcher developed interview schedules for interviewing top management, service librarians and vendors. The study further developed interview protocols to ensure consistency across interviews. In addition, the study utilized multiple sources of data for this study by selecting documents such as the Kenya Public Procurement Act/Law, organizational documents such as administrative reports, policies and standard operation procedures related to the study.

The next phase included preparation to collect the data. This involved first contacting each University library selected to gain their cooperation and seek permission and appointment dates from the respondents. This was necessary since most top managers have busy schedules and may notbe available at short notice. Data collection, involved, setting up appointment dates, seeking informed consent from each respondent, conducting interviews, and recording field notes.

Upon conclusion of the interviews, data analyzed to reveal ICT outsourcing patterns from the fourselected public university libraries. Conflicting information with the patterns observed required conducting, a follow-up focused interviews with the purpose of confirming or correcting the initial data. The outsourcing evidence obtained from the analysis formed the basis of answering research questions. The researcher finally compiled a report of the finding for the purpose of dissemination.

## 3.5 Area of Study

The study was conducted in four of the seven Kenyan public universities at the time. However the situation has changed, public universities now stand at 22 with the elevation of 15 more institutions into fully-fledged university status during the first half of 2013. The selection of the four public universities was on the size, adoption of ICT and age. They have the largest as well as the oldest public university libraries in Kenya. However, the study omitted Egerton University since at the time the study was carried out; the library services were mainly manual.

The multiple case studies of the four libraries were to understand whether shared beliefs and practices exist, to allow replication of data among cases, independently allowing confirmation of outsourcing issues. Besides, outsourcing of activities is practiced differently based on population and size of the library, financial constraints, environment, organization culture and technical competence of the staff. The study needed to discover whether consistent patterns of behaviour occurred existed in the selected public university systems to give a holistic view of ICT outsourcing.

## 3.6 Study Population

A population is the aggregate of all cases that conform to some designated set of specification (Nachmias and Nachmias, 1996). Nachmias and Nachmias (1996) recommend that the study needs to have knowledge about the subject of the population in order to give a clear and accurate explanation about it. In addition, it was necessary to have adequate knowledge of the subjects studied. In this regard, although the Kenyan public universities were seven, it is the libraries of the four of the largest, representing 57 per cent of the libraries, which were selected using a multiple case study.

The study targeted those individuals involved in outsourcing processes, especially the managing of outsourcing decisions, including policy formulation and other key decisions.The inclusion of top managers and librarians, as mentioned earlier, in this study was important because they have information on what goes on in selecting contractors, negotiating contracts and the services outsourced.Librarians selected consisting of reference and circulation librarians, acquisition, ICT/systems librarians. Vendors contracted to supply ICT services were also crucial, as they are the ones who perform the jobs awarded to them.

### 3.6.1 Sample Selection

Kothari,(2004) defines population as “a complete enumeration of all the items in any field of enquiry”. At the time of the study, there were seven public universities. The study selected four of those universities representing 57 per cent of population. The selection was based on age, size and application of ICT services. However, from the selected universities the selection of the respondents was purposive sampling technique, a type of non-probability sampling. Purposive sampling is about relying on study’s expertise or expert judgment to select units that are representative of the typical population (Orodho, 2003). The respondents in this case comprised the top library managers, vendors and librarians of the four public university libraries in Kenya. Collection of data was from only those with the required information.

The Deputy Vice Chancellors were crucial to this study as members of the university executive committees that make major decisions such as policy formulation, allotment of funds, acquisition and asset management. On another front, the university librarians are the ones in charge of the management of the libraries at various levels. They also make up the library committees that oversee major decisions including outsourcing. Vendors were also included in order to provide views on outsourcing from their perspective. It was also important to confirm their views with those of librarians especially about outsourced ICT services.

### 3.6.2 Sample size

There are no rules for sample size in qualitative inquiry as the sample size depends on what to know, the purpose of inquiry, what is at stake, what will be useful, what can be done within the available time, and the resources (Patton, 1990). Moreover, the validity, meaningfulness and insights generated from qualitative inquiry have more to do with information richness of the cases selected and analytical capabilities of the research than the sample size (Patton, 1990).

The size of the sample that the study used was four libraries out of seven public university libraries, which was followed by the selection of respondents using purposive sampling. Table 2 showsthe sample size in the four public universities.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | Respondents | MU | KU | UoN | JKUAT | Total | | Deputy Vice Chancellor in charge of Finance | 1 | 1 | 1 | 1 | 4 | | Director of ICT | 1 | 1 | 1 | 1 | 4 | | University Librarian | 1 | 1 | 1 | 1 | 4 | | Systems /ICT Librarians | 1 | 1 | 1 | 1 | 4 | | INASP Representative | 1 | 1 | 1 | 1 | 4 | | Acquisition Librarians | 1 | 1 | 1 | 1 | 4 | | Reference Librarians | 1 | 1 | 1 | 1 | 4 | | Cataloguing Librarians | 1 | 1 | 1 | 1 | 4 | | Circulation Librarians | 1 | 1 | 1 | 1 | 4 | | Vendors | 1 | 1 | 1 | 1 | 4 | | TOTAL | **10** | **10** | **10** | **10** | **40** |   **Table 2:Sample Size** |

The location of the study was the respective main campus libraries for the University of Nairobi (UoN), Kenyatta University (KU), Jomo Kenyatta University of Agricultureand Technology (JKUAT) and Moi University (MU); hence, the Jomo Kenyatta Memorial Library (JKML) in Nairobi, KU main campus library, JKUAT main library at the Juja campus, and Margaret Thatcher Library in Eldoret.

The study applied purposive sampling to select the librarians from each library. Collection of data was from only those with the required information.Additionally, the respondents chosen must have worked for more than oneyear in the libraries. Vendors were also included in the study as providers of the ICT outsourced services selected purposively.

## 3.7 Data Collection Methods

Qualitative study involves use of several data collecting tools. Methodologically pluralistic position, as articulated by Trow (1957). The same view is held by Gill and Johnson (2002) and Yin (2003) as they suggest that the validity of case study is increased when different research tools are pitted against one another in order to cross-check data and interpretations. Qualitative researchers are often more concerned about uncovering knowledge about how people think and feel about the circumstances in which they find themselves, than they are in making judgments’ about whether those thoughts and feelings are valid, Thorne (2000).Therefore, authors such as Thorne, (2000) and Yin (2003) suggest different methodologies like “questionnaire, interviews and documentary analyses” are applied whenever possible. It is for these reasons that the study used triangulation methods to collect data by combining semi-structured interviews, documentary sources and structured interviews.

Semi-structured interviews were used to collect data from top managers, the Deputy Vice Chancellors in charge of finance, the university librarians who were the key informants selected for the study, while structured interviews were administered to the providers of the IT services and the vendors.

### 3.7.1 Semi-structured interviews

This was the main data collection tool. Interview involves the interviewer obtaining information on issues of interest from the interviewee face to face. The study required an in-depth investigation to gain insights into the outsourcing phenomenon. Thus, the views of the managers were of importance. The investigation followed a rigid procedure, seeking answers to a set of pre-conceived questions through personal interviews.

The face-to-face interviews were carried out at the study sites (i.e., the public universities libraries) involving the top managers who were the key informants (university librarians and heads of acquisition and cataloguing sections, ICT/systems librarians, ICT directors, and country INASP representatives). Semi-structured interviews using a list of predetermined questions posed to respondents acted as a lead, but also probed where necessary to obtain detailed descriptions and answers. The objectives and research questions guided the research in developing the interview schedules. Through extensive discussions and probing, the study was able to gain insight into various outsourcing issues.

The choice of semi-structured interviews was to gain as much insight into outsourcing processes as possible. The method allowed the study to follow lead and new topics that may arise in the course of interviewing the respondents. The method allowed the study opportunities to restructure questions as understood by interviewees. Use of interviews also allowed the study to stimulate the respondent to provide more information. In addition, the use of body language provided additional clues of information sought by the study.

### 3.7.2 Structured interviews

A structured interview is one that has a set of predefined questions asked in the same order for all respondents (Zhang and Wildemuth, 2012). During the interview session, the interviewer has permission to explain things to the interviewee or respondentif they do not understand. It uses the same questions asked to the respondents in the same sequence or the same way.

Structured interviews were preferred in collecting views from vendors and librarians to enable the study to compare and contrast participants’ responses in order to answer research questions. The study developed an interview schedule that listed the wording and sequencing of questions asked to the targeted respondents.

### 3.7.3 Use of tapes

The interviews were recorded using an audio tape recorder and a digital recorder, the latter comprising a phone with inbuilt recorder, to reinforce the audio tape recording should either one develop a mechanical problem. The study subjected the digital version of the audio recording to storage in flash disks for ease of use with the computers. The recorded messages were also stored in the computer for backup.

### 3.7.4 Documentary review

The study relied on documentary reviews, mainly secondary data, to enrich the research. Secondary data refers to the data that has already been collected by someone else (Welman and Kruger, 2001; Kothari, 2004). It may be published data or unpublished data. According to Kothari,(2004), when study utilizes secondary data, it eliminates problems associated with the collection of original data. Secondary published data are available in various government or organization publications, reports, public records and statistics, while sources of unpublished data include diaries, letters, memos, scholars and research workers.

The study consulted various documents and reports such as the Kenya Public Procurement and Disposal Act 2005, ICT policies for various university libraries (majority of which were in draft format) and standard procedure manuals for various libraries that were targeted. However, the researcherbore in mind that secondary data is not always accurate or reliable, thus paid attention to the authenticity of the sources.

### 3.7.5 Pilot study

The study pre-tested the interview schedules before collection of data.A pilot study preceded the actual collection of data, conducted in one universityKenya Polytechnic University College in May 201I to pretest the instruments. The respondents had similar characteristics as those targeted namely librarian heading the circulation, cataloguing and acquisition departments, ICT librarian and the university librarian totaling five. The purpose ofpiloting was to identify errors, clarity of questions, ambiguities in the research instrument. The feedback obtained enabled the researcher to rectify the instruments before finally subjecting them to the actual respondents in the field.

The research used the input of the librarians, lecturers and professionals in the libraries and information sciences for their comments on full domain of the content. The purpose was to weed out errors, omissions, clarity of questions and ambiguities in the research instruments. The feedback obtained enabled the researcher to rectify the instruments before finally subjecting them to the actual respondents in the field.

The study also subjected data collection instruments to tests to establish content validity. This involved using peer professionals in the Library and Information Sciences for their comments. It also used the input of lectures in the information science from various universities to verify the contents validity of the interview schedules. Their comments and discussions were included in the final data collection tools.

## 3.8 Data Collection Procedure

The study drew up a plan of how to collect the data. This involved first obtaining a research permit from the Ministry of Education, Science and Technology and then reporting to the Vice Chancellors of the various universities to obtain permission to enter the respective sites and collect data.

Data collection commenced in August 2011 and completed in November 2011. The researcher collected data with the help of two research assistants. In order to perform the exercise, the research made prior appointments with the informants through telephone calls as well as through established links such as the heads of various departments. The researcher adopted a friendly way of creating an atmosphere of trust and therefore in cases where a particular respondent was not available on the appointed date it was easy to reschedule a meeting to another day.

The researcher mainly recorded the interviews using a tape recorder backed by digital recorder in the cell phone. The researcher also sought permission from the respondent before using tape recorders. To ensure content validity, the researcher supplemented tape recording with note taking. The research reminded the respondents about the purpose of the study and assured them that the data obtained was purely for the stated research. Where the respondent felt uncomfortable in diverging information, the researcher (or interviewer) reassured the respondents of maintaining ultimate confidentiality.

The interviews schedules usually took between 50 minutes and two hours and took place in the four universities. The researcher transcribed the taped interviews and examined the data carefully using constant comparative method. Whereinconsistencies occurredthe study conducted follow-up interviews.

## 3.9 Triangulation

Research scientists ensure that any research conducted is reliable, credible and valid. Triangulation is one of the methods used in social research for validation of data through cross verification from more than two sources. Triangulation uses more than two methods in a study that has the aim of increasing or cross-examination of the results. This increases the accuracy, validity and reliability of the results. The idea is that the study can be more confident with a result if different methods lead to the same result.

Cohen, Marion and Marrison (2004) define triangulation as an “attempt to map out, or explain more fully, the richness and complexity of human behaviour by studying it from more than one standpoint”. O’Donoghue and Punch (2003), define it as a method of crosschecking data from multiple sources to search for regularities in the research data. Patton (2001) advocates the use of triangulation because it strengthens a study by combining methods.

There are different methods of triangulation. Denzin (1997) and Denzin and Lincoln (2003) suggest four kinds of triangulation - data (involves time, space and persons), investigator (multiple studies in an investigation), theory (using more than one theoretical scheme in the interpretation of the phenomenon), and methodological (using more than one method to gather data). Triangulation means that if several independent and different actions give similar results, the results have higher reliability.

Ryder (1994), Denzin (1970) and Duffy (1987) recognize four types of triangulation, namely theoretical triangulation (when different theoretical frameworks are used), data triangulation (based on using different sources of data), investigator triangulation (when research is conducted by several independent studies) and methodological triangulation (based on the utilization of different methods of research). Stake (1994) and Smith, (1975) confirm triangulation as a method of increasing reliability of case study.

The study utilized different methods of triangulation as follows. The researchercollected data from various places and spaces involving different times and different data collection tools to achieve data triangulation. Sheapplied environmental triangulation to collect data from different areas mainly University of Nairobi, Moi University, Kenyatta University and Jomo Kenyatta University of Science and Technology, all located in different areas and data collected at different times.

Investigator triangulation involved peer debriefing to confirm information obtained and recorded in the transcripts. Two research assistants helped to collect data from different informants and data obtained werecompared with others for consistency. The study applied data triangulation where different sources such as informants, other librarians, programme staff and professionals in related fields provided data for comparison. This purpose of engaging different data sources was to increase trustworthiness of data.

The study also used more than one theoretical scheme in the interpretation of the phenomena. This involved bringing together people from different disciplines using multiple perspectives to interpret a single set of data. The study engaged informants from administration- the DVCs, ICT Directorate and library to provide the multiple perspectives.

Lastly, methodological triangulation applied different data collection tools. These were structured and semi structured administinterviews and documentary sources, which were triangulated thus allowing the study to unearth complex issues and find different views and thus validate the data.

## 3.10 Data Analysisand Presentation

Data analysis is the process of bringing order, structure and meaning to the mass of datacollected. It implies coding, editing, classifying and tabulating the collected data so that it is amenable to analysis (Lacey and Luff, 2001, Miles and Huburman, 1994). Analysis refers to the computation of certain measures along with searching for patterns of relationships that exist among data groups (Kothari, 2004). Kothari, (2004) asserts that data analysis is “the process of analyzing relationship or differences supporting or conflicting with original or new hypothesis and subjecting it to statistical tests of significance to determine validity and conclusion”. The process of data analysis involves making sense out of the text and image data, (Cresswell, 2007). Data analysis and interpretation summarizes the collected data and organizes it in such a way that it answers the questions through conclusions and comparisons made from analysis. The study applied diverse techniques for effective data analysis and interpretation.

Qualitative studies chose methods to analyze their data not only by the research questions and by types of data collected, but also based on the philosophical approaches underlying the study (Onwuebuzie and Leech, 2007). Patton (1990) sees qualitative data analysis as working with data, organizing it, breaking it into manageable units, synthesizing it, searching for patterns, discovering what is important and what is to be learnt, and deciding what to tell others.

The study analyzed data using content analysis as advocated by, Zhang, Y & Wildemuth and Patton, (2002). The study prepared the data by first defining the unit of analysis,(the basic unit of text to be classified during content analysis). Individual themes /ideas were used as the unit of analysis such as single words, phrases or even paragraphs (Zhang, Y & Wildemuth) the organizing the data.This meant transcribing interviews and typing field notes into various sources of information.

Further reducing and condensing data, and thereby beginning to seek meaning, began at the commencement of the study. It continued throughout the data collection. The study relied on detailed and rich descriptions across multiple data sources to seek regular patterns of outsourcing issues in the data. This required organizing qualitative data into themes by scanning and sorting it into different types through filtering, coding and sorting, which enabled the study to establish categories applied to raw data through a coding process.

The study used constant comparison method, which involved categorizing data as they were collected, and continually examining data for similar cases and patterns thereby beginning to seek meaning. Lastly, to obtain data validity and reliability required comparing various information sources, incidences and peer professional comments.

The study-derived interpretations of the qualitative data from identified patterns and conceptual relationships in the data that supported revised or the various generated theories. It used inductive thinking through interactive process of moving from specific objectives to more explanations that are general. The purpose was to draw reasonable conclusions using interpretive process that requires sense making as meanings emerge with the aim of creating a shared understanding that forms coherent structure and a unified whole (Onwuebuzie and Leech, 2007).

Further, to achieve coding, the study applied quantitative computer software SSPS. Themes were generated for the research study after coding was done; the study used themes to show the multiple perspectives from the individuals supported by diverse quotations and specific evidence. Its description and themes were presented in a qualitative form using narratives before making interpretations to the data. Finally, qualitative data werepresented in form of text, written words, phrases, pictures that represented librarian’s actions and interpretation of outsourcing processes.

## 3.11 Trustworthiness in Research

Qualitative research uses different standards for judging the quality and trustworthiness of research. For instance, Creswell (2007b) argues that qualitative research value lies in the particular description and themes developed in context of a specific site and thus particularity rather than generalizability is the hallmark of qualitative research. Ward-Schofiel, (1993) points out that the goal of qualitative study is not to produce a standard set of results that any other study in the same situation would have produced, but it is to produce coherent and illuminating description of the perspective or a situation that is based on and consistent with detailed study of the situation.

Guba and Lincoln (1985) and Guba and Lincoln (1994) propose four criteria for judging the soundness and trustworthiness of qualitative research. These are credibility, dependability, transferability and confirmability. According Merriam, (1998) credibility deals with the question of, “how congruent the findings are with reality”. According to Guba and Lincoln (1985), transferability refers to the degree to which the results of qualitative research can be transferred to other contexts or settings by showing that the findings have applicability in other contexts. Confirmability refers to the degree to which the results could be confirmed or corroborated. In addition, it refers to the extent to which the respondents and not study bias, motivation or interest shape the findings of a study, (Lincoln and Guba, 1985). Dependability emphasizes the need for the study to account for the ever-changing context within which research occurs by showing that the findings are consistent and could be repeated. Lincoln and Guba (1985) argue that ensuring credibility is one of most important factors in establishing trustworthiness.

In view of the above, this studydealt with, trustworthiness of research in different ways. To improve data trustworthiness, the study took certain steps to check accuracy and credibility of the study. Qualitative reliability means that the study’s approach is consistent across different studies and different areas of the projects. To ensure qualitative reliability, the study documented the procedures of the case study with as many steps as possible. It also checked and verified transcripts regularly during recording and analysis to see that they did not contain any mistakes. To ensure that there was no mix-up of data of different codes, coding of the themes was cross checked and verified. To do this, the study engaged two research assistants to facilitate comparing data with the codes and defining each code so as not to mismatch.

Trustworthiness depends on determining whether the findings are accurate from the study standpoint, the participants and others. To check on trustworthy, the study triangulated various research collection instruments, such as the interview and documentary sources and data collected using the different research tools. The study examined evidence from the various sources and data from the different tools and merged them to add to trustworthiness. Moreover, the study interviewed an extensive number of informants to help confirm the trustworthiness of data by providing supportive evidence.

Multiple running of the audiotapes and transcribing the recordings were done to establish the conformability and rigour of the study. To add to trustworthiness of the research, the study used member checking. Member checking is the process of verifying information with the targeted group (Simon, 2011). It allowed the respondents a chance to correct errors of fact or interpretation.

The study confirmed parts of the polished data by use of follow-up interviews to reinforce compare and corroborate the results. This gave an opportunity to the participants to comment on the findings. Other methods that the study used were peer-debriefing and external auditors, especially from the library profession, teaching fraternity and procurement officers. The study utilized views from the professionals in the information science and related areas to enhance accuracy of the results.

## 3.12 Ethical Issues in Research

There are ethical implications with research conducted with human participants such as protection of human participants, (National Bioethics Advisory Commission (2001). Therefore, the study took all steps necessary to ensure that there was no violation of a person’s rights in any manner whatsoever and that ethical considerations were taken into account in all the stages of the research.

To achieve the above, the study ensured that:

▪ while designing covering letters for the case study the reasons of conducting the study, including sponsorship issues, were included.

▪ It respected participants and the study sites; in particular, names of the respondents were not mentioned other than as respondents or category of users of the library, namely library staff, top managers and users.

▪ Permission was sought from the relevant authorities such as the National Council for Science and Technology (NCST) under the Ministry of Higher Education, Science and Technology and the universities before entering the site.

▪ It paid particular attention not to disrupt the activities during interviews.

▪ It respected the respondents’ confidentiality by ensuring that their names were excluded and not mentioned in the data analysis stage, even for follow-up purposes.

The data collected used the principle of “informed consent”. (Creswell ,2007b), Rosnow and Rosenthal (1997) state that informed consent is where the participants are entitled to know what they are getting into and are acquainted with essential facts of the study. The study made sure that the respondents were aware of this before administering the data collection tools.

The study also made sure that confidentiality was highly maintained. It was fully committed to respecting the dignity of the research participants and acknowledged that none of the participants had the obligation to participate, unless they want to do so. It also sought the respondent’s permission to use tape recorders in the interview.

The study applied ethical issues at the data analysis stage by ensuring that it did not falsify the data collected and did not invent findings to meet study or audience needs. It will anticipate that the repercussions of conducting the research on certain audiences will not alter the results to the advantages of one group or another. The researcher will also make available the findings of the study.

## 3.13 Challenges Encountered in Data Collection

The study encountered a number of challenges during data collection. It was a multiple case study involving collecting data from multiple locations, counties and time. In addition, some of the public university libraries were far apart and from the researcher’s location, which presented difficulties in strategizing. It required making prior arrangements on how to meet the respondents including where to board overnight. Even then, it was not possible to meet some of the respondents, which contributed to additional costs since this meant prolonged stay adding to unexpected boarding expenses. In some cases, the researcher was forced to trek long distances to meet the respondents in places where they had requested to be met.

There was also reluctance on the part of university decision-makers to cooperate and share information with the interviewers. This explains the reasons why the study failed to reach the 100% target because two respondents were inaccessible. However, the 95 % achieved was considered adequate. There were also several instances when the respondents, especially university administrators, failed to keep their initial appointments forcing the researcher to postpone meetings even up to three times. They either were out of the office or busy with the work schedules. In such cases, the researcher was able persuade them to meet again when they were available. A second or third round of appointments was therefore required.

Extreme difficulty was also experienced in obtaining permission to interview Vice Chancellors (decision-makers). The explanation they gave was that they were committed in regular meetings or were busy with university schedules, which denied them the opportunity to spare any time. However, after lengthy pursuation of the DVC the study was able to interview two out of the targeted four.

University librarians were busy and at times, it was difficult to obtain even an appointment. It required pleading on the part of the researcher to get them interviewed. Considering that most interviews also took place in their offices, there were instances when the interview sessions were interrupted occasionally warranting rescheduling if an alternative setting was not available. The above problems made the exercise tedious and expensive.

Despite the challenges faced, the researcher interviewed 38 out of the 40-targeted respondents, thereby registering 95 per cent response rate, which ishigh and was considered adequate.

## 3.14 Chapter Summary

This chapter has described the research methodology approach that the study employed as well as the rationalization for their use. The data collection tools adopted enabled the study to collect sufficient data to carry out the study and to formulate theories that allowed understanding of how staff responds to the various issues of outsourcing. Data collected was analyzed using qualitative methodology, and the data presented using narratives, descriptions and pictures. The study paid attention to aspects that enhanced the quality of research, such as triangulation and ethical issues.

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# CHAPTER FOUR

# DATA PRESENTATION, ANALYSIS AND INTERPRETATION

## 4.1 Introduction

This chapter presents and discusses the data collected from the field and extracted from interview schedules. The study aimed at investigating ICTservices outsourcing in selected public university libraries in Kenya in order to propose a framework for guiding outsourcing to improve information service provision. The objectives of the study were to: examine the range of ICT services outsourced by selected public university libraries in Kenya; establish librarians’ perceptions of outsourcing ICT services in selected public university libraries in Kenya; explore the factors instigating the outsourcing of ICT services ; examine the strategies employed in outsourcing ICT services in selected public university libraries in Kenya; review the legal and infrastructural requirements in outsourcing ICT services; establish the challenges associated with outsourcing of ICT services in public university libraries; and propose a framework for effective outsourcing of ICT services in public university libraries in Kenya. The chapter presents the findings in sections based on the objectives of the study.

## 4.2 Characteristics of the Respondents.

### 4.2.1 Response Rate

The study targeted 40 respondents through purposive sampling. However, the study interviewed only 38 respondents; it was not possible to interview two respondents. Hence, the study had a response rate of 95 per cent as Table 3 shows.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | Respondents |  |  |  | Targeted | Interviewed | | Deputy Vice Chancellor in charge of Finance |  |  |  | 4 | 2 | | Director of ICT |  |  |  | 4 | 4 | | University Librarian |  |  |  | 4 | 4 | | Systems librarian/ICT librarian |  |  |  | 4 | 4 | | KLISC/INASP representatives |  |  |  | 4 | 4 | | Acquisition Librarian |  |  |  | 4 | 4 | | Cataloguing Librarian |  |  |  | 4 | 4 | | Circulation Librarian |  |  |  | 4 | 4 | | Reference Librarian |  |  |  | 4 | 4 | | Vendors |  |  |  | 4 | 4 | | TOTAL |  |  |  | **40** | **38** | | Total % |  |  |  | **100%** | **95%** | |  |  |  |  |  |  |   ***Table 3: Response Rate*** |

The respondents selected for this study comprised the personnel involved in outsourcing processes. The study selected an equal number from each university using purposive sampling as shown in table3. It was important to include all the categories identified because of the significant part each played in the outsourcing processes. Consequently,the study identified 28 librarians and 4 ICT Directors. Additionally the study targeted four DVCs but only two were available for the study. Four vendorswere targeted but only two participated.

### 4.2.2 Duration of service in the library (Librarians)

The study sought to know the duration of service of the staff interviewed. This was crucial because each library had its own organizational culture and traditions whose pattern could only emerge and perceived by those with a long history. Librarians targeted were 28.

Table 4showsLibrariansduration of service.

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| |  |  |  |  | | --- | --- | --- | --- | | Serial No. | Duration of service (in years) | Frequency | Percentage | | 1 | Over 5 years | 20 | 71.4 | | 2 | 5 years | 4 | 14.3 | | 3 | 3-4 years | 3 | 10.7 | | 4 | 2-1 years | 1 | 3.6 | | 5 | 0-11 months | 0 | 0 | | TOTAL |  | 28 | 100% | |  |  |  |  | |

*Table 4: Librarians duration of service (n=28)*

According to the table, majority (71.4%) of the librarians had worked for more than 5 years, while 14.3 per cent had worked for 5 years and 10.7 per cent had worked for 3-4 years. Those who had worked for two to one year at 3.6 per cent. This means that all the librarians interviewed had worked for more than one year in their respective libraries and therefore had knowledge of outsourcing of ICT services.

### 4.2.3 Education Level of the respondents

The study sought to know the level of education and training attained by the Librarians. Table 5 shows the educationlevel of the librarians.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Education Level of the librarians n=28***   |  |  |  |  | | --- | --- | --- | --- | | Serial No. | Level of training | Frequency | Percentage | | 1 | PhD Degree | 1 | 3.6 | | 2 | Master’s Degree | 19 | 67.8 | | 3 | Bachelor | 7 | 25 | | 4 | Higher Diploma | 1 | 3.6 | |  |  |  |  | | TOTAL |  | 28 | 100% |   **Table 5: Education Level of the librarians** |

Libraries outsource because the staff lack up-to- date ICT skills. The study needed to know the education level the librarians to determine if it was the reason, public university libraries outsourced. The study revealed that the libraries had one ICT librarian. The study revealed that librarians who had Masters Degrees were the majority at 67.8 per cent, while 3.6 per cent were PhD holders. Librarians who held the first degree were at 27 per cent and Higher Diploma at 3.6per cent. This would explain why the libraries outsourced ICT services.

## 4.3 The ICT Services Outsourced

The study’s objective was to examine the range of ICT outsourced by the libraries. The respondents were asked which type of ICT services were outsourced.The study established that the ICT services outsourced by all the four university libraries included e-resources, internet, automation and training as indicated in figure 2.Among the services outsourced-resources acquisition were outsourced under joint ventures, while otherssuch as security, digitization and web-based references were outsourced from different vendors.

Figure 2 Range of ICT services Outsourced

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### 4.3.1 E-resources

E-resources are a collection of on-line publications that consists of e-books, electronic journals and online databases. All the libraries had outsourced e-resources through a consortium of institutions called Kenya Library and Information Services Consortium (KLISC). KLISC was established in 2003 with the main objective of collective subscription to electronic resources. The idea was to help institutions cope with the increasing cost of these resources. The Consortium has its membership drawn from university libraries, research institutions, and public/national libraries.

KLISC mandate is to sit and deliberate on the needs of their customers for the year, registration, membership, possible costs of e-resources and available resources alongside the available financial resources. The Consortium works with PERii (Programme for Enhancement of Resource Information) and the INASP programme to get in touch with the publishers and provide feedback to the country representative(s). PERii sources for services and then passes the requests to INASP. The participating institutions, who have appointed representatives, sit together and decide about the distribution of the funds among the participating libraries.

The study found that all libraries were members of KLICS and therefore they had outsourced for INASP.

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| --- |
| **Description: C:\Users\Naomi poly\Desktop\2012-05-25 12.10.03.jpg**  **Photograph 1: Users utilizing e-resources in Margeret Thatcher Memorial Libray- Moi University** |

The above photograph shows library clientele using two outsources services, the e-resource and internet. E-resources are electronic information repositories that can include collections of electronic journals: indexes, collections of electronic books, or multimedia publications. The readers must log in using password provided by the library.

### 4.3.2 Internet Services

Public university libraries outsourced Internet services at subsidized prices from Kenya Education Network (KENET). KENET is a National Research and Education Network, a non-profit organization that promotes the use of ICT in teaching, learning and research in institutions of higher learning in Kenya by interconnecting member universities, and tertiary and research institutions. Its aim is to set up a private network with high-speed access to the global Internet to facilitate electronic communication among member institutions. The four universities’ libraries have contracted KENET to provide internet services as claimed by one respondent,

‘’ The library has outsourced from KENET because the university is not an Internet Service Provider and normally the requirement to be an ISP is that you have to buy a bulk bandwidth and it is easier to outsource from an ISP*”*

### 4.3.3 Virtual Private Network and installation of Fiber Backbone Network

Moi University had outsourced Virtual Private Network (VPN) and installation of Fiber Backbone Network (FBN)services from Safaricom. VPN enables internal communication within the campus. A private network enables the library and centres within the campus to share resources in a more secure way*.* As one respondent put it,

”Virtual Private Network is also outsourced because the university has no capacity to install a VPN and therefore this has been outsourced to Safaricom and also simply because the university did not have the expertise and did not have the necessary equipment thus it was cheaper to outsource*.*

Installation of FBN connects the buildings, such as the schools and students’ centre to the library. The library outsourced the service because it required expensive equipment for terminating and installing the fiber. This facilitates the wider network coverage within the university‘s WAN.

### 4.3.4 Library automation

Library automation is the processof use of computers to automate thehousekeeping activities in libraries, which include acquisition, cataloguing and circulation. When libraries replace manual systems with ICT, the process is termed as library automation. It includes the use of Library Management Information Systems, Dspace and digitization.All the libraries had outsourced the automation of the library, especially user services such as circulation and acquisition. At the time of compiling this report, almost all the libraries either had bought commercial library management systems or were using open source systems.

All the four libraries had outsourced their library management systems, albeit from different sources. KU and JKUAT had outsourced open source software, LibLime KOHA. This is open source software downloaded from the Internet. Though KOHA is an open source, KUL had contracted Strathmore University to help in its implementation. Initially the library management had sought to acquire Liberty 3, but the administration learnt of the free software, (KOHA), and contracted a student who was familiar with the system to install it. The University of Nairobi had outsourced their Library Management System (LMS), Vubis Smart, from the University of Brussels and relied on vendor for the maintenance of the system. The library had no staff with skills to maintain the system and still completely relied on the University of Brussels.

Moi University Library had outsourced open source software,Automation of Libraries and Cen-ters Documentation (ABCD) system from Belgium. The library initiated the project in 2010 and was still ongoing at the time of writing this report. The library outsourced the system because it was well developed and was better than the other optionsthe library hadenvisaged, as it was more cost effective than in-house developed system. As explained by a respondent*,*

“… the system was much cheaper to outsource than developing one internally, besides development and implementation of the system was facilitated by a donor making it easier to acquire the system’’.

The donor MUK-VLIR-IUC programme, in collaboration with Moi University, Belgium universities and the Flemish International University Council, supported the development and implementation of the ABCD system. The study noted that the ICT Directorate had not consulted the librarians before acquiring the software. The librarians wish was for a system easily integrated with other university system such as finance

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| Photograph 2: ABCD LIS at Margaret Thatcher Library |

Although most of the LMS were open source software, the staff lacked knowledge to implement the systems and, therefore, relied on vendors to train them. A large proportion (three) of the librarians expressed dissatisfaction with the way their respective libraries outsourced various LMSs. The universities contracted various suppliers without benchmarking with the pioneers organizations.

OPAC is an online database of materials held by a library or group of libraries. All libraries had commissioned vendors to set it up for them.

DSPACE is software used in automating resources. It is a software package for creating open access repositories for scholarly and published digital content. The study revealed that two of the libraries were in the process of converting their printed research and scholarly work into repositories and were considering using DSPACE or were using it. Moi University library (MTL) had used the software to preserve and share academic research. However, at the time of the study, the library had suspended its use citing logistic reasons. KU library was in the process of outsourcing implementation of DSPACE for lack of internal staff that had the necessary skills.

Digitization is the process of converting analogue information into a digital format for viewing or listening in digital devices such as computers. Digitizing information makes it easier to preserve information, access and share. Due to limited storage space and the need to convert most of the print resources to digital format for ease of use, sharing and accessibility, many libraries are digitizing their materials for their institutional repositories. The study found that three of the libraries had already either engaged a supplier or were in the process of engaging one to digitize their print resources. For instance, the University of Nairobi was in the process of engaging a firm,DigitalDivide Data *(*DDD*)* to digitize their institutional repositories.Kenyatta University Library was in the process of digitizing their library resources starting with all the past examination papers.

### 4.3.5 Training staff in ICT

To enhance competency in staff skills, all the public university libraries had outsourced staff training; most librarians lacked skills in ICT areas. This occasioned the need to train staff to enable them carry out routine maintenance and implementation of certain ICT projects.

All the four libraries had engaged staff to train their staff. The University of Nairobi library had engaged the services of one professor to train the staff in records keeping. Moi University library had outsourced training specialists in ICT courses, such as CISCO, LINUS, Oracle and Dbase, from certified organizations to train the library and other university staff in certain skills from time to time. One respondent pointed out that,

“The university requires certified ICT personnel from accredited training and testing centres such as CISCO, LINUS, since the university is not credited to offer such courses and thus they outsource training services.”

ICT infrastructure requires regular updating and maintenance of the technologies. This includes, and is not limited to, the following: maintenance, repair techniques, provision of a quality and comprehensive service installation of any software and, where necessary, provision of systems maintenance and performance checks. Due to lack of ICT technical skills, all libraries depended on outsourcing maintenance of ICT technologies to certain vendors. For instance, the University of Nairobi library was outsourcing the maintenance of its cataloguing software since it had no staff with the skills to do it; hence, they relied on the Library of Brussels to maintain the software. They also outsourced services from LG to maintain certain air conditioning. Kenyatta University library was outsourcing the maintenance of lifts.

### 4.3.6 Web designing

Web-design involves the production and maintenance of the websites. A website is a set of related web pages containing content such as text, graphics, sounds and images. The purpose of a website is for the library to meet specific objectives such as marketing its products to the customers, sharing and exchanging information. It facilitates communication between the users and the content.

All the four libraries had operational websites. As much as it is a service usually outsourced by libraries, the study established that in the case of the Public university libraries, web design services were in-sourced; majority of the libraries had the service provided by the IT departments of the respective universities. The IT departments were also maintaining and updating contents on the library with the input of the librarians.

### 4.3.7 Security

Security involves protection against danger, damage, loss and crime. It involves securing not only human being, but also information. Information security is the application of computers and computer networks in the protection of information and property from theft, corruption and/or natural disaster. All libraries had different methods of securing information: for example, by use of Close Circuit Television (CCTV), Radio-frequency identification (RFID) and use of guards. Majority of the libraries either had outsourced security services, by engaging private firms on a regular basis, or had contracted a firm to erect a security system for the library. For instance, JKUAT library had commissioned 3M to erect a CCTV security system, while University of Nairobi library was using a security firm to safeguard their facility. Others such as Moi University and Kenyatta University were considering contracting firms to set up a RFID system.

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| **Description: C:\Users\mwai\Downloads\CHECKING @ ENTRANCE & RULES DISPLAYED.JPG**  Photograph 3: Security check at the University of Nairobi library entrance |

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### 4.3.8 MARC bibliographic records

Librarians follow the Anglo-American Cataloguing Rules*,*Second Edition (AACR-2) to compose the bibliographic description of a library item. Nevertheless, sometimes it can be tedious work, especially where a library has limited staff resulting in copy cataloguing. Copy cataloguing is a process of building upon original cataloguing done by other professional bodies. Professional bodies like the Library of Congress (LC)and Online Computer Library Center, Inc. (OCLC)are the leading vendors in copy cataloguing. For instance, according to the librarian of the United States International University in Kenya, (USIU) the university library spends about Kenya Shillings 2.7 million to outsource Machine-Readable Catalogue (MARC) records from Online Computer Library Center, Inc. (OCLC). Copy cataloguing facilitates resource and bibliographic sharing of MARC records for materials that a library orders or acquires. By using records created by other libraries, public university libraries save much time on cataloguing.

To identify the records, libraries use control fields (tags) containing information of the item catalogued. Using the MARC standard prevents duplication of work, allows libraries to better share bibliographic resources, and enables them to make use of commercially available library automation systems to manage library operations. All the four libraries were using LC MARC Record and tags for copy cataloguing bibliographic data.

### 4.3.9 Web-based Reference Services

Web-based Reference Services arethe remote, computer-mediated delivery of reference information provided by library professionals to users who cannot access the service. It may entail doing a search on behaviour of the user and, where the document is not available in the library, the library can request another library to do the search from their resources and provide the document at a cost. It can also take the shape of answering questions asked by users.

Out of the four libraries, two were using the service namely Moi University and the University of Nairobi (Moi University library collaborated with Indiana University to have the latter carry out reference searches for former. If the client needed a certain journal article, they provided the detail of the journal to the university, which conducted a search for them and provided feedback. The University of Nairobi worked with the British Library to have articles from certain journals accessed to them at a fee as indicated by acquisition librarian.

“When the users notified us that they needed an article that was not available in the library, the acquisition librarian ordered it from the British Library. The duration of the searchmay take a while, but we normally got the results.”

### 4.3.10 other outsourced services

The traditional library has used reprographic services as a method of delivering information to users as well as of getting additional funding for the running of the services. Provision of photocopying services is one of the major methods used by libraries to make copies of text, photographs and other printed documents. The study revealed that JKUAT library had photocopying services outsourced to a vendor, Moi University on the other hand was providing the service internally. It also revealed that JKUAT library was outsourcing lift maintenance to 3M Company. Other outsourced service included printing of cards.

### 4.3.11 Vendors of the IT services

The study sought to know the vendors providing the outsourced ICT services. The study findings revealed that public university libraries outsourced some ICT services jointly through consortiums; that is, all the four libraries had engaged the same vendors for the sameservices. In addition, public university libraries used different vendors for services that each library outsourced separately and individually. Similar services that all the libraries had commissioned vendors to provide for them included INASP and PERI for e-resources and KENET for Internet services. However, unlike e-resources where the libraries paid equal amount for the cost, it was not the case for internet services. Each library paid according to the rate of its consumption. The University of Nairobi was commissioning DDD, for digitization, while Moi University had outsourced cabling to Power Techniques, and JKUAT had commissioned 3M to provide security.

The study also found that libraries had outsourced services to international universities; for instance, Moi University library had acquired their LMS (ABCD) and were collaborating with Belgium University for its implementation. The University of Nairobi had outsourced their Library Information System (LIS) from the University of Brussels and relied on them for its maintenance.

Other vendors included 3M currently maintaining the detection machine as part of security services at JKUAT library and Power Techniques, commissioned by Moi University library to provide cabling facilities. Safaricom was installing VPN at Moi University library to enabled internal communication and sharing of resources within the campus in a more secure way. The University had also engaged CISCO and LINUS to train library and other staff in ICT. Among those providing ICT services, were individual consultants, contracted for short-term services; for example, University of Nairobi had contracted a lecturer to provide staff training in records keeping at the time of interview.

## 4.4 Librarians’ Perception of ICT Outsourcing Services

Based on the study’s objective: to establish librarians’ perception of outsourcing ICT services. The respondents were asked how they perceived outsourcing of ICT services. The study established that the majority of the library staff (93.3 %) supported the decision of the libraries to outsource ICT services. Only a small proportion of the staff (6.7 %) opposed ICT outsourcing. The study sought to know why the staff perceived the idea of outsourcing ICT services as good. The reasons are discussed below.

### 4.4.1 Staff support of outsourcing ICT services

The staff said that ICT outsourcing allowed the staff of the respective organizations to gain more from the vendor in terms of skills. People contracted usually have more advanced technical skills than the in-house staff considering that ICT is their core-competency.

ICT outsourcing also allowed the library to access services that it could not offer from within due to lack of skills. Respondent claimed that,

“…we are in the era of e-resources and our training did not prepare us for this, there are challenges that we do not understand…..”

Based on the findings, the study concludes that the respondents perceived outsourcing ICT services as enabling the library (librarian) gain ICT skills they may not have. It allows the library staff to concentrate on their core-competencies; that is, when the vendor takes up specialized tasks that they have competence in, it leaves the library staff to concentrate on other tasks. A library is a service institution and the major task of the librarian is to serve the user. Outsourcingtherefore gives them time to concentrate on the key competencies as mentioned by one respondent:

”… we librarians have so much we do. When you have been doing something and outsourcing takes it away, there is always something else for you to do. It is not the same as outsourcingcleaning, when you replace a cleaner, that is the end, but librarians haveother things they can do. We are information intermediaries and to provide quality services there is so much for librarians to do apart from ICT jobs outsourced.’’

Librarians viewed outsourcing as allowing staff to devote their time to other important areas of service delivery. Others viewed outsourcing as something that allows the library to save money as one respondent observed:

“There are some services that may not be economical for library to offer or the ICT department, in a case where probably that job maybe technical and requires a professional only for a while then I would go for outsourcing.”

In such a case, the vendor offers the services and bears the risks that may result from additional costs, such as software updates. For instance, most libraries had contracted Internet services from KENET, while they obtained e-resources from INASP through a consortium of institutions. KENET and INASP maintained the ICT infrastructure and had to deal with technology updates, hence bearing the risk. The universities only had to worry about the infrastructure within the campus.

Other discernment held by the librarians included: the library able to gain more from contracted services, especially e-resources; outsourcing makes work easy. Staff with experience performs the work making it easier to impart the skills to the staff.

### 4.4.2 Staff resistance to outsourcing of ICT services

The greatest fear regarding outsourcing was job layoffs. Some of the librarians felt that since ICT outsourcing was a new area it might lead to deployment of staff, especially if the aim was to cut costs. For instance, the views from one respondent librarian was that,

”It is true that there is fear that when you concentrate on outsourcing, jobs may be lost, for example when University of Nairobi Library started outsourcing cleaning and security services, people lost their jobs, so the fears may be genuine.”

From the findings, the study observed that the staff perceived ICT outsourcing as a threat to their jobs. The librarians also perceived ICT outsourcing as expensive due to high costs incurred in setting up most of the IT projects, acquiring and maintaining the equipment as well as the cost of training staff to take up the ICT project. Moreover, the respondents saw ICT outsourcing as a possible area of abuse, especially since libraries did not provide guidelines.

Among the areas, the respondents saw as possible targets for abuse included employment of unreliable suppliers, nepotism and inflating of prices. Libraries dealt withmost outsourcing services the same way as other procurement services where awarding of contracts is to the lowest bidder. Because of the rigid rules that govern the process, coupled with lack of guidelines, outsourced services did not produce the desired effects.

Other respondents viewed outsourcing as risky. They felt that if the management rushed the decision to outsource it could lead to certain risks such as exposing organizational secrets to the outside world. Yet others felt that outsourcing contributed to loss of key competencies. When the library contracts services to an outsider, the supplier performs the work. For example, INASP procured e-resources on behalf of the institutions; hence, they are the ones who negotiate the prices. In the end, the librarian’s ability to negotiate may diminish with time. Similarly, libraries outsourced cataloguing of documents from LC as MARC records, which made the staff lazy because they were used to only downloading instead of the actual cataloguing. With time, the cataloguer may forget how to catalogue thus detaching the staff from their core activities.

Other respondents, expressed fears of sustainability of the outsourced services and the overwhelming training needs. Their opinion was that even as the library outsourced, there was need for training as cited by one circulation librarian*.*

”We have heard a few stories of institutions that have outsourced having problems, like when you put up a system and you need somebody instantly because the service is to continue and people who render the job do other activities in the organization they may not be available when needed especially if you did not train the staff. That would be the fear.”

Outsourcing can also lead to service disruptions. The example given was that of e-resources, where public universities paid more than Kshs 2 million for e-journals not considering e-books, which are even more expensive. The prices are not constant and they keep going up. Between payments, service disruption occurs until the contracts are renewed.

Finally, respondents viewed ICT outsourcing as a new area to many librarians and it needed planning. They were of the view that, before making decisions to outsource, planning and conducting users’ needs assessment is important. It is also important to weight decisions as to whether a service is best outsourced or in-sourced.

## 4.5 Factors Instigating Librarians’ Decision to Outsource ICT Services

Based on the objective to explore factors instigating outsourcing of ICT in libraries, therespondents were asked why libraries’ outsourced ICT services. The purpose was to find out the underlying factors instigating the decisions to outsource the services. The factors that the study identified in order of primacyare discussed below.

### 4.5.1 Knowledge and technology transfer

Majority (22%) of librarians cited knowledge and technology transfer as a factor leading to outsourcing. The argument was that the librarians are able to gain easier access to expertise and new technological developments from the staff that contracted to provide the services. The supplier is likely to have more advanced and experienced staff since they derive their livelihood from consultancy and therefore strive to remain informed about the latest trends in technology. The library can therefore move with the times by dealing with technology obsolesces using latest technology that the vendor introduces.

Availability of personnel trained in ICT is important, therefore, libraries tended to mainly outsource in areas lacking technical skills. The respondents felt that a library could only outsource a service that had vendors with the needed relevant skills.

### 4.5.2 Improved efficiency

The library is able to improve the efficiency of its services because the contracted services are mainly those in which the libraries lack staff, capacity and skills. This view had a 20 per cent response.

Services are outsourced to staff that are more competent and able to provide a seamless service, which helps to improve the services that are provided to the library clients; hence, the vendors provide a faster and efficient way of doing things. The staff brought in by the vendor is more experienced and therefore tend to perform the tasks more effectively and efficiently. This translates to better, more improved services for the customers. Overall, the outsourcer hires staff that is more experienced than their own staff.

Respondents felt that before outsourcing it was important to consider if the service outsourced would make the work easier and save the staff time to operate. As one acquisition librarian puts it,

“When deciding to outsource we consider if the service is easier than what the staff are doing and whether it will save time, for example when we outsourced KOHA it was because we felt that it would make processing and management of services easier and faster.”

Besides, when ICT services are outsourced, the staff takes on areas of ICT while the librarians concentrate on their areas of expertise, such as serving users. Moreover, most of the outsourced services, especially the e-resources, operate on an ICT platform that is familiar to most users. This requires minimal supervision on the part of the librarian and with the least of effort; the users are able to operate on their own leaving the librarian to attend to other business.

### 4.5.3 Cost saving and economies of scale

Outsourcing ICT is cheaper in the end since the supplier and not the library cover the overhead costs as cited by 23.8 per cent of the respondents.The librarians weighed the decision to outsource or in-source using the cost of each service and only outsourced if it was felt that it was cheaper. Respondents argued that outsourcing was one way the university reduced overhead costs, especially for short-term projects that required competent staff, were expensive and required one time execution, for example, cabling. In such case, the university only paid for the services specified under the contract, and the supplier bore all the overhead charges such as allowances of the staff under them.

Again all the libraries are able to get more e-resources by pooling together finances and buying together. They pay less as individual libraries thus getting e-resources that are worth the money. This way, each library is able to get more than they would have if they had done it on their own. According to one INASP representative acknowledged,

“…the library was able to get 50000 journals more through the Kenya Library and Information Services Consortium (KLISC - the consortium of institutions in Kenya). Since the institutions, pool together financial resources and also bargain together as a block and form a buying club, their consolidated efforts enable them to get more e-resources.”

### 4.5.4 Competencies and skills

Librarians explained that lack of staff with ICT skills was one of the reasons that led to the libraries outsourcing ICT services, which enables the library to gain staff with training capacity and technical support. This had 14 per cent response rate.

Before making decision to outsource, the librarians considered whether the skills were available in the library. When they lacked staff with ICT skills to do the job, they made the decision to outsource. They also outsourced when they lacked experts with needed technical ICT skills as expressed by one reference librarian:

“We are in the era of e-resources and our training did not prepare us for this, there are challenges that we do not understand…..”

The study observed that that lack of skills was a factor to determine whether the service was to be outsourced.

### 4.5.5 Vendor support

The vendors have better and more sophisticated equipment than the library; hence, they are more experienced in handling emergencies. In case of a breakdown, they are able to reinstate the services faster than the library as cited by 9.1 per cent of the respondents. Citing the case of INASP, one respondent stated:

“If there is information that they need us to know they pass to us through the country representative. For every institution, there is a contact person. I am the country representative and I inform the contact person. They say that their services are available 24 hours, round the clock, if for any reason they are not available, we write to them and ask them what is happening, and if there is a broken link, they remedy that immediately. All of them are very vigilant. We have not had a case where they have let us down”**.**

### 4.5.6 Back-up, security and updating

Back up, security and updating as a reason for outsourcing had 9.1 per cent response. Libraries gained a lot by having their data backed up and upgraded regularly by the vendor. For instance, the study revealed that the providers and publishers updated e-resources and Internet services. In effect, the libraries get current journal articles. In case of virus, the library is secure since data is stored in the provider’s servers, and the libraries only have to deal with securing their internal data.

### 4.5.7 Risk reduction and mitigation

In outsourcing, the library is able to minimize certain risks that may stem from ICTs, such as liability issues, insurance cover and risk of obsolescence of technology. The supplier owns the technology accessed by the client library; hence, the library transfers the risks to the vendor and is therefore liberate from incurring losses. This reason had a 2 per cent rating.

All the four libraries had contracted Internet services to KENET and e-resources to INASP. The upgrading of the IT infrastructure was entirely the provider’s affair. The provider must strive to offer current resources and therefore they have to update their records as well as technology regularly. Maintenance of the facilities is also the work of the provider; technology changes require regular upgrading to correspond with the current trends. The university therefore does not bear the risk since they have transferred them to the provider.

## 4.6 Outsourcing strategies

The study needed to examine the strategies employed by libraries in outsourcing ICT services. The respondents were asked to explain some of the strategies libraries used. The strategies used by libraries included the following.

### 4.6.1 In-sourcing verses outsourcing

The university libraries’ Outsourcing choice was arrived at after analyzing both the strengths and weaknesses of in-sourcing and outsourcing. Libraries considered outsourcing strategy when the cost benefits and other benefits outweighed the cost of developing the services – in sourcing. The following extracts from two ICT Directors support the factors considered in outsourcing.

“When deciding to outsource we consider if the service is cheaper if outsourced and the benefits the service brings such as saving time and money...’’.

“For instance there are some services that may not be economical to be offered by the library or the ICT department, in a case where probably that job may be technical and requires a professional only for a while.”

Respondents favoured in-sourcing if it retained personnel to offer services on a continuous basis; this was not seen as a threat to loss of jobs. They also favoured in-sourcing when it was cheaper than outsourcing; for instance, all libraries practiced in-sourcing of web design services. Libraries’ decision depended on both feasible costs and other benefits such as cost of searching and engagement.

### 4.6.2. Long term and Short term strategies

The study revealed that the libraries adopted both long-term and short-term outsourcing strategies. However, short-term contracts were more preferred. In short-term outsourcing, they outsourced a particular service for a short time when a certain objective needed addressing such as lack of specific skills to deliver the service. For example, librarians outsourced training to improve certain programmes or skills. At the time of the data collection, the University of Nairobi was on the verge of contracting a lecturer to train the staff on managing records. Kenyatta University had contracted Strathmore University to help them implement KOHA, while the University of Nairobi library utilized management consultants such as DDD to digitize their repositories and Moi University engaged CISCO and LINUS to train their staff in ICT.

In long-term contracting, libraries outsourced ICT services for long periods, sometimes running for a year or more. All the four libraries had mutually contracted the provision of e-resources on long-term basis just as they had contracted KENET to provide Internet services. Librarians renewed contracts every year. However, short-term contracting was more prominent.

### 4.6.3 Selective and minimal outsourcing strategy

The study revealed that all the university libraries adopted selective outsourcing (only specific ICT services are outsourced based on some criteria) and minimal outsourcing, which involves outsourcing services on limited scale. In selective outsourcing, the services outsourced included e-resources and internet services mainly as complementary to printed information resources and to save on costs. In all of the libraries, however, none practiced total outsourcing that involves wide scale outsourcing of all activities.

### 4.6.4Use of professionals and fee-for-service strategy

The university libraries outsourced services by using professional teams brought in and pulled out according to need, or temporary staff also taken on or let go according to need. In this case, the library could hire hourly workers subjecting them to fee-for-service contracts, while they retained residual right of control because they owned the assets necessary to complete the work. Out of the 14 ICT services that were outsourced, 12 accounting for 85.7 per cent, involved teams brought in for projects that were short-lived or the suppliers pulled out when the work was completed.

### 4.6.5 Critical ICT Services to Fill Gaps

The study revealed that libraries outsource mainly in areas lacking staff with skills. Such services included training, installation of ICT facilities (e.g., installation of fiber backbone network), digitization, OPAC and automation. The university libraries in Kenya tended to mainly outsource those areas that were not their core domain such as training staff, maintenance of software, installation and security, especially surveillance. This left them to concentrate on their core competency areas.

## 4.7 Policy Guidelines in Outsourcing Services

The studies objective was to review the legal and infrastructural requirements in outsourcing. To achieve, the objective the respondents were asked what are the policies and legal frameworks applied in outsourcing. Findings indicated that there were no stipulated guidelines for outsourcing. All the four libraries lacked documented guidelines and policies to guide the process as demonstrated by the following acquisition librarian:

”… we have to have a policy especially when it comes to projects like e-resources we had to sign some contract and all that with the organization that was doing (INASP) so that it is legally binding and when it comes to digitization there are some issues regarding digitization of peoples work and mainly to do with copyright. These things must be legalized before you do it.”

“We are in the process of drafting an open access policy so that anybody who has used university time or resources or finances or is supported by the university to carry out his project or used the university library to research when they complete the project, the copyright belongs to the university …. We are almost through with the policy so that when someone brings his work he should be able to sign a contract with us so that he does not put us in trouble some other time**.**”

Librarians dealt with outsourcing on a case-by-case basis. For instance, University of Nairobi librarydid not strictly follow the procurement rules when acquiring books. The library channeled e-resources requests through INASP as one INASP Country representative explained:

“I have not seen any regulatory statutes unless the procurement rules however, where books are concerned, University of Nairobi is exempted from those procurement rules, where you get quotations, University of Nairobi has been exempted for books, and we do direct procurement. But we still have to go through the University management to get approval to go ahead.”

The Public Procurement and Disposal Act of 2005 contain the rules and procedure for the procurement of services, including the outsourcing of services in the Kenyan public sector**.** Although the libraries used procurement regulations, they did not cover all aspects of outsourcing.

All the four university libraries lacked outsourcing policies; three had draft policies that mostly covered acquisition generally, while one did not have any. Moi University had a draft policy that the council had not ratified. The University of Nairobi did not have outsourcing policy although they had a draft Collection Development and Acquisition Policy. The draft policy did not deal with outsourcing issues, but had a general clause under ordering as follows:

**9.1. Ordering Acquisition employs direct procurement method. (University of Nairobi Library, 2011).**

The Moi University ICT Directoratehad a draftICT Policy (Council Draft) 2010, which had not been approved and not operational. ICT Procedure Manual had a clause indicatingconditions favouring outsourcing and the criteria for outsourcing. However, the information provided was scanty with minimaldetails on outsourcing. The study interpreted that even if the council approved the draft policy it would not be effective in guiding the outsourcing processimplying that there was need to develop proper ICT policies.

All the four university libraries usually signed service level agreements and one library in particular had engaged the services of a lawyer for legal interpretation when drawing contracts between the library and the supplier. Briefly, the legal and regulatory measures taken in outsourcing procedures included the following: ICT policy,Procedural manual (draft or non-existent) and service level agreement. These were to outline and guide the outsourcing process. However, all the four libraries lacked an operational policy, while many were still in draft format.

Signing ofService Level Agreement made the contract legal and bidding. Its purpose is to evaluate the services in certain cases. All the libraries had at one time signed service contracts; for instance, the legal representative of the university, witnessed by the representative from the user department, ICT Director, representative from the university management and a representative from the procurement department signed contracts in Moi University. All the libraries used the Public Procurement and Disposal Act in outsourcing process, but all the libraries felt that the Act did not favour outsourcing and, in fact, it was one of the hindrances because it was not elaborate and it was also rigid.

The three instruments (Public Procurement and Disposal Act of2005, Service Level Agreement and ICT policy) were used in handling such matters as evaluation of the services, commissioning and selecting the vendor.

The study found out that two of the libraries used the contractual agreement signed at the time of awarding contracts to *assess* the performance of the suppliers. When evaluating how a certain vendor has performed two of the respondents admitted using the agreement to assess the work performed by the vendor as one ICT Director said:

“The contract signed thereafter becomes the basis to evaluate the work done. Monitoring and evaluation of the service is also factored in the contract, so actual evaluation and monitoring of the service will depend on the measure… of the service.”

Secondly, at the time of commissioning the projects, contract signing marked the start of the work, and the terms and conditions are given. Before the installation of the project facilities, the user department and the inspection committee have to be present to assess that the project is operational and in good working condition before signing acceptance.

To select the vendor who would provide the ICT services,the libraries utilized Public Procurement and Disposal Act of 2005. The vendors submit a written proposal, whose purpose is to help in assessing the suitability of the vendor. Vendors’ proposal helps in drawing the Service Level Agreements. The agreement protects the user department after the engagement should anything go wrong such as breachof contract.

### 4.7.1 Legal framework

According to the findings, all the libraries lacked guidelines for outsourcing procedures. The procurement laws in use were inadequate in elaborating issues of outsourcing. The study found that in awarding of contracts, the lowest bidder, in compliance with the Procurement Act, got the contract**.** The librarians disputed this requirement, which saw two of the libraries adopting other additional criteria of awarding contracts; for example, they added other criteria such as technical expertise, in selecting a vendor.

### 4.7.2 Contractual agreements

When the libraries have identified the vendor, the parties sign contractual agreements. The Service Legal Agreement defines the scope of the work and expectations negotiated by the parties. The university legal representative should be available to advice on the agreement. The study revealed that for any service that the library contracted there had to be a representative from the library, university legal officer and a representative from the ICT present during the signing of contractual agreements as exemplified by the following statement from the ICT Director:

“By the way we also bring legal officer when we are signing these agreements.”

The study reviewed that all the four libraries had engaged a lawyer to advice. The purpose was to safeguard the library from problems involving the outsourcedprojects. The Agreement should also stipulate actions to be taken in case either party does not honour the contract as explained by respondent:

“… if the vendor goes against the agreement probably legal action would be taken, however I don’t know of any issue that has forced the university to take legal action since many have been minor and have been sorted out through a phone call and negotiation of contract. In most cases after the commissioning, the service vendor provides a very clear best analysis of communication such as contact person on the side of the university. If there are minor, problems it is clear whom to contact. There is also a lot of feedback between the vendor and the university*.*

The study sought to find out if there were incidents in the past when suppliers had failed to honour the contract. The respondents cited the following incidents as having occurred in their libraries: change of publisher, especially with the e-resources; leaked password and breach of security of the database; misuse of resources; lack of payment; and, winding up of a company.

If the contract was broken, the library engaged various options, including but not limited to lawsuit, refund of money and renegotiation by both parties, as one librarian explained:

“May be at one time there has been misuse of resources, for instance in our institution one publisher realized that the terms of the agreement had been broken due to over-downloading of a particular journal article or in another case a password had been exposed either intentionally or unintentionally. The publisher blocked our access and had to renegotiate though at no cost. However, we have not had serious cases where we had to bring a lawyer to settle the matter. The supplier has to abide by the contract, we have not had a situation and we have been doing it for more than 10 years.”

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### 4.7.3 Selecting a vendor

The respondents were asked the criteria they used in selecting a vendor. The study found that all the libraries applied some criteria to select a vendor. As public institutions, the Public Procurement and Disposal Act guide public university libraries. One of the DVCs in charge of Finance explained that before awarding the vendor to outsource,

“…you must have at least more than three vendors to choose from. In such a case we then assess them based on the technical and financial capacity to offer the services.”

The criteria mainly used by all the four libraries in selecting the supplier were financial stability and technical skills. The study declared that this mostly resulted in selecting unqualified bidders since the main criteria was the lowest bidder suggesting that libraries did not always get the most qualified bidder. Due to this, one library varied the criteria to include other factors such as reputation, credibility, compliance with KRA tax requirements, and cost of service, supplier market establishment and strategic position. In addition, company profile, supplier’s size, client base (including infrastructural development), access to information, access to products needed, expertise and experience of the supplier, follow-up by supplier (especially the after sales services), ease of collaboration with the library and other networks, quality of service (which include how prompt services are), reliability of service, and accuracy to details are included.

### 4.7.4 Involvement of library staff in outsourcing

The study also set to find out the extent of librarians involvement in ICT outsourcing decisions. It is a legal requirement for the user department to be involved in selecting the services and vendors so that to be engaged by the library.

It was found that while two of the librarians were involved in making decisions about the ICT services to be contracted, others were not consulted, which left these librarians feeling let down. For instance, in one of the libraries, the management imposed the Management Information System on the staff despite their desire to have another system that they considered appropriate as one System Librarian lamented:

“I have not been involved in most outsourcing decisions even though I am the ICT librarian, for instance even when the library acquired KOHA, the library was not consulted. The librarian is not a member of the university management and most decision of outsourcing happen at University management meetings. He is only a member of the deans committee. So there are some decisions that he is not consulted on, although I would not blame the management because we are not proactive.”

However, in all libraries most ICT outsourcing decisions were in consultation with the ICT Directorate. For example, in its draft ICT Policy, Moi University library had a clause stipulating the following:

“The user department shall be allowed to outsource only with consultation with the ICT Directorate and only if the service cannot be provided by any other organ of the University,” (Moi University, 2010).

Once the library identified the service to outsource and analyzed their need for the service, the next step in the process was to channel their request through the ICT Directorate. Majority of the libraries applied the process. However, in most cases the ICT Directorate seizure the process and would recommend project that had different specifications from the libraries request. The librarians were of the opinion that once the library technical committee approved the request based on the needs and specifications of the user department the ICT directorate would only perform an advisory role to the University Administration and not alter their request.

### 4.7.5 Evaluation of contracted services

The respondents were asked whether they evaluated services provided by the vendor. The study found that 62.7 per cent of the respondents were not keen on assessing the quality of the services provided by the supplier, while 37.3 per cent signed service agreements with the vendors and used the same to follow up on the evaluation of the services provided. As one ICT director commented:

“Before you decide to outsource the service you will have to work with the consultant to determine what needs to be done and when and then put it in writing and sign the service agreement. The contract signed becomes the basis to evaluate the work done. Monitoring and evaluation of the service factors in the contract, so actual evaluation and monitoring of the service will depend on the measure of the service. In addition, will have come with some ways of carrying out monitoring and evaluation of that service. Evaluation of services also depended on the nature of the service, for example in case of Internet services we check whether we are getting the correct bandwidth whether more or less of what had been agreed upon.”

In case the agreement were to be dishonoured, the measures that libraries had adopted, included termination of contract, non-payment, renegotiations, setting up committees, and legal action. One library, however, confirmed libraries would onlytake legal actionagainst a vendor if there were no other ways of settling the dispute as explained.

Libraries applied various methods in evaluating the services of the suppliers such as: use of surveys. For instance, in University of Nairobi library, had conducteda survey in 2009-2010 to compare resources made available to them by the supplier and those made available to universities in the UK. The results showed a 99 per cent similarity.

User satisfaction/expectation was a method used to gauge the performance of the vendor, especially the time taken to respond to an enquiry or to a broken link. The study found that libraries utilized the signed SLAs to evaluate the services using criteria such as response time, system down time, leading edge technology, and functional quality. If the response weretimely, or if there were no delays, the librarians would be satisfied with the services as quoted by Systems Librarian:

“We judge by how fast they are at answering questions, respond to complaints. For instance, if I want to update an IP and I send it to the vendor and they respond immediately. Alternatively, if a password has been exposed to the outsiders, I inform them and they respond immediately. You can judge that, for example there is one Publisher of Encyclopedia Britannica, they do not respond immediately, you wait for long and they may not respond.”

Libraries also used statistics to determine how the services were used; for example, by carrying out statistics on clients visits to the websites. The libraries carried out daily or weekly statistics involving physical visits to the library, use of resources, and use of the internet as cited by Reference Librarian,

“Statistics tell us what how the service has been utilized. For instance if a database has been not been used and that is not reflected in the statistics you question why it is not being used, is it that it is not relevant?”

The libraries had set up suggestion boxes in the library where the clients would registertheir complaints. The librarians analyzed the complaints received to determine if the problem originated from the vendor or the library. The University of Nairobi and Moi University libraries had set up e-mail questionnaires. These were analyzed at intervals to determine the nature of the problems, whether it was from them or the provider of the service. Thereafter they would respond to it.

### 4.7.6 Outsourcing procedures

The study sought to find out how outsourcing was carried out by libraries.The study established that there were no guidelines and documented procedures for outsourcing ICT services. Each library followed different procedures and sometimes for different cases. For instance, the country INASP representative explained that the libraries acquired e-resources through a consortium, and lacked documented procedures, as explained:

“…. At the consortium level, the procedures are not documented though we know that every year, we will have a stakeholders meeting to assess the requests each member has brought, and the requests passed to INASP. We also have our own procedures which are documented that we use to have our requests at the library level approved and when these requests are approved the requests are taken to the consortium meeting.”

There was consensus that outsourcing processes were wanting in many ways. Libraries dealt with outsourcing on a case-by-case basis, especially based on how much money was at stake. The management excluded small projects awarded for less than Ksh. 100,000 to someof the major tendering processesthat cost Ksh. 500,000 or more.

The study found that libraries lacked conformity and consistency in ICT outsourcing processes. For instance, majority of librarians were not familiar with the processes. Additionally they wereof the view that the ICT outsourcing process need to be clear that the library is the initiator and the owner and implementor of the ICT services outsourced for the library. The respondents proposed the following,

1. The department first originates the request having considered the needs and having conducted a feasibility study.
2. A library technical committee meets to deliberate on the project.
3. The ICT technical committee, made up of an ICT director, librarian, deans, purchasing staff, and other heads, advises the university’s management on ICT issues.
4. If the decision is accepted, purchasing rules or guidelines are followed.
5. Floating of quotations follows and selection of vendor done based on financial and technical analysis to determine lowest bidder.
6. Local Purchasing Order (LPO) is prepared for the vendor.
7. Legal officers, the user department representative, representative from the management, and the vendor draw up Service Level Agreements.

Although the librarians felt that the above steps were key to outsourcing processes, there lacked consistency and uniformity in documentation and adherence to the processes.Onlyone ICT Directorate had documented these steps in the process maps of the university standard procedures however, librarians lacked knowledge of their existence. This further confirmedexclusion of the stakeholders by the ICT department in developing and implementation of ICToutsourcing processes.

## 4.8 Challenges Associated with Outsourcing ICT Services

The respondents were asked the challenges they encountered in outsourcing ICT services. This wasgoaded by the objective; establish the challenges associated with ICT outsourcing. The study found that there were challenges that the libraries were facing. ICT outsourcing is quite complex and presents various challenges to the university librarian as implied by INASP Country representative:

“We are still not used to ICT services. Therefore, we are paying for the services and not getting maximum usage. The providers think that they are giving us very good rates and feel they should be charging us higher. They do not understand our situation, since they are people outside our environment who do not understand the environment that we are operating. They treat us like those countries that are advanced…we are mostly dealing with e-resources and our training did not prepare us for this, e-journals are a bit better than e-books! We also have issues regarding connectivity, for instance if HINARI is not working the institutions expect me to sort it out being the countries representative.”

(a) **Obscure outsourcing procedures.** Libraries evaluated and implemented opportunities for outsourcing often on a case-by-case basis. They lacked coordinated strategic planning across the functions and services. Furthermore, the respondents raised concerns that university library administrators had not necessarily taken the right steps internally to build an effective governance structure and maximize the benefits of an outsourcing model. Libraries selected vendorsbased on the lowest bidder, thus contributing to the selection of unqualified suppliers. There was a consensus among the respondents that lack of policies and a legal framework was a major hindrance.

The study found that none of the libraries had a legal framework to guide the process. Libraries also lacked documented outsourcing procedures and standard operation proceduresas lamented by institutional KLISC representative:

“There are no laid down procedures and they use different models such as ownership model, subscription model and others institutions’ models. For instance, I do not understand D-Press. We do not understand some of the prices they are giving us; I am asking if it is the best that I can get being the only one. I do not know whether to take it or not. There has to be structures in place to make it easier to understand.”

The study confirmed that three of the libraries had legal officers hired by the university to deal with legal issues. It also found that management put in place legal counsel after being involved in legal matters. However, three of the respondents acknowledged that the university had not been engaged in legal battles with ICT vendor who had broken contractual agreements. Instead the management resulted to settling deputes out of court to avoid long court battles that might inconvenience the customers.

(b) **The cost of the services and price fluctuations.** This was a challenge that forced the institutions to open up (re)negotiations so that the providers, especially of e-resources, could continue to provide services as explained by INASP representative:

“The publishers are normally very sly, they package their services in a way that some packages are overlapping…if you want an extra title you have to pay extra they tell you that they are dealing with only institutions and for any other extra institution that comes on board you must pay extra. Then there is a 10% increase every year. Your money determines what you access, for example Emerald Journals will give you a package and tell you that from this year we can only give you abstract or full text from certain years, and then there is another package that is better but costs more.”

(c) **Poor service delivery.** The study established that the librarians relied on outsiders (INASP) to do the negotiation of e-resources for them that included the selection of materials and negotiating prices. This left librarians vulnerable and without much control to influence the process. Many companies they dealt with had no representatives locally and this contributed to delayed responses.

(d) **Vendor closure and broken warranties.** This was a challenge that libraries encountered when suppliers closed shop either because of a change of business or lack of finances to sustain their business. This affected the services. For example, Moi University had contracted the Wantech Company to oversee radio communication between its campuses. Wantech went into liquidation leading to break down of equipment because the vendor had not trained library staff on maintenance. This affected the services that library provided.

(e) **Change of technology.** The respondents admitted that constant change in technology requires librarians to keep upgrading their facilities, which was a challenge to libraries. ICT is always on the move, with new technology introduced at a faster rate than libraries can change. For example, while the University of Nairobi was still using a manual security system, Moi University and Kenyatta University were outsourcing RDIF, a current technology. Jomo Kenyatta University of Science and Technology library was using CCTV. Due to constant technology changes, librarians have to update their ICT skills continuously, which is a challenge.

(f) **Security and copyright issues in ICT outsourcing.** The library entrusts its data to the supplier, especially with regard to ICT services. As a result, the vendor works with such organizations’ data as that involves digitization and implementing LMS. Intended or unintended data manipulation, unauthorized access, alteration or illegal use might occur. As a result, the library has challenges in dealing with matters of data security and copyright issues. For instance, copyright issues arose when Moi University digitized its academic research reports because some students plagiarized the works. The library withdrew the service and is now considering outsourcing DSPACE that is more reliable. The University of Nairobi library is drawing up an open access policy to deal with copyright issues. However, it has challenges in enforcing that policy so that anyone who either has used the university to carry out research or funded by the university deposits the resulting document in the university repository.

(g) **Loss of control of the services.** Not many suppliers provided full disclosure about their services. For example, some parts of the ABCD software’s documentation that Moi University library had outsourced from the Belgium (Prof Egbert Schmidth), was in Spanish. This forced the library to keep relying on the supplier for the support with the system thus a challenge to the library because it had to keep relying on the supplier for system support. This resulted in the library essentially losing control and relying heavily on the vendor.

### 4.8.1 Challenges experienced by users

Among the complaints that the libraries got from their clients in relation to the services rendered by the suppliers were:

**▪ Lack of access to information resources by the users.** Most of the users could not access the e-resources or they had very limited access time, especially when they were out of the library, as explained by one reference librarian:

“… Someusers complain that when they are far they cannot access the resources. These are issues that can be solved in the institution because we can have remote access, and we have started remote access, for instance last year we did not have remote connectivity, so users were complaining about it.”

The users also complained that access through the Internet was very slow; it took long to download articles. All the four university libraries experienced this problem. The respondents blamed the librarians and management for contributing to the problem. This is partly because librarians had not sensitized the users effectively on the use and techniques of accessing e-resources and the few Internet terminals. Three of the public university libraries had tried to rectify the situation by introducing remote access terminals near the libraries so that those with their own computers could have access. However, not many students could access the services.

Meanwhile, the staff had difficulties accessing certain e-resources as pointed out by one circulationlibrarian:

“We also have issues regarding connectivity, for instance sometimes the network is down and cannot access HINARI...

The librarians expressed concern that majority of users lacked ICT skills. Some lacked information literacy skills to access the documents. In three of the libraries, librarians did not conduct user education on the use of e-resources. Many users did not even know the passwords to the sites. The University of Nairobi usually conducted regular user education as the study observed since even at the time of the interview groups of fresh students were undergoing orientation on use of e-resources.

“We are still not used to ICT services, so we are paying for the services and we are not getting the maximum benefits and usage of the resources.”

As the INASP country representative explained, the University of Nairobi Libraryconducted a survey that showed Kenyan universities were among the lowest in use of e-resources in Africa. Indeed, in the study attested that the other three libraries rarely marketed the services to users as they had a negative attitude towards the services.

The study alluded that most of the challenges experienced by users of the ICT outsourced services were due to poor management of the services by librarian and could be negotiated through proper management of the services.

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| --- |
| **Description: C:\Users\mwai\Downloads\IMG_4516(1).JPG**  ***Photograph 4: Users making use of Access Hot-Points near UoN library*** |

The picture above shows students making use of a hot spot set up by the University of Nairobi library. However, only users with their personal computers could access the e-resources.

### 4.8.2 ICT outsourcing risks

The respondents identified certain risks associated ICT service outsourcing.Considering that the major service outsourced was the e-resources, access to information was among the major risks that the libraries had to deal with. For instance, as one country (INASP) representative claimed,

“The publishers are very sly, so they package their services in many different packages and some overlapping…. They tell you they will give you so much for 40 institutions and for any other additional institution we must pay extra and then a 10 per cent increase every year. Another institution went into negotiation and they acquired the resources through a vendor only for them to realize they were overcharged when they got in touch with the real owner. You could be dealing with agents who are not trustworthy.”

Risks to information access took the following forms: provision of documents not ordered, exclusion of certain institutions by vendor, price variations among non-public and non-government organizations, reduced airtime, slow connectivity, subjectivity, and security of information.

Respondents viewed obsolescence of technology as an ICT outsourcing risk. Technical obsolescence may occur when new releases and upgrades overtake product or technology, and organizations may prefer to use the new technology in place of the old one, as explained by one system librarian:

“The library may have invested a lot of money in that service and after a while the technology changes forcing the library to think of alternatives and therefore becomes a risk.

Respondents also felt that the librarians over-depended on the supplier for various reasons, subjecting libraries to risks. As a result, libraries lost control of the services since the vendor failed to train the library staff, as one system librarian explains:

“When the vendor is implementing contracted services, they are training you to a level that will enable to take over. Sometimes you may find that you have not developed the capacity which allows you to take over completely and you have to rely on the supplier until you are ok, you may even be forced to give him another contract to maintain the system until you have developed the skills at all levels.”

In addition, the study found that certain vendors failed to disclose vital information, which contributed to further dependency of the library on the vendor. Due to information asymmetry, the librarian depended on the vendor while implementing the services, as stated by one INASP respondents:

“…the vendor may not disclose all the information about the services or issues to do with the equipment. In such a case the library may lose control of the services because you tend to rely heavily on the vendor to sort out certain problems.”

Additional risks included the following: hiring vendors that are lacking in technical skills; misinterpretation of the connection between libraries’ objectives and the services outsourced by the vendor, and, lack of staff to offer human support to do the tasks.

The respondents attributed the cause of the risks to obscure outsourcing procedures contributing to inadequate vetting of vendors. Moreover, selection that is pegged on the lowest bidder is not a guarantee that the selected vendor will do the job well, which itself is a major risk. In the end, libraries risk providing inadequate outsourced ICT services that put strain on the staff affecting service delivery as cited by one INASP representative:

“…these people are not available all the time especially when you need them promptly… If the machine is not working, well you have to wait for a long time causing anxiety to customers.”

When outsourcing ICT services,librarians viewed library data as subject to risks such as hacking, unintended data corruption and unauthorized access. Manipulation of data can also occur at different stages of the project since the supplier may still have access through the password.

Another risk that comes with outsourcing as given byone respondent fromICTDirectorateis vendor liquidation,

“There was one instance, a company called Wantech was offering services to us but collapsed. It was offering radio communication services between main campus, School of Medicine and Chepkoilel campus. After a few months the radio communication equipment broke down and it was not possible to get technical support since they had not trained the people in ICT how to use the equipment.”

Lastly, respondents felt that ICT outsourcing was expensive; it requires huge capital outlay besides having to keep the technology updated, which also requires additional capital. In the end, the library might fail to sustain the services.

### 4.8.3 Suggestions for improving outsourcing of ICT services

The study revealed that there were measures that libraries proposed to mitigate ICT outsourcing challenges. Among the risks identified included technology obsolesce, vendor liquidation, ignorance when signing the contract, copyright issues and security of information and loss of control of services.

Among the suggestions put forward to help reduce the challenges include, transferring risks to the supplier, especially facilities, as explained by one ICT Director:

*“For issues like changes in technology we make sure that we transfer most of the risks as much as possible to the vendor. So that in case of technology changes the cost implications to the university are minimized by making sure that in the preliminary data service most of those equipment’s are owned by the vendor. We do not commit ourselves to buy vendor’s equipment so that in case they come with bit of change in procedure or technology we transfer that risk to the vendor.”*

There should be a clearly documented policy on outsourcing. The procurement laws do not cover outsourcing processes adequately. All the four libraries had draft policies that were not elaborate on outsourcing processes. The Procurement Act did not deal with the issue clearly. The libraries had not documented nor communicated outsourcing procedures in three of the libraries. This was one of the major challenges in outsourcing.

In the absence of clear documented policy, outsourcing processes were arbitrary. Moi University library had procedures that were in draft format; however, the staff were not familiar with those procedures. Libraries require outsourcing policies and documented procedures, communicated for consistency in outsourcing processes. This will also streamline outsourcing procedures.

The study indicated that, while outsourcing decisions should originate from the user department, this was not always the case. In two of the libraries, management did not engage user departments when the university outsourced its LMS. Yet in another scenario, the ICT librarian did not consult library staffin making decision to acquire a management system. In order for outsourcing to be effective, user departments should be involved in all outsourcing activities requiringimplementation in their departments. The staff must participate in decision-making by being pro-active as asserted by one System librarian:

*“ICT directorate does not involve the Librarian in most ICT outsourcing decisions, for instance they acquire system for the library which cannot be integrated with other systems like finance the directorate should work closely with the library for systems that should benefit the university’’****.***

Thus, the user departments’ staff should be involved in all ICT outsourcing engagements.

Staff training emerged as one of the solutions to improving outsourced services. ICT services contain an assortment of skills and library staff may not have all of them. There is need to train the staff to be able to handle each ICT task that is outsourced. This therefore means that when the contract is over the staff will have been prepared enough to handle the tasks and to avoid negotiating another contract in form of staff training.

There is need to train the staff and users so that a repeat of what happened in Moi University when Wantech Company collapsed would be avoided as expressed by one ICT director:

“*For instance we may call the vendor but he is not in a position to give technical support because they are unavailable. So it takes some time to respond which interferes with the services but when staff are trained it becomes easy to manage the situation.”*

The respondents suggested that there was need to improve Internet access by users. Outsourcing requires an organization to have a comprehensive and sound competitive framework for ICT services that are effective in promoting competition, innovation and investment in broadband services. Thus, improvement of ICT infrastructure is important.

All the four libraries had outsourced Internet services. However, the greatest challenge was connectivity; low bandwidth and limited access. The staff recommended availing hot spots in the campus, which would facilitate access to e-resources as stated by circulation librarian:

“…*some are complaining that when they are far they cannot access the resources, those are issues that can be solved in the institution because we can have remote access, and we have started remote access.”*

Two of the libraries were already providing remote access by installing wireless connections near the libraries. The *Wezesha* programme had also been introduced by the government, allowing students to purchase computers at a 10 per cent discount from vendors, making it possible for many students to own laptops and thus access information.The wezesha-subsidizedlaptop for Kenyan students is a joint initiative between Kenya ICT Board and Kenya's Ministry of Information and Communications to enable Kenyan university students own laptop computers at affordable prices. (Kenya ICT Authority, 2013).

Respondent also suggested that by joining a library consortium the libraries would gain immensely. Librarians should collaborate among themselves. All the four libraries had already teamed up with others to outsource e-resources and Internet services. This had greatly brought down the cost of the two services beside them being more successful. Many staff felt that if the university libraries were to pool their resources they would achieve a lot more than going individually.

The study revealed that libraries had not benchmarked some of the services that they had outsourced. For example, two of the libraries were using LMSs imposed on them by the university management. These decisions did not take into account the librarians’ choices informed by success stories of other university libraries. The library staff reiterated that benchmarking was crucial before acquiring services to facilitate systems acceptance and avoid situations where ineffective systems are outsourced.

The study revealed that only the University of Nairobi library aggressively marketed their services. Librarians provided user education to their clientele in groups. The new students received induction on use of databases appropriate to their discipline as well as on how to retrieve information on regular basis. Users in the other libraries threewere not aware of the services the libraries were paying for, especially the electronic resources. The respondents recommended that there was need to train the users in the use of outsourced services as expressed by reference librarian:

*”…the libraries should make the user aware of the ICT services. The user requests for the services and they must be able to access the resources.”*

Evaluating the services is an area that required improvement. The staff presented the sentiments that the management rarely conducted an evaluation of the services provided by vendors. The staff mainly relied on the complaints from users to verify whether the services were satisfactory. If there were no complaints, they assumed that the services were acceptable. In a scenario where most users, especially in the three per cent of the libraries that did not induct their users in the utilization of the services, what it meant was that they had no other way of verifying how effective the services were to the clients.

Conducting market research is vital to enable library gauge its acceptance, use, appropriateness and cost practicality. This also came up as an area that needed improvement. Carrying out an investigation on a company before outsourcing provides data that would enable the hiring of highly competent vendors. Librarians should carry out a feasibility study to determine why they need to outsource. Considering that the major criterion used in awarding contract was the lowest bidder, conducting a market research would enable the librarian to understand some of the players in the market.

Securing data and intellectual property was a major challenge as proposed by the respondents. Risks to confidential data and personal data can occur when outsourcing takes place. For instances, in Moi University library digitization of projects had been started but was later suspended due to security and copyright concerns. Unscrupulous vendors might have had outsourced projects copied and sold again to competitors. This raises serious challenges concerning licensing and copyright. Hence, the respondents suggested that legal agreements between vendor and outsourcer be put in place in order to prevent intellectual property (IP) falling into the wrong hands, and to safeguard data confidentiality. Data security measures need to be in place, whether a library is planning to outsource or not.

**4.9 Chapter Summary**

The findings indicated that all the four university libraries outsourced both long-term and short-term IT services. The study established that the ICT services outsourced by the libraries included e-resources, the Internet, LMSs, digitization,OPAC, automation, security (use of CCTV and RFID, cataloguing (LC, MARC records and tag), and the installation of software. The study revealed that the four libraries had engaged the same suppliers for similar services offered jointly through a consortium. The suppliers included KENET for Internet services, and INASP and PERI for e-resources.

There were no stipulated guidelines for outsourcing. The Public Procurement and Disposal Act of 2005, utilized by libraries wasnot adequate in dealing with ICT outsourcing. Libraries awarded contracts based on the lowest bidder, which was not beneficial in case of libraries. Libraries dealt with outsourcing cases differently between the libraries. The criteria that the librarians used in selecting a vendor were technical and professional qualifications, reputation, and level of service, experience, service delivery, reliability, and quality of service, attention to details and follow-up, and resource capacity. Librarians cited lack of policies and legal frameworks as the major challenges associated with outsourcing ICT services.

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# CHAPTER FIVE

# DISCUSSIONS OF FINDINGS

## 5.1 Introduction

This chapter discusses the major findings of the research. It discusses findings in the light of the study objectives and interpretations of the findings weighed against other findings in similar studies. Resource Dependency theory and Transaction Cost theoretical framework informed the study and the chapter provides explanations of the possible reasons for the unexpected findings.

The chapter is organized along issues such as the ICT services outsourced, perceptions of outsourcing IT services, outsourcing decisions, and opportunities and risks in outsourcing. Other issues include legal and infrastructural requirements in outsourcing IT services, and managing and evaluation of contracted services. The chapter concludes with the challenges associated with outsourcing IT in public university libraries.

## 5.2 ICT Services Outsourced

The study found that the libraries considered various options such as cost, skills required as they outsourced various ICT activities. The study also revealed that libraries outsourced various ICT services to cut on costs and due to lack of ICT skills among the staff.

Studies done on outsourcing in public university libraries reveal that the services that are outsourced include binding, cataloguing, database design and management, data recovery, disaster recovery, document delivery, indexing, library move, microfilming, network management and photocopying, (Ebbinghouse, 2002). This is almost consistent with the findings which showed that public university libraries in Kenya outsourced ICT services such as e-resources, Internet, library automation, digitization, training of staff in ICT, OPAC, security, MARC bibliographic records, web-based references and reprography. The study confirmed that the libraries outsourced both Knowledge Process Outsourcing (K.P.O.) and Business Process Outsourcing (B.P.O.)

### 5.2.1 Knowledge Process Outsourcing.

KPO involves outsourcing of core information-related business activities, which are competitively important or form an integral part of a library’s functions. It requires advanced analytical and technical skills as well as a high degree of specialization and expertise.

#### 5.2.1.1 E-resources and Internet.

E-resources and Internet services are in the category of K.P.O. They were the major ICT services that all public university libraries outsourced and which they outsourced from the same vendors. Libraries acquired E-resource services through INASP after KLISC – a consortium of institutions – had selected the needed resources, which enabled the libraries to get value for their money. KENET provided Internet services to all public university libraries. A non-profit institution, KENET gets international bandwidth from Jambonet at two of the commercial rate available to Kenya. This enables it to provide cost-effective Internet connectivity to its member institutions and to provide public universities, who are among its members, connectivity at subsidized prices (http://www.kenet.or.ke). The Internet services are available 24 hours a day, seven days a week.

Access to the e-resources was through the public universities libraries web pages where various links were available on the page on or off campus and mostly through Internet connectivity. E-resources include electronic journals, online databases and electronic books. New resources added to the collections ensured continued growth of thousands of articles and books, which are available online.

In outsourcing Internet and e-resources from the same organizations, the librarians’ standpoint was that the services were crucial to libraries providing users access to current and up-to date information using the state of the art technology. It was also cheaper to outsource due to economies of scale. This is in agreement with a study done by Mohammed (2005) who found that outsourcing allows firms to cut costs and gain easier access to expertise and new technological developments. Additionally, the individual library lacked the skill and technical capability required to host such an enormous ICT project.

The study attested that Libraries contracted to vendorsspecializing in the area of ICT; hence, they were knowledgeable and experienced in the respective areas of providing e-resources and Internet. For example, PERii (Programme for Enhancement of Resource Information) programme areas focus on access to international scholarly literature, and bringing together the wealth of information owned by the many different entities. KENET on the other hand promotes the use of ICT in teaching, learning and research in higher educational institutions in Kenya by interconnecting its member and is therefore knowledgeable in the area of ICT.

Resource Dependency Theory proposes that actors lacking in essential resources will seek to establish relationships with (i.e., be dependent upon) others in order to obtain the needed resources. The study shows that public university libraries outsource their e-resources from a portfolio of licensed online resources through internal alliances that they have formed such as KLISC.

Petry-Eberle and Bieg, (2009) affirm the findings of the study when they state that in the expansion of demand for online resources, subscriptions are taken over by a portfolio of licensed online resources and internal alliances formed to jointly acquire electronic resources online .

The study found that public university libraries outsourced their e-resources from portfolio, namely INASP and KENET. In addition, the study revealed that libraries acquired e-resources through single sourcing using firms with experience in the area of online subscriptions as business strategy toacquire the critical resources from the best-experienced players in the field of on-line subscriptions.

It is clear that public university Libraries tended to rely on vendors for the e-resources and Internet since they were very crucial for the survival of the libraries. This is in line with Resource Dependency Theory (Pfeffer & Salancik, 2003) which suggests that resource dependence is contingent on how essential the input is to survival and the degree to which others control the resource. An organization is more dependent if the resource is critical to its survival and is tightly controlled. In the case of the libraries, e-resources and Internet services were critical to their survival, which made them become dependent on the vendors to obtain the crucial resources.

#### 5.2.1.2 Training of staff.

Staff training in various areas of library management is not a core competence of the library. The library’s core business is to provide services to their clients. However, libraries requires their personnel to up-date their skills regularly and this would explain why they outsourced training.

Training is categorized as K.P.O where knowledge-related and information-related work occurs. Services associated with K.P.O. include intellectual property research, animation and simulation, data research and analytics, litigation, medical content and services, and database development.

All the four public university libraries outsourced training of staff. The study found that most libraries relied on outsourced Library Systems and other, ICT services requiring ICT skills to operate them. This entailedengaging suppliers who would train the staff on the required competency. Training the staff was necessary to enable them carry out routine maintenance and implementation of certain ICT projects. For instance, University of Nairobi was outsourcing the maintenance of its cataloguing software since the library had no staff with the skills to do it; they relied on the Library of Brussels to maintain the software.

Miller (2003) says that outsourcing training of staff is drawing attention today because of the value it brings to the customers, especially because new ideas are acquired by laveraging of best practices. Therefore, when the library needed the staff trained in certain skills the option that the library took was to identify a supplier with that skill and outsource the service. Petrice (2000), Hayes et al (2000), Smith et al (1998), Grover et al (1994), Lacity et al (1994), Willcocks et al (1995), Claver (2002), and Rajabzadeh (2008) support this observationthat outsourcing is a firm's desire to focus its resources on those activities that are considered its strengths, often referred to as core competencies. In the case of public university libraries, they viewed areas that were not their core-competencies as grounds for outsourcing. Libraries trained staff on LMSs, hardware and software maintenance, and information consultancy.

#### 5.2.1.2 Web-based reference services.

A web-based reference service belongs to the K.P.Ocategory. The role of the library is to provide information to the clients. Sometimes the librarian may not be in a position to provide certain ICT services from the library. Through resource sharing, libraries are able to fill that gap. That is where web-based reference services come in.

Whereas the traditional mode of interlibrary loan was use of mail services, web-based reference service is the remote, computer-mediated delivery of reference information provided by library professionals to users who cannot access it. It may entail doing a search on behalf of the user and where the document is not available in the library, the library can request another library to do the search from their resources and provide the document at a cost. Web-based reference, or online reference, is a relatively new addition to library services that is gaining wide-popularity in public and academic libraries (Sanjeev, Amruth and Suresh, 2006).

Online reference services involve answering questions requested by users through the e-mail, and filling up query forms by users on the web form, “Ask a Librarian”, from a designated web site. It also takes the form of answering to the reference queries instantly in the Internet world using a split web screen: in one screen users type questions and can instantly see librarians’ responses in the second screen and document searching and delivery.

All the four libraries had already set up web-based services. For instance, Moi University library was already using e-mail reference services, Kenyatta University had set up “ASK LIBRARIAN” and E-mail services in their library webpage, Jomo Kenyatta University of Agriculture and Technology library had set up an “ASK US” in their web page, and the University of Nairobi library had e-mail services. Out of the four libraries, Moi University Library and the University of Nairobi Library were using document searching and delivery as an outsourced service. The study established that Moi University library had collaborated with Indiana University in United States, to carry out for them reference searches. If a user in the Moi University Library needed a certain journal article, the librarians provided the details of the journal to the University of Indiana to conduct for them a search and thereafter provide the feedback. The University of Nairobi liaised with the British Library to have articles from certain journals accessed for them and then they would pay for the services. The search could take a while, but they normally got the article requested for delivered to the library.

The study revealed that two of the libraries had not outsourced document-searching services and were not providing it. The studyattributed thisto librarians’ lack of knowledge in web reference system forcing them to continue using traditional mode of reference services. Sanjeev, Amruth and Suresh (2006) observe that web-based reference service requires a network of ICT expertise, intermediation and resources placed at the disposal of someone seeking answers in an online environment.

This explains why two of the libraries were not offering Internet search and delivery services.

### 5.2.2 Business Process Outsourcing (B.P.O.)

#### 5.2.2.1 Virtual Private Network and Fiber Backbone Network.

For effective ICT communication within a campus, interconnection of computers and other hardware components by communication channels allows sharing of resources and information from one process in one device to send/receive data to/from at least one process residing in a remote area. Virtual Private Network (VPN) enables the library and centres within the campus to share resources in a more secure way*.* It enables internal communication within the campus. Moi University had contracted the service from Safaricom.

Fiber Backbone Network contains data routes that host high-capacity network centres that interchange Internet traffic between countries, continents and other buildings, such as the schools and students’ centres to the library. Infrastructure includes the transmission media such as telephone lines, satellite, routers, repeaters and other devices that control transmission paths including the software used to send, receive and manage the signals transmitted. Public university libraries outsourced the service because it requires expensive equipment for terminating and installing the fibre. Moreover, installation of the services were a one-timeactivity and therefore cheaper to outsource. It is also more cost effective to outsource than to develop in-house.

The finding are in congruence with similar arguments by (Ricoh American Corporation,n.d)that computer network infrastructure enables companies generate up to 40 per cent cost saving since the firms will be able to source in high quality talent at a lower cost, group the fragmented operations, and leverage the resources across the company.

Moreover, RDT informs the study that all firms specialize in a limited range of activities because of the scarcity of resources (Coase, 1937). Outsourcing therefore allows public university libraries to complement its own scarce resources with those owned by the external suppliers as explained by Gottfredson, Puryear, and Phillips (2005) and Lorenzoni and Lipparini, (1999). Consequently, public university libraries outsourced to allow them to address perceived deficiencies in their own resources and capabilities.

#### 5.2.2.2 Library automation.

Library automation is one of the oldest ICT outsourced services by libraries. All the four libraries had converted some manual systems into computerized systems. The most popular was the Library Management Systems (LMS), which facilitates the library technical functions and services that include tracking of the library information resources, managing information resources inventory, and lending and supporting the daily administrative activities of the library as well as the record keeping.

All the four libraries had outsourced LMSs at various levels instead of developing in-house systems. Developing an LMS is an expensive, costly and time-consuming affair that requires IT skills and knowledge on issues of systems design and development. Benaund and Bordeinu (1998)shares the view that academic libraries opt to outsource than develop the systems in- house and employ several levels of outsourcing such as complete outsourcing to partial outsourcing.

The study found that three of the libraries acquired the systems through open source albeit from different sources. KUL and JKUATL had outsourced open source software, LibLime KOHA, while UoN had Vubis Smart from University of Brussels. UoN library also relied on the vendor for the maintenance of the system. Moi University library had outsourced its open source software, Automation of Libraries and Cen-ters Documentation (ABCD) system from Belgium from Prof Egbert Schmidth.

Further, they also practiced partial outsourcing (outsourcing upgrades and maintenance of hardware and software or individual modules) as opposed to complete outsourcing (ownership, maintenance of the hardware and software, purchasing public access terminals). This concurs with Benaund and Bordeinu (1998) findings that even though academic libraries typically acquired off-shelf systems they still engaged in partial outsourcing. Majority of the public university librarians lacked skills to develop LMS in-house and it was cheaper to outsource than to develop one internally.

In all the four libraries, integrated systems with separate modules such as acquisition, cataloguing serials and circulation were used. This is supported by a study done by Ebbinghouse (2002) who found that public university libraries mainly outsourced cataloguing, database design and management, data recovery, disaster recovery, document delivery, indexing, microfilming, network management, photocopying, printing, records management, research, retrospective conversion, thesaurus development, webpage design and hosting.

OPAC is an online database of materials held by a library or group of libraries. It facilitates locating information materials in the library. Libraries also use it to aid in interlibrary borrowing. LMSs such as KOHA have OPAC ingrained in them. All libraries had commissioned vendors to set for them the online access catalogue.

Digitization is the latest technology libraries are engaging in. Public universities libraries are converting analogue records into digital format to make them more accessible and to develop institutional repositories. This has seen three of the libraries in the various stages of the digitization engagements such as selecting vendors and implementation of digitization. For instance, UoN was in the process of engaging a firm to digitize their institutional repositories, while KUL was carrying out assessment needs. Digitization requires staff with technical skills as well as expensive equipment. The process is also labour intensive. In effect, it was cheaper to outsource the service to bring in staff with knowledge and experience in the area.

To digitize the collection two of the libraries were considering using DSPACE, software, used in automating resources to create open access repositories for scholarly and published digital content. MU library had used the software to preserve and share academic research. However, at the time of the study, the library had suspended its use citing logistical reasons. KUL lacked staff internally who had the necessary skills to implement DSPACE and was in the process of outsourcing the service.

#### 5.2.2.3 Web designing.

Professionals with IT skills perform web designing and implementation. Web design is a service that is outsourced by libraries, however in the case of public university libraries the universities’ ICT departments provided the service, (in-sourcing). According to RTD, librarians choose hierarchical governance (in-sourcing) when the production and transaction costs associated with executing a transaction within their firms (in-sourcing) was cheaper (Williamson, 1979, 85). All libraries had operational websites, a service in-sourced from ICT department of the university and the libraries used the website to present e-resources that were outsourced. As noted above, the libraries did not outsource the service because the respective universities relied on ICT department to provide common ICT services and had hired staff on permanent basis to do that.

#### 5.2.2.4 Security.

Security of information resources in the academic libraries is a major challenge. Modern users of libraries have become innovative in methods of stealing and hacking library resources and facilities subjecting them to high insecurity and losses. The nature of e-resources and theft of print information materials has forced many libraries to deal with the issues using systems that are more efficient. Security issues include copyright and plagiarism, deletion of data, manipulation of data, unauthorized access, hacking, virus and worms and theft of hardware. Debar and Viinikka (2006) support the idea that information may be sensitive requiring protection and thereforesuggests security of information as an area that may be outsourced.

There were varieties of methods that libraries used to secure information materials ranging from simple manual systems to more advanced ones. Manual systems included physical surveillance and checking users physically, while automated systems included use of CCTV and RFID. This was to enable the library secure e-resources as well as printed documents and computer hardware from theft by the visible user. The library also utilized password and authorization to access e-resources. Library sites for e**-**resources **recognized users as an authorized user when on campus, but not off campus.**

The study found out that all libraries had outsourced security services whether manual or automated. UON was still using a manual system and therefore had engaged a security firm to secure the entrance and for library surveillance.

MUL and KUL were already in the process of contracting a firm to set up a RFID system, while JKUATL had commissioned 3M to erect a CCTV security system.

#### 5.2.2.5 Others.

Other ICT services that the libraries outsourced were in the area of cataloguing, ICT maintenance, printing of cards and photocopying. All the four libraries were using the Library of Congress and MARC record tags. JKUAT library had outsourced reprographic services and rift maintenance from 3M.

The libraries had outsourced ICT services that needed technical skills and those that they found cheaper to outsource than develop them in-house. The study confirmed that maintenance of software and hardware and staff training were outsourced for the same reasons. This finding concurs with that of Claver et al (2002), that hardware maintenance, followed by programming, software maintenance, applications analysis and staff and user training, were the most outsourced activities.

The study notes that in the case of Kenyan university libraries the predominant ICT services outsourced by all the libraries included Internet, e-resources and LMS. This can be explained by the fact that these services were very crucial to the library and, due to financial constraints, the library management had to strategize on ways of acquiring the resources at affordable costs. Moreover, the cost of books ishigherthan that of e-resources yet the e-resources brought in economies of scale. RDT supports the study by informing that actors lacking in essential resources will seek to establish relationships with and be dependent upon others in order to obtain needed resources (Pfeffer, 1981). In addition, RDT views outsourcing decision as a strategy that the libraries use to effect resource acquisition and utilization to supplement their efforts in providing services.

The study observed that public university libraries used specialists in information service companies especially for the e-resources. For instance, they used the services of PERii and INASP as they had vast knowledge in information communication and their focus was on the needs of people in developing and emerging countries with their main aim being to facilitate access to international scholarly literature.

INASP and PERii areas of specialization are in the book and journal trade and acquisitions previously done by libraries. This was in line with the RDT, which asserts that dependence is contingent on how essential the input is to survival and the degree to which others control the resource. An organization is more dependent if the resource is critical to its survival and is tightly controlled. The findings further confirmed that librarians depended on bodies like INASP, KENET to acquire those e-resources that they considered critical to their survival.

Tebboune (2003) indicate that organizations practiceselective ICT outsourcing thatconsists of outsourcing specific ICT activities. Tebboune (2003) notes that selective outsourcing is preferred to allow management have the control of their core ICT activities such as strategic planning, while more mature and well-defined ICT activities are outsourced. The study established that the Kenyan university libraries also practiced selective outsourcing and tended to outsource those in areas that were not their domain such as training staff, maintenance of software, installation of software, security (especially surveillance) and the more mature and highly developed ICT services like the e-resources. This left librarians concentrating on the areas of their core-competency.

## 5.3 Librarians Perceptions of ICT Outsourcing

This section examines librarians’ perceptions of outsourcing ICT services in public university libraries in Kenya. The study confirmed that majority of the librarians understood what outsourcing was and appreciated the benefits it brought to the libraries, while others excoriated it.

Outsourcing of ICT services is a relatively new concept in Kenyan public university libraries. The study confirmed that the staff understood outsourcing to mean the use of outside vendors to perform the libraries’ ICT operations at a fee. It also means using vendors to perform activities brought in as new services, yet the librarians would otherwise perform the activities. Studies on outsourcing such as those of Kakabadse and Kakabadse (2000), Martin et al (2000), Gupta et al (2005), Mohammed (2005) and Alsudairi and Dwivedi (2010) indicate that outsourcing in academic libraries is on the rise. Proponents of outsourcing, such as Dubberly (1998) see it as a universal remedy to all librarians’ problems. However, many academic librarians view outsourcing as a threat to the library profession because it strikes at the very heart of the librarian’s identity, and may in due course result in the end of librarianship. (Benaud and Bordeianu, 1998) with Tsiang (2006) caution that outsourcing is a controversial issue that could affect the future of the library profession. Most librarians do not perceive outsourcing as good or bad in itself, but they recognize it for what it is, namely a strategic management tool to improve productivity, increase efficiency and cut costs and as a knowledge base of a library lacking ICT technical capacity.

The study established that the views of the public university library staff regarding outsourcing were divided. There are those who viewed it as good and those who castigated it as a threat or undesirable to libraries and yet others were impartial. Majority of the librarians considered outsourcing as a solution to libraries’ problems such as providing the means for the library to access services that it cannot offer from within due to lack of staff with technical ICT skills. They reasoned that the contracted ICT staff have advanced skills than the in-house staff because ICT is their core-competence.

The study revealed that public university librarians viewed outsourcing as a way for the library staff to concentrate on their core-competency a view shared by authors such as Mohammed (2005) and Hayes et al (2000).Consequently, the supplier takes up specialized tasks that they have competence in, liberatingthe library staff to concentrate on other tasks. Hence, since a library is a service institution and the major task of the librarian is to serve the user, this therefore gives the librarian time to concentrate on the key areas of library services.

The study attested that the public university librarians supported ICT outsourcing based on the library’s ability to save money. The vendor bears the cost of paying staff under them. Additionally, the study revealed that the librarians associated outsourcing as a way of reducing risks since the vendors bear the risks associated with the provision of the service. The universities only have to worry about the infrastructure within the campus.

In addition, the librarians viewed outsourcing of e-resources as a way for the library to gain more from these resources as well as allowing the staff of the organization to gain more from the supplier in terms of skills. Outsourcing also makes work easy since the staff have the ICT skills and experience making it easier to perform the respective tasks more quickly and effectively.

The above findings concurred with views of such authors as Smith et al (1998), Alner (2001), and Ang and Straub (1998) regarding an organization achievingeconomies of scale from outsourcing. Librarians perceived outsourcing as a means toaccess the state-of-the-art technology, economies of scale with regard to hardware, software and personnel, and aggressive use of low-cost labour pools. This way the Public university libraries were able to acquire state of the art technology at minimum cost.

The study disclosedthat not all the public university librarians viewed outsourcing as good. There are those who viewed outsourcing as threat to the library profession since, by outsourcing, jobs performed by librarians are taken away by vendor. Librarians feared that outsourcing might lead to loss of key competencies given that ICT work, such ascataloguing, is performed by the vendors while the staff in the organization are assigned other duties. Over time, they lose their competence in those areas. Where procurement of the e-resources is done by INASP on behalf of the member institutions, INASP gains more experience in the art of negotiation of the prices. In the end, the librarians’ ability to negotiate may diminish with time, as would be the case with cataloguing of documents outsourced from Library of Congress as MARC records.

Authors such as Benaud and Bordeianu (1998) share librarian’s view that outsourcing may in due course result in the end of librarianship.

Staff also perceived outsourcing as a threat to the library profession as it leads job lose. A section of the librarians in University of Nairobi Library feared the outcome of a case where manual cleaning was outsourced and the library cleaners lost their jobs. Martin et al (2000) confirms that staff dismissal took place in the Hawaii Public Library when it outsourced to Taylor and Baker. In the Kenyan scene, Gachunga’s (2009) study confirmed that since certain public organizations such as Telkom had retrenched over ten thousand workers in the wake of globalization and business competition from related telecommunication companies like Safaricom and Celtel, they had resorted to contracting most of their services to companies. The librarians feared that staff would be laid off if most services were outsourced. Yet, the findings of another study in Kenya by Sang, (2010, November) on outsourcing in Kenyan Universitiessome staff had negative attitude towards outsourcing. The staff viewed outsourcing as a threat to their jobs since some universities either redeploy affected staff to other areas or retrench those considered surplus or redundant. A study done by Hollards, (2004) in April 2004 reviewed that thousands of Australian jobs were under threat due to companies outsourcing to offshore destinations. He recommended that new jobs could be created by Australia becoming more aggressive in its efforts to position itself as an offshore destination in its own right. At the same time effort be made to reduce loss of jobs, by providing low-cost education programs to assist individuals to re-enter the workforce with enhanced ICT skills to avoid displacement due to lack of skills. Based on the Kenyancase, which saw Telkcom staff lose jobs to outsourcing, the librarians’ negative perception towards ICT outsourcing was defensible.

The study noted that librarians perceived ICToutsourcing as expensive. ICT services were usually outsourced at exorbitant costs and required financial resources for maintenance and training in order to sustain them. The example given was that of e-resources, where public universities pay more than Kes 2 million for e-journals not considering e-books that are even more expensive. Besides, the prices are not constant and they keep going up thereby disrupting the services until the contracts are renewed.

Another reservation that the staff had on outsourcing ICT services was lack of legal frameworks and policies. The libraries lacked proper guidelines with regard to outsourcing to abide by. Policies and legal frameworks provide direction and guidance creating sound and responsive management practices, for effective oversight, and management of risks arising from such outsourced activities. The study shows that librarians dealt with outsourcing in the same manner as other procured activities, such as using lowest bidder as criteria to award contracts to ICT vendors. This contributed to inconsistencies in such aspects as vendor selection, vendor sympathies, and payment of services. Moreover, lack of ICT outsourcing policies and laws meant that the outsourced services did not produce the desired effects.

In view of the above, the librarians felt that inadequate information led to abuse and mismanagement of outsourcing processes. Ngwenyama and Sullivan (2005) argue that libraries and information system may end up contracting opportunistic vendors whom they term as “self-interest seeking with guile” leading to shirking, lying or other unethical behaviour. Beside, outsourcing can also be risky since the library is putting trust on a company to do the work that falls under their docket and still be accountable to their client. The librarians reservation towards outsourcing was instituted on the difficulty in monitoring work done by the vendor yet be accountable to their clients.

The study uncovered that a significance number of libraries were neutral towards outsourcing. They viewed outsourcing as neither good nor bad. Librarians with the neutral view had not experienced undesirable effects regarding outsourcing. The explanation given by the study was that, outsourcingwas relatively new in the Kenyan libraries and had not affected the librarians in a negative way.

It emerged from the study that, outsourcing was a good strategic decision that libraries took because it brought with it opportunities for them, a view shared by Pantry and Griffiths (2004). Tackling outsourcing successfully through strategic planning not only ensures that library services are a strategic asset, but also enhances the user-oriented approach using an information audit. In view of that, the study declared that libraries stood to benefit more from ICT outsourcing but required planning outsourcing processes well.

## 5.4 Factors instigating outsourcing of ICT services by Public University Libraries

Libraries outsourced certain ICT services such as e-resources, Internet, training and automation that were available from vendors in the environment. The study revealed the factors instigating outsourcing certain ICT services.

Among the various factors that influenced outsourcing as attested by respondents were; access to ICT expertise and knowledge acquisition, improved and efficiency services, simplifying work, cost saving, economies of scale and access to state of the art technology.

### 5.4.1 Accessing ICT expertise and knowledge Acquisition

University libraries competitiveness relies heavily on effective and efficient use of ICT for supporting research and education. This requires competent staff with up-to-date skills in ICT. Libraries outsource to acquire the ICT skills needed to enhance their service delivery. The study attested that the libraries lacked staff with knowledge to perform certain crucial ICT services and, by outsourcing, they were able to fill the knowledge gaps. Weingand (1997) supports the finding that libraries as information centres are but one group of players in competition with the numbers of others such as vendors, publishers, mass media, online services and the Internet, each of them seeking a unique market niche and competitive edge.

The libraries opted to outsource to secure knowledge required and vital to the libraries’ continued existence. According to RDT, organizations depend on resources found within the environment. Thus, according to Pfeffer (1978), dependence is contingent on how essential the resource is to survival and the degree to which others control the resource. Public university libraries outsourced ICT services because ICT services were crucial to their survival.

Outsourced services such as VPN that were crucial in enabling the library communicate with external environment since they did not have internal staff to perform the activity.

The study attested that libraries outsourcing the services was instigated by need to acquirespecialized expertise in the area of ICT. Outsourcing provided public university libraries with the opportunity to tap into the leading edge technologies and programs without having to invest in developing and maintaining them.

### 5.4 2 Improved and Efficient Services

Service delivery is vital to survival of the libraries. University libraries mandate is to support academic and research. The modern library users are techno savvy, requiring librarians who are able to deliver services promptly and efficiently. ICT outsourcing enables library to gain better and more improved services. The library is able to improve the efficiency of its services because the contracted services are mainly those in which the libraries lack staff, capacity and skills. The libraries outsourced to benefit from improved information resource input from e-resources frequently updated than print resources and available round the clock. Libraries outsourced to vendors with a market niche, and morecompetent to provide a seamless service. This contributed to improve services to the library clients. Thelibrarians alluded that vendors have better and more sophisticated equipment than the library; hence, they are more experienced in handling emergencies. In case of a breakdown, they are able to reinstate the services faster.

### 5.4.3 Simplifying Work

ICT outsourcing have accelerated the rate at which library services and routines are carried out. Library Information Systems, RFID and other services outsourced helps a library provide services faster than before. Librarians considered outsourcing ICT services to enable librarians perform routine tasks such as checking out books, faster. Compared to manual systems libraries were using before outsourcing such as manual circulations, the systems allowed librarians’toprovide faster services to clientsfaster.Librarians therefore, were influenced by need to make work easier and save the staff time to operate the systems. The librarians outsourced KOHA because as an integrated library system, it would make processing and management of services easier and faster. E-resources operates on an ICT platform many users are able to interface with and with training on access, the users can make use of the services effectively. This requires minimal supervision on the part of the librarian and with the least of effort; the users are able to operate on their own leaving the librarian to attend to other business.

### 4.5.4Cost saving

Public university libraries utilized Information Communications Technology outsourcing as a management tool to cut expenses in non-core activities, specifically overheads of Information Technology departments. Outsourcing ICT is cheaper in the end since the supplier and not the library covers the overhead costs as endorsed by 18 per cent of the respondents.

The librarians considered transactions cost of the service before outsourcing. Respondents argued that outsourcing was one way the university reduced overhead costs, especially for short-term projects that required competent staff, were expensive and required one time execution, for example, cabling. In such case, the university only paid for the services specified under the contract, and the supplier bore all the overhead charges such as allowances of the staff under them.

### 5.4.5 Economies of Scale

Economies of scale refer to the cost benefits that the libraries attain due to size and or scale of operation when the cost per unit of output decreases with increasing scale because the fixed costs are spread out over more units of output. The study found that outsourcing enabled libraries attain economies in two ways.

The study revealed that libraries are able to get more e-resources by pooling together finances and buying together. They pay less as individual libraries through the consortium that pulls together forming the buying club that allows libraries to get e-resources that are worth the money. This way, each library is able to get more than they would have if they had done it on their own as acknowledged by INASP representative,’’ the library was able to get 50000 journals more through the Kenya Library and Information Services Consortium (KLISC - the consortium of institutions in Kenya).

Each library had affiliatedcampus libraries that benefited from the same services paid by the main campus libraries though outsourcing. This helped theaffiliated campus libraries benefit from the centralized acquired pool of resources therefore, gaining economies of scale.

### 5.4.6 Allowing librarians Concentrate on their Competencies

Libraries continually need to balance the richness, innovation and diversity of the resources coming from the environment against the need to spend on resources that are not their core competencies. The study attested that when libraries were confronted with need to hire trained staff in ICT skills againstoutsourcing the skills from the environment,libraries preferred to outsource the skill. Outsourcing frees up library staff to focus on their core-competencies. This allows them to dedicate their time to their strengths, enabling the library users derive the maximum benefit from their talents. The study confirmed that the libraries considered outsourcing for areas that were their domain such as training, upgrades of Library systems.

### 5.4.7 Accessing state of the Art Technology

Public university libraries operations relies on increasingly large investments in ICT and it is becoming increasingly complicated to put together and sustain a state-of the art ICT service delivery systems. Technological advances enable the automation of many library functions making such ICT services candidate for outsourcing. Handling all the different aspects-software, system integration and maintenance, require tremendous resources. ICT service outsourcing provides a means for libraries to access and maintain the latest technology that may otherwise not be feasible in-house from a cost perspective. The study ascertained that libraries aspiration to acquire ICT services advancements such, internet, web-based technology, library systems, instigated them to outsource. This allowed libraries to have improved service delivery without always developing in- house ICT resources and facilities.

## 5.5 Strategies Adopted by Public University Outsourcing in ICT

Information communication technology outsourcing strategy is a plan taken by the public universities to assess which ICT functions better performed by an ICT outsourcing service vendor than by the libraries internal ICT department. ICT strategy considers why, the library need to outsource in the first place as well as the place of outsourcing in the business function. The purpose is to enable the library exploit maximumbenefits from the services outsourced. By carefully conceiving a well-calculated outsourcing strategy, the libraries stand to achieve institutional objectives more effectively. The study found out that there were certain strategies that public university libraries adopted to acquire critical resources for their survival.

### 5.5.1Cost benefits strategy

Cook and Thompson (2000) remark that accelerated price of change in the environment cause libraries to confront problems of survival and development. The libraries therefore adopt various outsourcing strategies to acquire the ICT services required. The study revealed that libraries used cost benefit strategy to outsource ICT services. The services outsourced were to enable the library access the services cheaper than developing them in-house.

The libraries achieved this by evaluating the options of whether it is cheaper to produce required ICT infrastructure services internally or to buy them externally. Where library took the outsourcing option, the library compared the cost of developing in-house ICT system and the cost of outsourcing from vendors. According to Williamson’s (1985) TCT, libraries must weigh up the production cost and transaction costs associated with executing a transaction within their firms (in-sourcing) versus the production and transaction costs associated with executing the outsourcing.

The study attested that public university librarians’ choice to outsource ICT services was determined after analyzing both the strengths and weaknesses of in-sourcing verses outsourcing. Libraries utilized cost benefit strategywhen outsourcing was cheaper to acquire certain services as opposed to developing the services in-house.

The major services outsourced by the university libraries were of standard nature such as e-resources from which they sought to benefit more from economies of scale. According to Williamson’s (1985) framework, such services favour outsourcing (market governance) regardless of how often they are used (frequency). This explains why Internet and e-resources were the most preferred ICT services for outsourcing because of the cost benefit.

### 5.5.2 Critical ICT services outsourcing Strategy

RDT considers the outsourcing of some of the library functions as a strategic decision taken when the libraries have understood and clarified which resources that are critical to their functions. The study revealed that librarians considered factors such as need for knowledge and technology transfer, cost saving, allowing the librarians to concentrate on their core-competencies, risk reduction, improved productivity and faster way of doing things to determine the critical resources they needed to acquire.

The study revealed that libraries outsourced ICT services that enabled them meet specific objectives and therefore considered critical. For instance, a service was outsourced if itprovided short-term services that were critical such as LIMS implementation.Public university libraries utilized critical resource strategy by targeting external environment for resources that would support the success of the critical tasks.

### 5.5.3 Complement services strategy

The modern Public university libraryis shifting its role from the custodian of traditional information resources to the provider of service-oriented digital information services. Many are using outsourcing strategy to acquire digital information services to supplement print resources. The study confirmed that public university libraries outsourced ICT services to complement traditional services provided by libraries but not as a way to replace the internal staff.E-resources were outsourced by libraries not to replace the printed resources but as a strategy to complement the services.

**5.5.4 Long-term and Short-term outsourcing strategies**

The study ascertained that libraries utilized long-term and short-term outsourcing strategies to suit different circumstances. In short-term outsourcing, the library outsourced a particular service only for a short time such as when the library lacked specific ICT skills to fulfil certain objectives. The libraries trained their staff occasionally to improve certain programmes or skills. All libraries engaged the services of professionals to train staff when need arose. As training was not their core-competence, they considered it cheaper to outsource the service than develop staff trainers on standby basis, which would have been costly for them.

In long-term contracting, outsourcing ICT services was for long period, sometimes running over a year or more. All the four libraries had contracted mutually the provision of e-resources on long-term basis. They also had contracted KENET to provide Internet services on similar basis, where they renewed contracts every year. Out of the two strategies – long-term and short-term contracting - short-term contracting strategywas more prominent.

### 5.5.5 Selective and Minimal Strategies

The study showed that libraries practiced selective or minimal outsourcing strategies. The libraries did not practice total outsourcing.

In total outsourcing, organizations outsource all ICT services in whole, however in the case of public university libraries this was not the case. The study revealed that minimal outsourcing was the strategy in use. The university libraries mainly adopted selectively outsourcing fore-resources and Internet services. It was more cost effective to outsource the two services.

The study verified that none of the libraries practiced total outsourcing or encouraged it. Lacity and Willcocks (1998) explain that firms predominantly engaged in selective outsourcing since such selectivity yielded economies of scale and resulted in expected cost savings more often than comprehensive or minimal levels of outsourcing. That may explain why public university libraries also used selective strategy.

### 5.5.6 Temporary staff as Knowledge gaps strategy

The study attested that public university libraries engaged temporary staff brought in and let go according to need. According to RTD, the libraries minimized their reliance on other organizations for the supply of scarce IT resources by exerting influence to get resources and respond to the needs and demands of others in its environment (Pfeffer and Salancik, 2003). The study established that the libraries utilized this strategy.

The libraries could hire out hourly workers for specific period and subject them to “fee –for –service contract”. A study by Lawes (1994) revealed that libraries and information centres contracted services by using the above strategy, a practice that existed in Kenyan universities libraries.

The study confirmed that out of the 14 ICT services outsourced, 12 (representing 85.7 %) involved suppliers brought in for projects that were short lived and pulled out when the work was completed. Public university libraries negotiated the costs for such ICT projects based on time taken, complexity and duration of the project. This strategy was utilized to hire trainers, installation of ICT facilities (such as fibre backbone network), digitization, OPAC and automation. Internet and e-resources cost were negotiated on yearly bases.

### 5.5.7 Onshore and Offshore strategies

Organizations have options of onshore or offshore outsourcing strategies.

Onshore outsourcing limits the outsourced work within the locality or the country of origin. The vendor is located within the country offering geographical advantage. Onshore outsourcing is only limited to the country of origin, making outsourcing providers more accessible and is nearer to the company itself, Gonzalez et al (2010b).

Offshore outsourcing contracts the operations of the company to other companies that are located in a foreign country. It involves contracting all or part of an enterprise’s ICT functions with a provider located abroad, (Rao, 2004).

The study confirmedthat onshore outsourcing was the strategy public university libraries mainly applied but also had limited services contracted offshore.

Majority of the ICT services were outsourced to local vendors by public university libraries. The explanation given is that there are many vendors offering peripheral ICT services such as VPN outsourced to Safaricom available locally and CCTV outsourced to 3M.

E-resources, web-reference and Library Management services were contracted to vendors outside the country- offshoring. Theinferred explanation given forcontracting to offshorewould be the cost advantage. Lack of professional e-resource vendors locallymay contribute to offshoring as well as business strategy taken by libraries. This explanation defers from (Kliem, 2004) who attributes offshore outsourcing to globalization and delocalization process.

### 5.5.8 Use of Vendors’ Asset to Minimize Risks strategy

The study revealed that use of vendors ICT asset was a strategy mainly used by the university libraries to minimize risks for standard services such as security. For instance, CCTV outsourced from 3M.According to TCT, standard services are easier to transfer to vendors, and offer better re-usability for vendors with their other customers. This was done to allow the library minimize technology risks due to constant changes in ICT.

Transaction Cost Theory asserts that the party who has invested in the asset will incur a loss if the party who has not invested withdraws from the transaction. This explains why libraries such as Moi University did not acquire ICT assets from the vendor to avoid risk in case the latter withdrew. In such cases, libraries retained outright control over vendor.

### 5.5.9 Non-core services strategy

The study establishedpublic university libraries tended to outsource those areas that were not their core domain such as (training staff, maintenance of software, installation of equipment and security especially surveillance). This left them to concentrate on their core-competency areas. This concurs with findings of others like, (Petrice, 2000; Hayes et al, 2000; Smith et al, 1998; Grover et al, 1994; Lacity et al, 1994; Willcocks et al, 1995; Claver, 2002; and Rajabzadeh, 2008) who observe that the outsourcing firm focuses on broader business issues or maintains a clearer strategic focus, while an outside expert assumes operational details.

## 5.6Legal and Infrastructural Requirements in Outsourcing ICT Services

This section explores the legal and infrastructural requirements in outsourcing ICT services in public universities.

Outsourcing requires certain contractual laws such as government or other regulatory type of obligation imposed upon on the services, operations of the client and supplier. Laws include state or local statutes, regulations, rules, executive orders, policies, procedures and other official releases of and by government or any other authority or department.

Legal provisions set the stage for important aspects of client-supplier relationship that have both financial and business implications. They are of particular concern to the library (as the client) as well as the supplier in guiding areas such as data privacy, data security and procurement procedures. The study found out that the university libraries mainly used the following laws. 1) The Public Procurement and Disposal Act, 2005, (which became effective from 1stJanuary 2007). 2) The Public Procurement and Disposal Regulations, 2006, meant to assist in the application and implementation of the Public Procurement and Disposal Act. 3) University statutes. 4) University Standard Operation Procedures. 5) ICT policies.

The findings indicated that guidelines stipulating outsourcing procedures were non- existent in some libraries. Where they existed, they were not far-reaching; the libraries had not written guidelines and policies to guide the outsourcing process. Owing to lack of guidelines, the study established that libraries dealt with outsourcing cases on a case-by-case basis. For instance, University of Nairobi was not strictly following the procurement rules when acquiring books. Further, the study revealed that libraries used procurement regulations for some outsourced ICT services; however, they did not cover all aspects of outsourcing. Moreover, in three public university libraries they had only draft policies that mostly covered acquisition generally, while one did not have even draft policies. One library had developed ICT procedural manual that only indicated instances when library applied outsourcing, and the factors that favoured outsourcing, but the information provided was not adequate. Williamson (1985) TCT says that transaction drivers can increase transaction cost as a result of the degree of uncertainty in the environment as it impacts on the contract and its fulfilment.

The study therefore deduced that not all libraries had put in place proper documented policies to guide the outsourcing process thus leaving ICT outsourcing open to gross mismanagement.

### 5.6.1 ICT policy and procedural manual

ICT policy and procedural manual outline and guide the outsourcing processes. As noted in the study, operational policies were non-existent in all the four libraries with the study revealing thattwo libraries had their policies still in draft format.

Procedure manuals are important as they guide the staff in an organization in performing specific tasks. This facilitates training of staff as well as acting as a referral manual. A procedure manual promotes adoption of process approach to activities being performed thus ensuring that the objectives of the service are achieved. Many universities libraries are striving to provide quality services in line with the ISO 9001. Two of the libraries had developed standard procedures for various processes in the library, but only one had a draft procedural manual on outsourcing. The purpose of such a manual is to ease training and understanding of IT outsourcing procedures among staff to make the processes more transparent and smooth. Khalfan (2003) supports the importance of standard operation procedures in an organization and views lack of them as contributing to failure of ICT outsourcing projects.

### 5.6.2 The Public Procurement and Disposal Act of 2005

This Act exists to guide public procurement and disposal of facilities as legal framework for all public procurement in Kenya. Its purpose is to streamline buying by government agencies/entities and to ensure efficiency of services. Section 27(4) of the Act regards outsourcing of ICT services as any other procured product or service.

The study shows that all the libraries used the Act in outsourcing ICT services, but all the libraries felt that it did not favour outsourcing and was in fact one of the hindrances because it was not elaborate and it was also rigid. ICT services, especially in a library setting, are unique particularly books and e-resources. Each book or a set of services many be held by only one publisher yet the law expects the procuring organization to abide by floating three bids with the lowest being awarded the contract. To get out of the quagmire, some libraries, such as University of Nairobi, have been able to secure an exemption that allows them to use single sourcing. This omission of important facets of procurement can easily become a breeding ground for corruption as it creates weaknesses and/or gaps in the process.

Under Section 26 (1) of the Act, public entities have the approval to establish procurement procedures. However, this is likely to result in differences with regard to procurement processes, thereby defeating the purpose of the Act, which aims to make procurement uniform across all public entities. The freedom to establish own procurement procedures means that libraries are likely to treat identical situations differently. For instance, while the University of Nairobi allowed single sourcing when procuring books, the study observed that different procedures already existed in relation to outsourcing IT services.

According to the findings, lack of clear guidelines for outsourcing procedures as well as procurement laws that were not elaborate on issues of outsourcing provided an explanation why two of the libraries adopted other avenues of awarding contracts. Moreover, library ICT services outsourcing poses some intricacies compared with procurement of other goods because the supplier owns not only the facilities but also the assimilation of the ICT service into the organizational environment of the outsourcer. For instance, authors present divergent ideas and may choose to publish their work with different publishers making it impossible for libraries to adhere strictly to procurement laws, which explains why such libraries as the University of Nairobi were not strictly following the procurement rules when acquiring books and e-resources.

In addition, libraries outsourced e-resources and Internet services through a consortium of institutions set up to help member institutions cope with the increasing cost of information resources. When it came to the awarding of contracts, the libraries awarded lowest bidder for most IT services in compliance with the Public Procurement and Disposal Act.

The criteria used in selecting IT suppliers included technical expertise, reputation, credibility, compliance with Kenya Revenue Authority, strategic position, company profile, supplier’s size and client base, expertise and experience, accuracy to the details and follow-up, ease of collaboration with the library and other networks, and reliability of service and accuracy. MaCarthy (1996), Katila et al (2008), Behara et al (1995), Larkford, andParsa (1999) suggest that suppliers who have a good understanding and an interest in the outsourcing firm’s business will be better positioned to help define mutually beneficial goals. This will enable the library to outsource services in line with its objectives.

Section 66(4) of the Act states that the successful tender shall be the one based on the evaluated price. The lowest bidder thus gets prominence over everyone else. This in itself is a setback to attaining best value for money. Awarding contracts based on low prices does not guarantee that the services will be good or that the library will get ICT services that are tailor-made to address specific needs of customers. Thus, according to TCT transactions, human factors (bounded rationality and opportunism) further aggravate costs thereby leading to escalation of transactions costs. Bounded rationality refers to situations or inabilities for humans to consider every state-contingent outcome associated with a transaction that might arise. Lack of knowledge may affect an outsourcing decision such as contracting engagement. The study revealed that in some cases librarians lacked sufficient information when dealing with vendors who were more advanced than them. It also revealed that lack of information on the part of the librarians led to situations where “opportunism” thrived. According to Williamson (1985) opportunism consists of situations where humans will act to further their own self-interests. The study revealed oppotunism usually occurred during transactions*.* It further revealed that librarians sometimes made irrational decision due to lack of information. Moreover, the three instruments (i.e., Public Procurement and Disposal Act of 2005, The Public Procurement and Disposal Regulations, 2006 (2001), and the Service Level Agreement and ICT policy), were not always adequate in handling matters such as evaluation of the services, operationalization and selection of a vendor.

### 5.6.3 Service Level Agreement

Libraries drew Service Legal Agreements (SLAs) after identifying the vendor. These Agreements defined the scope of the work and expectations as negotiated by the parties (the library and the supplier) as part of a service contract. The SLA chronicles a common understanding by the two parties by defining the level of service, levels of availability, serviceability, performance, operation or other attributes of the service, such as billing. Hence, the agreement is a legally binding contractalso usedin evaluating services in certain cases.

The contract that is signed between the library and the supplier specifies terms and conditions, which are carefully defined and in written agreements and vetted by the library’s legal counsel for legal effect and enforceability. The study revealed that all libraries utilized SLAs. Issues covered by the Service Level Agreement (SLAs) include the following: risk mitigation strategies, vendor transfer notification; control over outsourced services; outsourced activities; performance standards; rights to access documents; continuous monitoring and assessment; termination and exit clause and minimum periods to execute a termination provision; data confidentiality, liability and security; contingency plans for continuity of business; use of sub-suppliers; right to inspection by library; and, confidentiality of customers information.

All libraries had put in place contractual provisions governing outsourcing service contracts. However, two of the librarians were not involved in the drawing up of contracts and therefore were ignorant with regard to their contents. Moi University had contracts drawn for the outsourced services at the time of the interview. The university’s legal representative formulated the contracts and signing of contract witnessed by the representative from the user department, ICT Director, representative from the university management, and a representative from the procurement department as part of the committee. Williamson (1985) advises that it is necessary to discover who it is that one wishes to deal with to conduct negotiations leading up to a bargain, to draw up the contract, policing, enforcement costs, bargaining costs and to undertake the inspection needed to make sure that the terms of the contract are being observed. The contracts drawn are to protect both parties. Where contracts are lacking, the risks to the client resulting from failed compliance, especially with laws, may be massive. Risks may include civil or even criminal liability notwithstanding disruption of delivery of services essential to the satisfaction of customers. To avoid such risks all libraries involved the university lawyer when such contracts were drawn.

According to Williamson’s (1985) TCT, all market contracts are incomplete. Organizations may apply classical contract law, neoclassical contract law, and relational contracting. Williamson (1985) explains that classical contract laws cover all relevant and future contingencies as literally as possible, while neoclassical contract law takes care of certain clauses modified as time passes. Original classical contract treats future changes, while relational contracting deals with relationships that evolve over time based on trust and on the relationship between the parties. The study found that libraries utilized the three contracts:classical, neoclassical and relational contracts to gorvern engagements with vendors.

However, SLA as a legal document does not guarantee that everything will work perfectly. Therefore, the study noted that the outsourcer should get prepared in the event that a contract may be broken to avoid lengthy interruptions of the services. It identified instances where the two parties had broken contracts in the past. In one case, the library had breached the contract by exposing password to non-members, and in another a supplier, Wantech, had contravened the contract by exiting before the contract was over.

The study noted that exit and termination clause is specific and is action taken. The study also revealed that the libraries had various options that they engaged including, but not limited to, the following, lawsuit, refund of money and renegotiation by both parties.

### 5.6.4 Involvement of library staff in outsourcing

The study revealed that in two of the management staff in the public university libraries consulted their staff on outsourcing decisions. The study also revealed that while two of the librarians were involved in making decisions about the services to be contracted from outside, others (two libraries) were not consulted, which left these librarians feeling let down. The Public Procurement and Disposal Regulation 2006 is clear that the user department must be involved in matters relating to initiating procurement, preparing technical specifications, participating in evaluation of supplier, tendering process, and contract negotiation. Therefore, once the library identified the service to outsource and analyzed their need for the service, the next step in the process was to channel their request with the advice of ICT directorate. The study noted that the ICT directorate should not dictate to the library on which service to acquire but only offer advice.

Larkford and Parsa (1999) and Weimer and Seuring (2008) suggest that a cross-functional team with members from a variety of decision-making levels is required to assess the company’s needs. Such a team is also required to manage the contract after its execution. Consultation with library staff in matters that touch on the ICT services falling under their docket is therefore necessary for acceptability. It further ensuresthe implementation of the services is effective. Khalfan (2003) found out that a successful ICT application requires that the users, project managers and technical personnel be intimately involved in the development process and this was found lacking in some university libraries.

### 5.6.5 Procedures for outsourcing ICT services

The study established that due to lack of procedures to guide ICT outsourcing there were many incongruences in the outsourcing processes. In addition, the study revealed that the procurement regulations used were not suitable for library ICT outsourcing, and found out that each library followed different procedures and sometimes for different ICT outsourced cases. For instance, the country INASP representative explained that, although the librarians had procedure for e-resources outsourced through a consortium, libraries dealt with procurement of other e-resources and print resources on a case-by-case basis depending on how much money was at stake and the significance of the ICT projects. This meant that not all ICT procurement cases were subjected to the strenuous procurement processes. The study also revealed only one library had documented the procedures although they were the general procurement of library resources and therefore they did not address procedures for outsourcing.

The study revealed a consensus that outsourcing processes were lacking in many ways. Lacity and Willcocks (1995, 1997) support the argument that the unique and distinct characteristics of ICTs usually put clients at a disadvantage with respect to IS outsourcing providers. They observe that clients often lack experience in signing outsourcing contracts, which is not the case for the provider. Because of this information dissymmetry, providers are in a much better position to favour their interests.

The study identified steps as suggested by librarians, which they felt would make the ICT outsourcing processes more effective.

The library user department first originates the request having considered the needs and having conducted a feasibility study and a proposal is prepared. The library committee then evaluates this proposal. Heads of various sections, including systems librarians, constitute the committee. The user department, represented by university librarian, presents the proposal to the ICT technical committee for advice; the technical committee comprises an ICT director, librarian, deans, purchasing staff, and other heads.

The proposal for the ICT service proceeds to the university’s management. If the decision is accepted, purchasing rules or guidelines follow, by floating quotations, selecting the vendor based on the lowest bidder as one of the criteria. However, other additional criteria to the lowest bidder such as financial and technical analysis are used. Then the vendor receives Local Purchasing Order (LPO). Legal officers draft the SLA between the user department and the vendor. The ICT services implementation and evaluation follows.

### 5.6.6 Managing and evaluation of contracted services

The decision to outsource and award contracts is not the end of the outsourcing process. Managing of the contract must go further to enable transition process to be effective. ICT service project monitoring and evaluation is crucial to determine how the operations are progressing. This helps to detect inefficient systems allowing the elimination of defects through corrective action. As Kelley (1995) and Jefferies (1996) recommend, if an organization decides to outsource, it must set up regular performance reviews or similar criteria to measure and monitor the provider’s performance.

Outsourcing of ICT services such as e-resources, internet to supplier by the university library does not liberate it from the responsibility of achieving its objectives, and of being responsible to its customers; hence, outsourcing is not an excuse to overlook any aspect of libraries services. It is only the contractual provisions that bind the supplier to the actual delivery of the services; an obligation to the customers remains the mandate of the university library as the outsourcer. This means that the university library assumes the risk of closure of services, interruptions or any other deviation from its normal cycle and therefore bears political responsibility.

After the drafting of SLA, signing of contracts marks the commencement of actual work. This involves preparation of a detailed and careful planning for the success of migration of equipment and staff to the service provider. Other transitional changes that may require proper planning include new management structures, cultural dynamics between the two parties, control of the services and internal operations. For instance, the library staff may need to work with the supplier and the two parties may have different organizational culture that needs easy transition.

There is also need to set up mechanisms for monitoring and evaluating the performance of the supplier. Larkford and Parsa (1999) share the view that an integral part of the planning and conducting of the acquisition process must include methods and procedures for measuring suppliers’ performance such as technical standards – maintaining the required response time, minimizing system down time, providing error-free service, utilizing leading edge technology and functional quality; that is quality of customer service.

The study found that 62.7 per cent of the respondents were not keen on assessing the quality of the services provided by the supplier, while 37.3 per cent signed service agreements with the vendors and used the same to follow up on the evaluation of the services provided.

Libraries approached evaluation of ICT services from the end users as well as the service provision point. From the users point, libraries determined quality of services using surveys to determine user satisfaction/expectation of the services. Libraries circulated questionnaires to users prompting them to respond to questions relating to outsourced services. The analysis helped them to deduce whether the services were satisfactory.

Other methods utilized to obtain feedback from users included statistics of use and complaints analysis. If the services were satisfactory from the point of the customer, they concluded that the vendor’s services were acceptable. The librariesutilizedanalyzed complaints from users to determine whether the problem was internal or originating from the supplier. If it was external, the library notified the supplier for corrective action. From the point of service provision, libraries utilized service features such as bandwidth, efficiency and effectiveness of the service, duration of responding to emergencies and the cost of the service. The study affirmed that libraries utilizedthe signed SLAs to evaluate the services using criteria such as response time, system down time, leading edge technology, and functional quality.

## 5.8Opportunities, Challenges and Risks in ICT outsourcing services

Outsourcings brings enormous opportunities to the organization such as knowledge acquisition, saving of costs. The study attested that libraries benefited from outsourced ICT services in various ways. The study however, ascertained that there were challenges and risks associated with ICT outsourcing. This section discusses the opportunities and challenges libraries associated with ICT outsourcing.

### 5.8.1ICT Outsourcing Opportunities in Public University Libraries

Public university libraries derive their motive to outsource from the many ICT outsourcing opportunities. The libraries outsource with the objective to achieve a combination of many associated benefits. Some of the main driving ICT outsourcing opportunities as endorsed by the respondents include; knowledge and technology transfer, acquisition of ICT skills, costs cutting and economies of scale, concentrating on librarians’ core-competency and other benefits as discussed in this section.

#### 5.8.1.1 Knowledge and technology transfer.

The study revealed that the librarians recognized ICT outsourcing as an opportunity to acquiring knowledge and technology form knowledgeable and skilled vendors. The argument was that they are able to gain easier access to expertise and new technological skills from the staff providing the services. The respondents felt that outsourcing provided them the opportunity to bring in vendors with the skills lacking in the library and utilize by tapping their knowledge as well as assimilate the knowledge and skills to perfect their services. Lack of adequately trained staff in ICTprompted libraries to outsourcing. Thus, library management looked for outside labour resources when ICT skilled personnel lacked in-house.

Respondents commented that they worked in an era where most services required ICT skills, yet their training in ICT was inadequate, which required the library to outsource such skills to fill gaps. Moreover, constant changes in ICT required the librarians to update their skills continuously. Most of the libraries lacked staff with ICT skills. The few trained were not adequate to provide sophisticated ICT services. Outsourcing was therefore a way of enabling the library to gain staff with skills and technical support to supplement the library services.

Jurison (1995) and Mohammed (2005) affirm the study that outsourcing brings client-firms advantages related to technology as these business organizations can have access to specialized, state-of-the-art technology, which is supposedly supplied to them by the provider. The outsourcing firm therefore gains easier access to expertise and new technological developments.

The study confirmed that all the libraries had gained considerably from outsourced services. Alner (2001), and Ang and Straub (1998) argue that outsourcing paves the way to a more specialized IT management, as the provider firm can itself select, train and manage its technological staff; in this way, clients can have high-level specialists at their disposal without them having to be permanent members of their staff.

The study revealed that all libraries had outsourced e-resources and Internet services, which provided the clients and staff withup-to-date information that allowed them to keep abreast with the technology and information. Other services outsourced, such as LMS, allowed the staff to use systems that were in line with technology applied in the libraries elsewhere in the world.

#### 5.8.1.2 Acquisition of ICT staff and skills.

Librarians explained that inadequate ICT staff with skills was one of the reasons that led to the libraries outsourcing ICT services. Through outsourcing, the library had the opportunity of having staff brought in from outside with ICT training who could provide ICT technical support. The study revealed that before outsourcing, libraries considered whether the skills to be outsourced were available in the library. If the library lacked staff to perform critical ICT task, they made the decision to outsource.

RDT considers the outsourcing of some of the library functions as a strategic decision taken when the libraries have understood and clarified which resources are critical to their functions. If the library had staff with skills, justification to the management on outsourcing the service would not have been possible. The universities outsourced when they lacked experts with the needed technical ICT skills. Findings confirmed that lack of skills was a factor determining whether the library outsourced the ICT service or not.

#### 5.8.1.3 Costs cutting and economies of scale.

The study attested that ICT outsourcing provided the libraries with the opportunity to save on cost and gain economies of scale. ICT service outsourcing enables the library to have a reduced number of staff employed by the university, thereby allowing the university to save on costs. The study established that libraries had outsourced digitization of records, security, and reprographic services, allowing librarians to concentrate on the provision of other core services. This enabled the library to deploy the number of internal staff required to operate the service to other core service areas.

The vendor managed outsourced services, which made outsourcing cheaper in the end since the vendor, and not the library covered the overhead costs; the library did not pay the salaries of the staff under the vendors’ employment, thus reducing the cost of providing the services.

Claver et al (2002), Alner (2001) and Ang and Straub (1998), affirmed the study that clients can have at their disposal high-level specialists without them having to be permanent members of their staff and therefore have reduced staff, thus saving cost.

The study shows that librarians credited ICT outsourcing to opportunities to gaining economies of scale through ICT and Internet service outsourcing. Large libraries – for example, MUL, UONL and KUL are able to access a larger customer base through their outsourced internet and e-resources. These services operated with greater geographical reach. The Libraries client based distributed in different geographical areas, can access e-resources acquired by the central/main libraries and accessed by all campuses, hence benefiting from economies of scale.

The study revealed that outsourcing e-resources through a consortium of institutions allowed the libraries gain more of the resources. Libraries are able to get more resources by pooling together as institutions allowing each library to get more than they would have if they had done it on their own. Moreover, the libraries used transaction costs such as the cost of hiring and retaining an ICT person, upgrading costs, maintenance costs and equipment and facilities costs to determine whether it was cheaper to outsource.

#### 5.8.1.4 More improved, effective and faster services.

The study revealed that outsourcing brings with it opportunities of increased productivity of the services and enables the library to gain a competitive edge as affirmed by librarians. They felt that library is able to improve the efficiency of its services because the contracted services are mainly those in which the library lacks staff capacity and skills. The supplier filled such gaps thereby enabling the library system to provide a seamless service. The vendor is usually on contract and has to proof that they can deliver the service.

Secondly, libraries hire staff whose core-competency exceeds that of the library staff, enabling performance of the tasks at a faster speed than the library staff. This helps to improve the services provided to the customer. Thirdly, the librarians felt that the vendor provides the client prompt support in case of breakdown since most of them have standby staff in case of breakdowns. The suppliers have better and more sophisticated equipment than the client. Vendors have staff that are more experienced in handling emergencies due to their technological competency. In case of a breakdown, they are able to reinstate the services faster than the library can and are able to provide seamless services since it is their specialty. Gupta et al (2005) are of the opinion that “outsourcing provides indirect advantage to institutions as it introduces an element of competition”. Librarians felt that by outsourcing ICT services such as e-resources, the library was able to provide more improved, effective and faster services allowing it to remain competitive.

#### 5.8.1.5 Allowing librarians concentrating on the core-competencies.

The respondents attributed ICT outsourcing to according librarians an opportunity to concentrate on their core-competencies. Various authors such as Petrice (2000), Hayes et al (2000), Smith et al(1998), Grover et al (1994), Lacity et al (1994), Willcocks et al (1995), Claver (2002), and Rajabzadeh (2008) share the view that the outsourcing firm focuses on broader business issues, or maintains a clearer strategic focus, while an outside expert assumes operational details. Kelley (1995) and Jefferies (1996) recommend that, for effective outsourcing engagements, it is important that an organization determine what business they are in by noting their core-competencies.

The study findings concur with Benaud and Bordeianu’s (1998) views that when services are outsourced, the outsourcer takes on areas of ICT and other peripheral operations that provide the needed infrastructure allowing the organization to give more attention to its core-competencies. This leaves the librarians to concentrate on their own areas of expertise, such as serving users.

#### 5.8.1.6 Risk avoidance.

The study revealed that outsourcing provided an opportunity for the public university libraries to minimize certain risks are instigate by ICT, such as liability issues, insurance cover and obsolescence of technology, as the supplier owns the technology accessed by the client library. The vendor takes up the risks so that the library does not incur losses. Gupta and Gupta (1992) shares the study’s view that an organization may resort to outsourcing as a way of minimizing the risks incurred if the technology used is not the most appropriate. The librarians conceded that in many cases, supplier owned the technology outsourced and therefore bore the risks associated with ICT technology. The study revealed that the vendor owned and serviced the CCTV surveillance machinery at JKUAT library and therefore bore the cost of upgrading and that of technology risks. Moi University for instance acknowledged that they did not commit themselves to acquiring the technology of the vendor, that way the vendor suffered the risks.

ICT changes often and require constant upgrades. Besides, there are many challenges that come with technology. According to RTD, the library will try to exert influence to retain its independence by opting to choose the least-constraining mechanisms to govern relations with the vendors. This allows the library to minimize uncertainty and dependence and maximize its autonomy (Pfeffer and Salancik, 2003); for instance, KENET has to worry about information security at international level and not the library. The technology needs protection, a risk the supplier must bear.

Clark et al (1995), Glickman (2007), Grover et al (1994) and Gonzalez et al (2010a) share the view, that benefits of outsourcing by higher education institutions include the risk avoidance (such as reducing the risk of obsolescence) and variable staffing since risks such as liability issues and insurance cover, can be transferred to the vendor.

#### 5.8.1.7Security and upgrading of information.

In this age of ICT, there are many threats to technology. Considering that libraries deal mostly with information, security issues are of paramount importance in their management and an important consideration in outsourcing. In this study, the librarians viewed outsourcing as beneficial to libraries since it offered a solution to backing up information and upgrading it regularly. The supplier performed the role of providing information security and upgrading as the case of e-resources and internet. The libraries accessed current journal articles on regular bases without having to bear the upgrading costs and securing the network.

The librarians felt that outsourcing ICT services provided opportunities to current information and security to the public university libraries. Libraries benefited by acquiring critical ICT services through outsourcing that would have been too expensive for the library or would not have been available through in-sourcing due to lack of staff with ICT skills.

### 5.8.2 Challenges Associated with Outsourcing ICT Services

It is evident from the study that there were challenges associated with the outsourcing of ICT services by public university libraries. This section deals with the challenges as identified by the respondents.

#### 5.8.2.1 Technology obsolescence

The study confirmed that one of the main challenges the libraries faced was that of technology obsolescence. New technology surpassed old technology at a rate faster than libraries can manage owing to limited budget allocation. This is a problem because ICT requires librarians to keep upgrading their ICT facilities. For instance, the study found that while the University of Nairobi library was still using manual security, JKUAT library was using CCTV and KUL and MUL were in the process of outsourcing RFID, which is even more advanced. Thus, Lacity and Hirschheim (1993) and Lacity et al (1994) observe that preparation of a thorough technology transition plan that specifies replacement technology is imperative to enable the university libraries transit or migrate smoothly from one technology to another without incurring huge risks. The study revealed that, where possible, the universities negotiated this by not committing themselves to acquiring the technology, but instead made use of the technology of the vendor leaving the vendor to deal with technology obsolescence.

#### 5.8.2.2 Obscure outsourcing procedures.

The study findings alluded that due to obscure outsourcing procedures libraries evaluated and implemented opportunities for outsourcing on a case-by-case basis and lacked coordinated strategic planning across the functions and services. There appeared to be wide variances in how libraries understood, interpreted and applied the laws. Furthermore, university library administrators had not necessarily taken the right steps internally to build an effective governance to manage the processes involved in outsourcing services. Due to this, laws governing public procurement though utilized in outsourcing ICT services, did not produce the desired results.

Internal mechanisms such as ICT outsourcing policies were not in operation including policies that would have streamlined outsourcing in the libraries. For instance, libraries pegged the selection of vendors on the lowest bidder criteria, thus contributing to the selection of unqualified suppliers. Therefore, lack of policies and a legal framework was a major hindrance.

To make matters worse, procedures for outsourcing were also not documented making it hard for the staff to apply them uniformly across all the outsourced ICT services. For instance, libraries acquired e-resources differently from other services such as automation. Libraries acquired e-resources jointly through a consortium of institutions KLISC. In case of automation, usually the vendor contracted was through vendor favourism. Furthermore, the user departments were not sufficiently involved in decision-making with regard to the outsourced ICT services, which meant that the service did not always meet the requirements of the users leading to resentments among the staff.

#### 5.8.2.3 The cost of the services and price fluctuations.

In spite of the significant role played by ICT outsourcing, the study found that the cost of the services and price fluctuations was a challenge. For one, ICT services were expensive to outsource. With regard to services such as e-resources that acquired through a consortium, the cost was bearable but still quite expensive for libraries that have to deal will strict budget allocations. This contributed to opening up renegotiations every year with the suppliers. Furthermore, librarians dealt with suppliers who were more advanced than they were, as they lacked full knowledge in the area of outsourcing. Reportedly, the suppliers were taking advantage of them.

#### 5.8.2.4 Vendor management.

Vendor management was one of the major challenges that librarians encountered. Among the management issues were vendor supervision, especially the staff under the contractor. The study also found that libraries encountered instances when the outsourcer broke the contract thus failing to deliver the services as expected.

Librarians were sometimes unable to predict future relations with the outsourcer. For instance, some suppliers closed shop, either because of a change of business or lack of finances to sustain their business. For example, Moi University had contracted the Wantech Company to oversee radio communication between its campuses. Wantech closed after some time leading to breakdown of equipment, as the university lacked staff with skills to carry out maintenance services and this affected services delivery.

Williamson’s (1985) TCT asserts that transaction drivers can increase transaction cost because of the degree of uncertainty in the environment as it influences the contract and its fulfilment. Sometimes the librarian may not have control of the future, but they can try to reduce the uncertainty by conducting thorough investigation of the company. Ngwenyama and Bryson (1999) share the view that a vendor contemplating bankruptcy may wriggle out of the terms of the contract or walk away altogether. The study found that it was a challenge for libraries when vendors terminated the contract due to various reasons such as the Wantech abandonment of the project in Moi University.

#### 5.8.2.5 Transparency in awarding the ICT outsourcing project.

The study found that the librarians had no power of ensuring that the ICT outsourcing project went to any one of the service provider listed during the tender evaluation. It also found that in many libraries the user department was not involved in the selection of vendors or in the ICT project to be outsourced. For instance, the management failed to consult the librarians of the two libraries, KUL and JKUAL when outsourcing the Library Management Systems. An absence of adequate transparency and inadequate monitoring may result in collusion and abuse in the awarding of tenders. Arshad, May-Lin and Mohamed, (2007) share similar views that in any large ICT outsourcing projects involving significant sums of money, there exist possible elements of influence towards the outsourcing decisions.

#### 5.8.2.6 Low access, connectivity and marketing of ICT outsourced services.

Another challenge is that of bandwidth, which determines the efficiency of Internet connections in the libraries. The Internet bandwidth connections of most libraries are very low for them to enjoy most of the available e-resource services and online academic facilities. Thus, the poor state of Internet connectivity affects the information needs of the clientele as it hinders access to information. Besides, the high cost of Internet connectivity pose a challenge to the universities libraries meaning that many users have no access. Lishan (2003) asserts that most universities in Africa do not have plans regarding how to optimize their existing bandwidth and manage the traffic and usage and the underlying infrastructure such as electricity, local loop and technical skill, which are inadequate to support high bandwidth intensive applications.

One of the major challenges experienced by librarians was interrupted power supply and power fluctuations, which adversely affected access by users to the services outsourced. Power supply in Kenya is poor, endangering Internet connectivity. In all the universities, standby diesel generators were installed, but increasing fuel costs and on-going maintenance problems meant that they were seldom run for more than a few hours a day and were prone to abrupt and unannounced failure.

Additionally, failure on the part of the librarian to sensitize and market the services to the users contributes to low access to outsourced ICT services. A KENET (2010) study supports the findings observing that the higher education community, especially the university community in Kenya, is ready to use ICT for learning, teaching, research and management. However, the institutional leadership appeared not to have recognized ICT as a strategic priority for transforming these activities. Consequently, institutions were allocating low operational budgets to ICT, did not invest adequately in campus networks, and did not have strategies for building the capacity of faculty to use ICT effectively to support their teaching and research activities (KENET, 2010).

#### 5.8.2.7 Loss of control of the Outsourced ICT services.

The study found that many suppliers did not provide full disclosure about the services that they provided. This happened because the librarians sometimes lacked knowledge on ICT outsourcing resulting in opportunism on the part of the vendor. According to Williamson (1985), people tend to make rational decisions to maximize their utility, but due to the scarcity or cost of information, and to limited human information processing capacity, they settle for bounded rationality and situations with high uncertainty increases opportunism.

The study confirmed that in some instances the vendors had preyed on the librarians’ ignorance through overcharging certain services and refusal to provide full disclosure of the services. This resulted in loss of control of the services since the library relied on the supplier for crucial information. Petrice (2000), Antonucci et al (1998) and Slaughter and Ang (1996) support the argument that the nature of outsourcing is such that it creates a dependence on the provider firm with a consequent loss of independence because the outsourced department is no longer readily available for use in management training, preventing the creation of easy familiarity with that function. For instance, libraries depended on INASP and PERii for procuring e-resources, a core service that should ideally be on the libraries’ docket. The study confirmed that libraries such as Moi University depended heavily on the vendor for technical support since part of documentation was in Spanish. The study concluded that the library essentially lacked control of some outsourced services because they were incapable of performing the services without the vendor.

### 5.8.3 ICT outsourcing Risks

Outsourcing risk is the potential exposure to the prospect of loss, injury, or other antagonistic or unwelcome circumstances by public university libraries when outsourcing due to environmental uncertainty.Outsourcing endeavour carries some risks that occur sometimes due to bounded rationality. The study identified risks associated with outsourcing, such loss of control, vendor closure and technology risks.

The study attributed some of the risks in outsourcing ICT to information dissymmetry. Vendors may fail to disclose certain information to the library resulting to lack of attainment of the outsourcing objective. The study confirmed that in most cases the librarians lacked knowledge needed in negotiating and signing contracts thus increasing the risks.Lacity and Willcocks (1995, 1997) concur with the study, but also bring in a new angle, that clients often lack experience in signing outsourcing contracts, which is not the case with the provider. Because of this information dissymmetry, providers are in a much better position in order to favour their own interests. On ICT, outsourcing contracts were a major drawback to librarians who found themselves taken advantage of by vendors. The study attested that librarians lacked knowledge in outsourcing negotiations and were ignorant when signing the contracts. This contributed to exclusion of vital SLA information needed in ICT outsourcing performance-monitoring systems thus failing to attain desired goals and therefore a risk.

The study affirmedthat constant technology changes contributed to outsourcing risks. Librarians recognized that ICT outsourcing was a risk owing to increasing changes in technology due to release and upgrades, forcing organizations to continuously upgrade their services. Furthermore, acquisition of technology is expensive and libraries have to incessantlykeep modernizing technology. This is in agreement with Lacity and Willcocks (1995,1997) who stress that the unique and distinct characteristics of ITs usually put clients at a disadvantage with respect to IS outsourcing providers because ICTs evolve so fast that there is a high degree of uncertainty involved in any decisions related to outsourcing.

The study established that the librarians mitigated technology risk by not committing themselves to buying technology from the vendor. Instead, the library utilized the vendors’ technology thus transferring most of the risks to the vendor. Pfeffer also supports their view and Salancik’s (2003) RTD that library will try to exert an influence to retain independence by opting to choose the least-constraining mechanisms to govern relations with the vendors.

The study found that loss of control of the services and vendor management was an outsourcing risk. The study attested that in many instances the vendor did not train the librarians with skills required to handle various ICT problems. Librarian therefore reliedheavily on vendors to maintain the services. For instance, UoNL depended on vendor for upgrades and maintenance. The same was the case of MUL. Petrice (2000), Antonucci et al (1998), Slaughter, and Ang (1996) purport that the nature of outsourcing is such that it creates a dependence on the provider firm, with a consequent loss of independence.

The study established instances when vendors did not disclose vital information to the librarians. This led the librarians depending heavily on vendor, which was a risk that affected service delivery. Thus, outsourcing became risky and costly due to constant renegotiating for the continuousness of services.Bounded rationality and uncertainty (Williamson, 1985) caused librarians failure to capture all significant data needed before entering into contracts thus risking extended engagement with vendors. Williamson’s (1985) TCT, supports the view by asserting that, people tend to make rational decisions to maximize their utility, but due to the scarcity or cost of information, and to limited human information processing capacity, they settle for bounded rationality. Situations with high uncertainty increases opportunism, an outsourcing risk.

From the findings, vendor termination of services before the contract was completed was a risk. The services are interrupted as well as waste of time and money. Ngwenyama and Bryson’ (1999) assert that a vendor contemplating bankruptcy may be more willing to wriggle out of the terms of the contract or to walk altogether. All the libraries conducted assessment studies although they were not thorough due to bounded rationality. When a vendor terminates services early, this becomes a risk. The study confirmed that situations with high uncertainty and opportunism occurred increasing ICT outsourcing risks.

The study established that libraries subjected selection of vendor to the procurement regulations. The vendors were selected based on lowest bidder not necessarily qualified vendors. Vendor selection process was a risk and did not guarantee that the selected vendor will do the job well. The study established that the librarians were not comfortable with the vendor procurementprocess since the laws did not give guarantees to the library of choosing a qualified vendor and therefore risky.

Outsourcing is not always cheaper than developing the service in-house. It is therefore important to carry out a proper analysis to determine if it is cheaper to outsource or in-source. It may turn up to be expensive and therefore a risk to the library. Claver et al (2002) shares the view by raising concerns related to the nature of the outsourcing relationship since, over time, outsourcing providers would demand greater premiums. This may become a risk to the library, which may not be able to wriggle out of the contract.

## 5.9 Proposed ICT outsourcing framework

ICT service outsourcing involves a series of steps originating from the libraries decision to outsource and ending with exit or reconsideration therefore opening doors to renegotiations**.** The proposed framework takes into considerations the study’s findings and discussions. The processes framework consists of major steps summarized as shown in figure 4 below.

Figure 4 Main ICT outsoucing processes

Figure 4.Main ICT Outsourcing Processes

**Phase 1: Preparation Stage.**

This stage requires the University library user department to prepare foractivities leading to outsourcing ICT service. Under this main phase several processes occurs.

Step 1: *Conducts feasibilitystudy* on the service to be outsourced.

Feasibility study is instigated by the libraries *ICT service objectives* that compell the need to acquire the ICT service to achieve the said objectives. The library must determine which objectives the ICT service is going to achieve by *conducting users’ needs assessments.* The major issues to be considered are, which ICT service is to be acquired, how, where, viability and cost of the service.

Step 2: Perform a SWOT analysis.

The library must assess the strength, weakness, opportunities and threats of the ICT service needed by the library. The library considers how useful the service will be, opportunities it brings to the library together with the challenges and risks it may bring. The purpose is to allow the library to consider every possible contingency that may occur enabling libraries to make appropriate decisions.

Step 3. Determines how the ICT service is to be acquired.

The choice between in-house facilitation and outsourcing is done. The key activities involve the public university library using transaction costs to evaluatethe choice in-sourcing and outsourcing. The library will then adopt a sourcing if found cheaper having considered transaction costs.

**Phase 2: Benchmarking.**

Step 1- Set standards.

The library sets standards / and criteria of the service dimensions to be outsourced which will serve as a comparative list when benchmarking. Benchmarking involves comparing Public university libraries ICT services processes and performance metrics to best practices from other libraries by using ICT service dimensions such quality, time cost and specifications. Public university library identifies the best libraries where similar processes exist, and compares the results and processes of the ICT service to be outsourced to the public university libraries own results and expectations and processes.

Step 2. Evaluate various options and settle for the best.

**Phase 3: Selection of Vendor.**

Step 1. The process involves floating quotations through formal channels such as print and electronic media. The library must consider the best methods to float quotations and tenders.

Step 2. The library must also determine the criteria for selecting the best vendor.

Step 3.The library must then select vendor based on the criteria not necessarily the lowest bidder.

**Phase 4: Managing outsourcing relationship.**

Step 1.Service Level Agreement.

1. Consider the type of contract /agreement whether, classical, neo-classical or relational to enter into.
2. Negotiate the contract by determining specific issues to include such as exit clause risk and risk mitigation strategies, control over outsourced services; activities to be outsourced, performance standards; rights to access documents , mechanism of continuous monitoring and assessment; termination minimum periods to execute a service, termination provision and data confidentiality.
3. Sign the contract.
4. Start of the ICT service implementation.

Step 2. Implementation.

The key sub processes include;

1. Assessing ICT infrastructure to determine suitability, The library inspects the facilities
2. This is followed by commissioning the ICT service implementation

Step 3. Training Staff.

The vendor trains the staff that will work with his staff in readiness for an eventual take-over of the services.

Step 4. Evaluation.

The user department must assess the vendors’ performance regularly based on performance criteria set such as efficiency of the service, response time, and user satisfaction with services, bandwidths and access to services.

Inconsistencies are recorded and discussed with the vendor

Step 4. Refinements.

Periodic evaluations allows the library refine the services outsourced. If the ICT is not in congruence with the objectives the vendor adjusts by taking corrective action.

**Phase 5: Conversion.**

The services outsourced transit to the vendor. This includes transferring assets and staff in most cases. The library makes considerations of who will be responsible for the services, how the transition period is to be handled between the vendor and the library. For instance transition period is allowed where the vendors stays on even as the service is operationalized by the library to allow the library master managing the services effectively.

**Phase 6: Reconsideration or Termination.**

The library and the vendor assesses the possibility of service outsourcing engagement and contract continuity especially for services such as e- resources. The two parties evaluate exit clause to see the possibility of continuity or termination. This can prompt further engagement or termination.

## 5.10 Summary

Public university libraries outsource ICT services for various reasons such as; saving costs; knowledge and technology transfer; improved productivity and effectiveness of services; risk reduction and mitigation; and, security of data and backing-up of information. Among the ICT services outsourced were e-resources, Internet, Virtual Private Network (VPN), installation of Fibre Backbone Network, MS, training of staff, digitization, OPAC, automation and security. Librarians arrived at outsourcing decision by analyzing both the strengths and weaknesses of in-sourcing and weighing them against outsourcing.

Findings indicated that guidelines stipulating outsourcing procedures were non-existent or were not far-reaching contributing to unpredictable ICT outsourcing processes. The study revealed that management failed to consult librarians in outsourcing decisions. There were challenges associated with the outsourcing of ICT services due to complexity of ICToutsourcing. The study concluded need for libraries to plan outsourcing processes properly and set up mechanisms for monitoring and evaluating performance of the supplier so that the public university libraries benefit from the outsourced services thus, allow the library position itself strategically to and compete well with other information disseminating entities.

# CHAPTER SIX

# SUMMARY OF THE MAJOR FINDINGS, CONCLUSIONS AND RECOMMENDATIONS.

## 6.1 Introduction

This chapter summarizes the findings of the study as well as provides conclusions and recommendations drawn from the data analysis. The study data was obtained from University Librarians, Deputy Vice Chancellors in charge of finance, ICT Directors of four public universities, namely Moi, University MU), Kenyatta University (KU), Jomo Kenyatta University of Science and Technology (JKUAT), and University of Nairobi (UoN). This chapter is organized into the following sections: summaries of the study, conclusions, recommendations and a model for outsourcing IT services.

## 6.2 Summary of the Findings

The summary is discussed according to the research questions addressed by the study.

## 6.2.1 Range of ICT services outsourced by public university libraries in Kenya

Based on the question, “*Which types of ICT services do the public University libraries in Kenya outsource?*“Findings indicate that public university libraries outsourced various ICT services.

The study showed that the ICT services outsourced included e-resources, Internet, library automation, digitization, staff training, OPAC, security, MARC bibliographic records, web-based referencing, and reprography. Broadly, the services outsourced included two distinct focus areas, namely Knowledge Process Outsourcing (K.P.O) and Business Process Outsourcing (B.P.O).

The study revealed that the contracted vendors in K.P.O. were specialized in the area of ICT and therefore were knowledgeable and experienced. The K.P.O. ICT services included e-resources, which are available through the library website on or off campus 24 hours a day, seven days a week and include electronic journals, online databases and electronic books. The libraries outsourced the services through a consortium of institutions (KLISC) working with PERii and INASP to have the resources acquired from different vendors all over the world.

In addition, libraries outsourced Internetfrom KENET at subsidized prices making the cost of accessing information cheaper.

All public university libraries outsourced training of staff. In most cases, the libraries were engaging suppliers who would train the staff on the required competency; when skill deficiency occurred and the staff let go after the service was completed. Public university libraries conducted training in areas such as LMS hardware and software maintenance, and information consultancy.

Web-based referencing is another K.P.O. ICT service that was outsourced. Moi University library and University of Nairobi library were using document searching and delivery service as an outsourced service using University of Indiana and British Library respectively. All libraries had already set up other web-based services besides document searching and delivery service in the library web pages. Moi University library was using e-mail services, KUL had set up “ASK IBRARIAN” and e-mail services in their library webpage, JKUATL had set up an “ASK US” in their web page, and UoN library had e-mail services.

Public university libraries carried out B.P.O through outsourced services such as computer network infrastructure, library automation, digitization, OPAC and security. The libraries had outsourced installation of VPN and Fiber Backbone Network cabling/services from Safaricom whose purpose was to enable the library and centres within the campus to communicate and share resources in a more secure way.

Library automation is one of the oldest ICT outsourced services as revealed by the study. All the four libraries had converted some manual systems into computerized systems the most popular of which was the LMS; they had outsourced it using partial outsourcing levels instead of developing in-house systems since developing one is expensive, and time consuming and also requires IT skills and knowledge on issues of systems design and development. All the four libraries had outsourced their LMS from different sources; KUL and JKUAT were using open source software (LibLime KOHA), while UoN was using Vubis Smart outsourced from University of Brussels and MULP had open source software (ABCD) from Belgium. The libraries practiced partial outsourcing for the following; implementation of some ICT services, training and maintenance of the software. KUL relied on Strathmore University, while UoN relied on the University of Brussels for the maintenance of the systems. LMS such as KOHA hadOPAC embedded in them.

The study found that the libraries were at different levels of digitization by converting analogue records into digital format in readiness for the development of institutional repositories. It revealed that MUL, KUL and Nairobi libraries were outsourcing the service and were at various levels of engagement. It also revealed that two of the libraries were considering using DSPACE software.

Security services were also outsourced. The study found that the libraries used variety of methods ranging from manual systems to modern systems such as RFID. UoN was still using a manual system by engaging a security firm to operate the entrance and for library surveillance. MUL and KUL were already in the process of contracting a firm to set up an RFID system, while JKUATL had commissioned 3M to erect a CCTV security system.

Other ICT services that the libraries outsourced were MARC tags whereby all the four libraries were using Library of Congress and MARC record tags. JKUATL had also outsourced photocopying services.

## 6.2.2 Librarians’ perceptions of outsourcing ICT services

This is based on the question: *What are the perceptions of librarians on outsourcing of ICT services in public university libraries in Kenya?*

Public university library staff recognized outsourcing as something that organizations used to engage outside suppliers in performing the library’s operations at a fee. However, they had varied opinions. There are those who viewed outsourcing as good for the libraries, those who viewed it as a threat, and those who were neutral.

Library staff in support of ICT outsourcing viewed it as a means for libraries to improve their respective knowledge base, especially where the library lacked technical capacity, as well as to cut costs. The library was able to gain easier access to expertise and new technological developments.

The library staff who opposed ICT outsourcing was due to fear of losing their jobs based on experience. They viewed outsourcing as expensive, lacking guidelines and not producing the desired effects. They viewed outsourcing as cause to loss of key competencies since the supplier performed the work and over time, the librarian lost ability to perform the job effectively.

Over all, most respondents felt that outsourcing was a good thing but required developing elaborate plans before making the decision to outsource, planning and conducting user needs assessment are important. It is also important to weight decisions as to whether a service is best outsourced or in-sourced.

## 6.2.3 Why Public university libraries outsourced

The study established that Libraries outsourced certain ICT services such as e-resources, Internet, training and automation that were available from vendors in the environment. The study revealed there were motivating factors instigating libraries to outsource ICT services.

The study attested that the libraries lacked staff with knowledge to perform certain crucial ICT services and, by outsourcing, they were able to fill the knowledge gaps. The libraries opted to outsource as a means to securing knowledge required and vital to the libraries’ continued existence. Public university libraries outsourced ICT services because ICT services were crucial to their survival such as VPN, e resources. Outsourcing provided public university libraries with the opportunity to tap into the leading edge technologies and programs without having to invest in developing and maintaining them.

ICT outsourcing enables library to gain better more improved services. Libraries outsourced to vendors with a market niche in certain areas of their core-business and therefore more competent and able to provide a seamless service and this contributed to improve services to the library clients. The librarians alluded that vendors have better and more sophisticated equipment than the library; hence, they are more experienced in handling emergencies. The study acknowledged that ICT outsourcing allowed public university libraries to get better quality ICT Services.

The study established that Librarians considered how the service outsourced would make the work easier and save the staff time to operate. They outsourced ICT services such as Library systems to make work easier.

Public university libraries utilized Information Communications Technology outsourcing as a management tool to cut overhead expenses in non-core activities. Outsourcing ICT was considered as a way of saving cost. The supplier and not the library covers the overhead costs.

The study affirmed that outsourcing enabled libraries attain economies through the ability of the libraries pooling together finances and outsourcing together as buying partners thus minimizing costs. The libraries benefited from the same services paid by the main campus libraries and stretching to campus libraries using services outsourced enabling the attainment of economies of scale.

Outsourcing was considered since it allowed librarians Concentrate on their Competencies. By freeing librarians from non –core services, librarians could focus on what they are good at.

ICT service outsourcing provides a means for libraries to access and maintain the latest technology. The study determined that libraries considered ICT outsourcing as a means to access ICT services advancements such, internet, web-based technology, library systems allowing libraries to have improved service delivery.

6.2.4 ICT Outsourcing strategies utilized by Public University libraries**.**

This was based on the question: “Which ICT outsourcing strategies did the libraries utilize.

The study found that libraries utilized different strategies to achieve specific objectives. Libraries mainlystrategizedbetween selective and minimal outsourcing strategies. Total outsourcing was not encouraged in all the libraries. Among the services outsourced were the e-resources and Internet services, which were in the category of the well-defined ICT services. These two services were outsourced as a business strategy to acquire critical ICT services libraries lacked. Libraries also outsourced to complement other print information.

The strategy mainly used by the libraries was to outsource services using professional teams, brought in and let go according to need. A library could hire out hourly workers thereby subjecting them to fee-for-service contract, especially in cases where the library owned the assets essential to complete a project allowing it residual right of control.

Librariesoutsourcing using strategies of teams brought in for short-lived projects and let go when the work was completed as ascertained by the study. The strategy was adopted to fill in service gaps. Services outsourced using temporary staff, as well as minimally included training, installation of ICT facilities (e.g., installation of fibre backbone network), digitization, and OPAC and automation implementation. Internet and e-resources services were long-term and the libraries had to budget for the services over years.

The libraries tended to outsource those areas that were not their core domain such as training staff, maintenance of software, installation of equipment and security especially surveillance, since it was more cost effective than to develop staff in those areas. This left the librarians to concentrate on their core-competency areas.This was a business strategy to cut on costs as well as fill services gaps.

## 6.2.5 How libraries Outsource ICT Services

The study ascertained that public university libraries Outsourced ICT services from different vendors. The libraries utilized the outsourcing strategies as a business strategy to acquire those resources that they lacked. Transaction costs were factored in to determine whether to outsource of acquire the service in –house. The libraries analyzed both the strengths and weaknesses of outsourcing to make outsourcing decision. In-sourcing was favoured because it retained personnel to offer services on a continuous basis and at lower costs, while outsourcing was favoured when the cost of the service was cheaper

### 6.2.5.1 Involvement of library staff in outsourcing

The study findings indicated that while in two of the libraries the librarians were involved in outsourcing decisions, two were not consulted, leaving them feeling let down. This was despite the procurement law being categorical that the user departments need to be involved. The study revealed that the librarians needed to take an active role in outsourcing decisions so that the outsourced services would be those that they felt would be of significance to the library.

### 6.2.5.2 Selecting a vendor

Before outsourcing, all the libraries applied some criteria to select a vendor. The libraries used the Procurement and Disposal Act of 2005 to guide the libraries in the process. The criteria used by all the four libraries were financial Stability, technical skills and professional qualifications. Occasionally, the libraries varied the above criteria to include reputation, credibility, compliance (with Kenya Revenue Authority), establishment in the market, strategic position, company profile and size. Others factors were vendor experience, reliability, after sales service and follow-up, ease of collaboration with the library and other networks, and quality of service.

### 6.2.5.3 Negotiating outsourcing contracts

Contractual matters were one of the grey areas that librarians lacked knowledge; they understood that SLAs defined the scope of the work and expectations as negotiated by the parties. The university legal representative vetted contents of the contract to determine their legal effect and enforceability. Due to instances in the past where the one university suffered lawsuits, the Legal representative was available to advise the user department intending to draw an SLA. For instance, the University of Nairobi library had breached the contract in the past by exposing a password to non-members, while in Moi University library’s supplier, Wantech, had terminated the contract before completing the project.

The study also revealed that where the library felt aggrieved by the supplier, it took various options such as refund of money or renegotiation by both parties. It confirmed that libraries took lawsuit as a last option.

### 6.2.5.4 Outsourcing process

There was lack of guidelines and documented procedures for the outsourcing process other than the procurement regulations that were not suitable for ICT outsourcing the public university libraries. Each library followed different procedures and sometimes for different cases. Some libraries used direct procuring for print resources because they had exemption from the Treasury. E-resources outsourcing procedures were different from those of print resources. Hence, the libraries applied the outsourcing procedures inconsistently within the university and within the library depending on the magnitude of the case.

Libraries dealt with ICT outsourcing cases on a case-by-case basis depending on how much money was at stake. Therefore, study concluded that the outsourcing processes were wanting in many ways since the procedures were not guiding ICT outsourcing adequately.

### 6.2.5.5 Managing and evaluating the contracted services

The study found that 63 per cent of the respondents were not keen on assessing the services provided by the supplier, while 37 per cent evaluated the services using signed service agreements with the vendors. This meant that the libraries did not effectively monitor and evaluate services to determine how the operations were progressing and hence enable detection of inefficient systems. However, complaints emanating from the library clients in relation to the services rendered by the suppliers indicated that there were problems with the quality services provided. The study acknowledge that outsourcing ICT services is not an excuse for the library to overlook outsourced services. The university library must assume the risk of cessation, interruptions or any other deviation of service from its normal cycle and therefore bear political responsibility and accountability to their customers for poor services.

## 6.2.5.6 Legal frameworks adopted by libraries in outsourcing of ICT services

The study found that libraries mainly used the Public Procurement and Disposal Act, 2005 (the Law), that became effective from 1st January 2007, the Public Procurement and Disposal Regulations, 2006 (2001), university statutes and University Standard Operation Procedures, ICT/policies and SLAs. It also found that ICT guidelines stipulating outsourcing procedures were non-existent and that the law was not far-reaching. These guides were used in handling matters such as evaluation of the services, operation, the terms and conditions, selection and awarding suppliers, and installation and maintenance.

All the four libraries dealt with ICT outsourcing in the same way as other procured works and services using the provisions of Public Procurement and Disposal Act. The study found that the Act did not cover outsourcing services well. It was silent on some aspects of outsourcing, and emphases on of the lowest bidder to award contracts thereby sacrificing quality. This did not guarantee selection of quality vendors. Consequently, the University of Nairobi library was acquiring books using single sourcing, while other libraries dealt with ICT outsourcing on a case-by-case basis. .

The study found that only one library had an ICT policy; however, it also failed to guide ICT outsourcing well. The other three libraries had general acquisition policy in draft form, but all of them did not document and communicate the ICT outsourcing policies to the library staff. Nevertheless, all the libraries were struggling to conform to ISO 9001; hence, two of the libraries had developed standard procedures in the library including ICT outsourcing.

The SLAs contained contractual provisions governing outsourcing transaction before the vendors provided the services. Moi University library had ensured that the university legal officer was available during such engagement to offer advice and ensure that the contract signed was appropriate. The university libraries had put together ICT technical committees, which had members drawn from a representative from the user department, ICT Director, representative from the university management, representative from the procurement department and from the user department.

## 6.2.6 Opportunities, risks and challenges associated with outsourcing ICT services

This is based on the question: “*What are the opportunities, risks and challenges associated with outsourcing ICT services in public university libraries in Kenya?”*

The study revealed that ICT outsourcing services provided libraries with opportunities and challenges as discussed below.

***Opportunities in outsourcing***

▪ Ability to gain easier access to expertise and new technological skills– Most of the libraries lacked staff with ICT skills and the few trained were not adequate to provide sophisticated ICT services. All libraries had outsourced e-resources and Internet services, which provided the clients and staff with up-to-date information that allowed them to keep abreast with the technology and information.

▪ Costs cutting – The libraries cut on such costs as those occasioned by employing large numbers of staff, paying staff allowances and operational costs.

▪ Concentrating on core competencies – When peripheral ICT services such as security and reprographic services were outsourced, they freed librarians to attend to core services, as the staff of the supplier took up ICT tasks while the librarians concentrate on their own areas of expertise, such as serving users.

▪ Increased productivity – From staff with ICT skills that it lacks, the library is able to compete with other information systems by offering services superior to their competitors. It is able to improve the efficiency of its services because the services contracted are mainly those in which the library lacks staff capacity and skills**.**

▪ Economies of scale –Libraries pooled together resources to acquire services as a group covering all their campuses, hence gaining more e-resources than individual libraries would acquire.

▪ Efficiency –The supplier provides the library quick support in case of breakdown making the services efficient.

▪ Minimization of risks –Outsourcing enables the library to minimize certain risks that may derive from ICT application, such as liability issues, insurance cover, and risk of obsolescence of technology. Such risks can be transferred to the vendor and the library is released from incurring losses; for instance, JKUATL had outsourced security whereby the vendor owned the CCTV machines and therefore bore the cost of their maintenance and upgrade.

▪ Security and backing-up of information –Through ICT outsourcing the libraries had their information backed-up, secured and updated regularly; hence, ICT outsourcing provided opportunities for libraries to secure information from internal and external threats. E-resources and Internet information was upgraded regularly by the supplier and the libraries got current journal articles on regular bases without having to bear the cost of up-grading and securing the network.

***Risks associated with ICT outsourcing***

▪ Access to the services paid for –Payment for the services to the supplier was upfront, which meant that if there was any disruption the libraries bore the risk of not getting services that have been paid for; they risked paying more for the e-resources since the vendor negotiated prices with the publishers. In some university libraries, there were cases of excluded e-resources, receipt of documents not ordered for, untrustworthy vendors, and reduced airtime.

▪ Loss of control –Librarians occasionally become dependent on the supplier for various reasons making them lose control of library services, which was risky. For instance, the study established that librarians depended on the suppliers like INASP to track down and to negotiate for e-resource prices on their behalf. In case of disagreement with the third party, the libraries risked losing on e-resources that have become popular with the library users. In two of the libraries, librarians had lost control of the services because the vendor had not disclosed all the information about the services and issues to do with the equipment and software. In addition, failure to train staff in ICT services that were outsourced contributed to the librarians losing control of the services.

▪ Appointment process – The appointment of the ICT vendor was a risk, as adherence to the lowest bidder as the major criterion was not a guarantee that the selected vendor would deliver.

▪ Exit of the vendor –In some instances, the library risked interruption of services when suppliers terminated the services due to financial or other difficulties. In one instance, a vendor had terminated the services due to winding up of the company resulting in interruption and breakdown of machinery.

▪ Capital requirements –ICT outsourcing is expensive since it requires huge capital investments. Besides, having to keep the technology updated may require additional capital.

***Challenges of ICT outsourcing***

Findings indicated that there were challenges associated with the ICT outsourcing instigated by the fact that ICT outsourcing is quite complex. The study identified the following challenges:

▪ Availability of capital – The capital intensiveness of ICTs hinders their vast application in public universities, especially with regard to constrained budgetary allocation. Furthermore, outsourcing ICT services poses some special challenges compared with procurement of other goods. In some cases, the supplier owns not only the facilities, but also the adaptation of the ICT service into the organization’s environment.

* Complexity of relationships – Lack of proper management of the complex relationship between outsourcer and supplier contributed to strong opportunism. Librarian lacked adequate Knowledge in outsourcing engagements which occasionally contributed to their inability to manage complex situations. Due to information lop-sidedness instances of opportunism occurred.
* Obsolescence of technology – Constant changes in technology requires librarians to keep upgrading their facilities. The rate of change is faster than the rate at which libraries can cope; for example, the Nairobi University was still using a manual security system and Jomo Kenyatta University of Science and Technology was using CCTV, yet Moi and Kenyatta Universities were considering outsourcing RDIF, a more current technology. This implied that libraries keep updating their technology or risk working with an obsolete one.

▪ Obscure outsourcing procedures –Libraries evaluated and implemented outsourcing opportunities on a case-by-case basis and they lacked coordinated strategic planning across functions and services. Furthermore, the library administrators had not necessarily taken the right steps internally to build an effective governance to guide outsourcing of ICT services; for example, the criterion for selecting vendors was the lowest bidder thus contributing to the selection of unqualified suppliers. Lack of policies and a legal framework was a major hindrance to all four libraries. Internal mechanisms had also not been documented causing further confusion and inconsistencies. All these factors posed a major challenge to outsourcing.

▪ Cost of the ICT services and price fluctuations –The cost of e-resources was high and their prices kept escalating every year. The fluctuations were not commensurate with the budgetary allocation for libraries. Besides, ICT services required a highly trained technical workforce to operate, which was expensive. This opened room to supplier’s with opportunistic tendencies to maraud on ICT environmental uncertainty to fluctuate prices.

▪ Precipitated contracts and broken warranties – There were instances where libraries encountered suppliers who closed shop because of either change of business or lack of finances to sustain their operations resulting in interruption of services. Moreover, internal staff training by supplier was not effective and was in most cases done in a way that they had problems with maintenance of the services in the aftermath of the exit from the organization.

▪ Data security – The staff felt that organizational data could be lost during project execution, which could have negative effect on the library because outsourcing meant entrusting library’s data to the supplier in respect of automation or digitization. If the supplier is not trustworthy, they may manipulate the data or it may fall into the wrong hands. The library therefore has a big challenge of dealing with data security and copyright issues in outsourcing.

▪ Lack of awareness of the outsourced services – The limited access to the information resources by the users was due to lack of publicity and marketing of the services by the staff and it was evident in all the four university libraries. The librarians’ failure to sensitize and train users coupled with management failure to provide adequate ICT platform (such as remote access and hotspots within the campuses to access information) caused the problem. Whereas the University of Nairobi had started providing remote access to all its campuses, the impact had not been widely felt by its users. In addition, the government had introduced Wezesha programme, aimed at enabling students to buy laptops at subsidized prices, but access to the services was still a challenge.

▪ Limited disclosure by the vendors –Some vendors do not disclose fully information about their services, which has resulted in librarians seeking their services any time they encounter certain difficulties. In such cases, the librarians have to rely on the vendor for help; for instance, Moi University depended heavily on the supplier of the LIS, since part of the software’s documentation was in Spanish and the staff were not able to decode it.

## 6.2.7 ICT Outsourcingtrends in public universities

This is from the question: *What are the trends of outsourcing ICT services in public universities in Kenya?*

The study established that outsourcing trends in the public university libraries in Kenya were shifting. With the passing of time, there were major shifts that had taken place in the outsourcing format; the outsourcing format had changed from single activity outsourcing to business process outsourcing, from outsourcing of non-core or peripheral services to outsourcing core-services. There has been a shift brought by the introduction of ICT in libraries so that in recent times other support services outsourced are not restricted to manual, but also include ICT-based activities such as ICT maintenance. Moreover, whereas traditionally outsourcing was restricted to non-core (or non-essential or peripheral) services, there has been a shift to outsource even core competencies; outsourcing has progressed to include many higher order functions such as cataloguing, selection and acquisition of information resources. Further, there is a shift where libraries are practicing business process outsourcing (B.P.O.).

Outsourcing trends are also changing from BPO to KPO. As libraries try to grapple with ITO and BPO strategies, KPO is also taking place. The study confirmed that the libraries are also outsourcing certain ICT knowledge services and are using specialists in information service companies in areas of consultancy, training and recruitment.

The study also found out that other outsourcing formats are also catching up in libraries such as offshore outsourcing. E-resources were a case for offshore outsourcing. All libraries were enjoying Internet services provided by ASP.

Another trend in outsourcing is the selective ICT outsourcing, which consists of outsourcing specific ICT activities. This allows the management to have control of core ICT activities, such as strategic planning. Libraries were engaging in selective outsourcing, which was taking place more extensively in the technical areas than in user services. For instance, the study confirmed that in the technical areas, automation, cataloguing, selection and acquisition of e-resources were among the major services outsourced by all the libraries.

Libraries were also outsourcing from network of partners and allies, each specializing in their respective areas. For instance, the study confirmed that libraries outsourced a selection of e-resources from organized bodies such as INASP.

Another trend was the remarkable expansion of online resources that are on offer through libraries, which have led to establishing a lead supplier and single sourcing. Libraries acquired online resources through a single source by purchasing online content using specialists like INASP who negotiated with the different publishers on behalf of the libraries.

Finally, outsourcing has moved from single, partial and complete to total outsourcing. While the libraries have over the year’s outsourced single service, complete outsourcing of entire department’s services had not occurred. Public university libraries were not practicing complete outsourcing. The libraries partially outsourced a service; for instance, while they were using open source software acquired, they would outsource its maintenance and implementation. However, in this study there was no evidence of complete outsourcing having taken place in the public university libraries.

## 6.3 Conclusions

The study sought to assess outsourcing of ICT services in public university libraries with the aim of investigating outsourcing ICT services in selected libraries public university libraries in Kenya in order to develop a framework for guiding outsourcing, which will improve information service provision. It concluded the following:

▪ That all the libraries practiced ICT outsourcing as a strategic tool to control costs and to bring in wealth of ICT knowledge where ICT technical staff lacked such knowledge.

▪ Public university libraries outsourced for various reasons such as knowledge and technology transfer, cutting on costs, allowing the librarians to concentrate on their core-competencies, gaining benefits from economies of scale; improving productivity, and reducing risks.

▪ That the libraries outsourced both Knowledge Process Outsourcing (K.P.O.) and Business Process Outsourcing (B.P.O.) with e-resources, Internet, training of staff and web-based referencing being the K.P.O. services, while computer network infrastructure, library automation, web designing, OPAC and security being the B.P.O. services.

▪ Outsourcing of ICT services could be a valuable managerial tool for public university administration due to the enormous benefits accrued from it.

▪ Public university libraries outsourced ICT services using selective and minimal outsourcing, by vendors brought in and withdrawn when the project was completed. The vendors providing selective outsourcing werespecialized in specific field such asINASP’s facilitation to access of international scholarly literature and KENET specialization in Internet services. The ICT services outsourced were mainly those that touched on the core business of the libraries and benefited the libraries.

▪ That the university libraries outsourced by targeting external environment for resources that would support the success of the critical tasks.

▪ The staff had varied opinions of outsourcing, some viewingoutsourcing as good for the libraries, others who viewed it as a threat, and those who were neutral. The underlying fear was that the supplier might fail to recognize the libraries’ objectives and goals thus providing services that were of no benefit to the clientele, and also that the library might lose control of the services when the core-competencies were outsourced. There was also fear of losing their jobs.

▪ That, in line with TCT, the libraries considered the costs and other qualitative benefits before deciding to outsource. RDT shed light on why libraries outsourced as a means to filling gaps for those resources that they did not possess yet were critical in their accomplishment of their objectives.

▪ There were challenges and risks identified with ICT outsourcing services. Among the challenges identified included; lack of outsourcing policies, obscure outsourcing procedures, cost, lack of internal outsourcing experience, and loss of control were main challenges to ICT outsourcing.

▪ That lack of internal experience and excessive dependence on the supplier can be undesirable; consequently, libraries must be clear on the objectives they intend to achieve through outsourcing. They need to be clear about the strategic role of outsourcing ICT services so that outsourcing is not just an end in itself or used as a quick fix to ICT services problems, but as a means to achieve strategic ICT objectives.

▪ That, although outsourcing of ICT services has enormous risks and challenges, the key to successful achievement of its goals is the management aspect, which requires strengthening. Most of all the failures that the study revealed required management checks and balances to resolve the issues. With careful and diligent analysis at every step of the outsourcing process, it is possible to identify ICT outsourcing risks with some level of certainty and epitomize them in the administration of ICT outsourcing decision**.**

* Consequently, the study concluded that there is need to document ICT outsourcing procedures as well as the process maps depicting the standard operating procedures.

## 6.4 Recommendations

Findings indicate that there were challenges in managing ICT outsourcing services. The staff viewed ICT outsourcing as a new area and therefore prone to problems. To make ICT outsourcing effective, the study proposes the following recommendations for various stakeholders:

### 6.4.1 Recommendations to the librarians

The study made the following recommendationsto the librarians:

▪ **Establish and strengthen library consortium:** Librarians should collaborate by forming alliances, consortium and partnerships with other university libraries. All the four libraries had already teamed up to outsource e-resources and the Internet jointly through a consortium of libraries and other institutions, which was a success. This had greatly brought down the cost of these services. Many staff felt that if the university libraries were to pool their resources together they would achieve a lot more than they would as individual libraries. Currently the consortium is doing well in the area of e-resources. The consortium should also help in addressing outsourcing challenges software access and benchmarking. It would also ensure libraries resolve issues of ICT budget allocation and benchmarking of outsourced ICT projects among other challenges. Since the consortium has representatives drawn from public university libraries it would be a platform for the librarians to meet and deliberate on areas of mutual interest including ICT outsourcing.

▪ **Benchmark the services:** The study revealed that libraries had not benchmarked some of the ICT services that they had outsourced. Benchmarking allows a library to compare the performance of one system in terms of efficiency and effectiveness with an already tried-out project. It is instrumental in managing prices, improving relationships, identifying best practices, information generated as well as determining the systems suitability. Benchmarking study involves studying the various components of a contract-price, service levels and terms and conditions compared to those of peer companies. The results obtained enable the library to select the best ICT service to outsource. Out of the four libraries, three systems were in operation yet each institution was dealing with their own unique problems relating to system implementation. For example, in two of the libraries selection and use of LMS was by university management. The LMS decision did not take into account the librarians’ choices, informed by success stories of other university libraries. Thus, benchmarking is essential before acquiring services to facilitate systems acceptance and avoid situations where ineffective systems are outsourced. Besides, benchmarking ICT technology allows the librarians to know whether it would work in their areas, thus saving the library money.

▪ **Evaluate the services:** The study found out that the librarians rarely conducted an evaluation of the ICT services provided by suppliers. The staff mainly relied on the complaints from users to verify whether the services were satisfactory. If users registered no complaints, the library assumed that the services were satisfactory. In a scenario where most users were not induct in library use of ICT services especially in the three libraries, it meant that libraries had no other way of verifying how effective the services were to the clients. Evaluation provides a feedback mechanism to allow the librarians understand the effectiveness of the outsourced services as well as client satisfaction. In addition, it identifies problems encountered in the use of the services. Library need to carry out regular evaluation of the services to ascertain the objectives achievement.

▪ **Ensure security of data and copyright protection:** Security of data and safeguarding intellectual property are of concern in outsourcing, especially where the theft of the latter is on the rise today. There is need to approach security of information from two angles, the input (at the point of the vendor providing services) and the output (user access of information).

At the input stage, the study found that data security risks such as data tampering and manipulation and unintended deletion of data are a problem as well as compliance problems, legal liability and data security challenges. Hence, the library should enter into legal agreements with the vendors to prevent intellectual property (IP) from falling into the wrong hands. Both the library and the vendor should put in place access control rules as well as mechanisms for safeguarding data confidentiality. The library should also choose a vendor who is willing to abide by the laid out privacy as well as intellectual property policies. In addition, the vendor should educate his/her employees on the handling and safeguarding of sensitive data to avoid costly errors. For example, the vendor should be keen on monitoring outbound Internet traffic and e-mails for any potential information leaks. The study recommends that libraries should be keen on SLA parameters at the time of entering into an outsourcing arrangement, especially the content that safeguards and protects data.

At the output stage, the findings indicated that there were certain challenges that librarians were encountering. Challenges included; computer viruses, unauthorized use of e-resources due to leaked password, and plagiarism. For example, in the Moi University library, the library had suspended digitization of research output due to security and copyright concerns especially risks arising from plagiarism, while at the University of Nairobi library they had experienced unauthorized access of e-resources leading temporary withdrawal of services by the vendors. The University of Nairobi library had a draft open access policy to ensure that anyone funded by the university to carry out research or made use of the university resources deposited the document with their repository upon completion of the work thereby granting the University of Nairobi ownership rights. There is need to recognize authors rights as well as the university rights. The study recommends that the libraries safeguard information using various methods such as back-ups, antivirus software, continuous monitoring of ICT services use to protect data, and use of encryption and PDF versions. In addition, libraries should set up access rights policies and have them reviewed in case of security breach, as well as formulate a user ICT policy that controls and regulates appropriate use of the e-resources. In addition, the libraries must enforce existing copyright laws and promote copyright compliance among its users and its staff.

▪ **Streamline outsourcing guidelines and policies:** The study found that libraries had not documented internal outsourcing procedures in three of libraries. Only Moi University library had procedures that were in draft format and communicated to the librarians. Libraries should streamline guidelines for outsourcing so that every person involved is aware of the procedures applied. The library staff involved in outsourcing should also be aware of the processes.

### 6.4.2 Recommendation to government

The Ministry of Education has both the Department of Education and the Department of Science and Technology. The study made the following recommendations:

▪ **(Ministry of Finance) Develop and ContinuouslyReview outsourcing regulatory frameworks:** This recommendation takes into consideration that the Ministry of finance is the facilitator of Public Procurement Oversight Authority (PPO) and Public Procurement Administrative Review Board (PPARB) for staff, facilities and funding. One of the major findings of the study was that the procurement laws in use are not elaborate on issues of outsourcing. In the selection of consultants, though it provides for the opportunity to use technical capacity as a criterion in the selection, the Public Procurement and Disposal Act (2005) and the accompanying regulations do not elaborate on this procedure leaving it open to interpretations. The lack of clear procedures causes confusion as to when and how to apply technical capacity as a key criterion with most competitive bidding criteria being lowest quotations in terms of prices and which the librarians argued compromised the actual quality and credentials of the professional procures. Due to obscure outsourcing procedures, the study found that libraries evaluated and implemented opportunities for outsourcing on a case-by-case basis and lacked coordinated strategic planning across the functions and services. The study therefore recommends that the Government develop ICT outsourcing policy and review procurement principles and practices that will harmonize the procedures for both goods and services, and in particular paying attention to procurement of ICT services that touch on expertise, software and hardware, knowledge and skills. It is also important to ensure reforms in public procurement laws and regulations. The study recommends that the PPO, through the Director-General, should monitor the procurement system and its overall functioning to assist in the implementation and operation of the public procurement process.

▪ **(Ministry of Information and Communication) Improve ICT infrastructure**: The Ministry of Information and Communication is in charge of developing Kenya as a globally competitive and prosperous nation through the development, expansion and use of ICTs. The study found out that all the four libraries had challenges with Internet connectivity, low bandwidth and limited access. Two of the libraries were already providing remote access by installing wireless connections near the libraries though this was not adequate. Among the problems cited as causing limited access were the cost of ICT infrastructure, computers are still expensive to acquire and the cost of bandwidth is still high. The cost of ICTs should be lowered by elimination exerciseduty to make ICT tools more affordable, by re-introducing subsidized prices to make computers affordable to many students as the Wezesha programme had done. With many students having access to computers, more users would be able to access the e-resources remotely. This would go a long way in improving ICT access, and hence the outsourced services, to many users in public university libraries.

### 6.4.3 Recommendation to university administration

▪ **Develop, publish and communicate ICT outsourcing policy:** The procurement laws do not cover outsourcing processes adequately. The study found out that lack of policies contributed to inconsistencies in the outsourcing process with the libraries putting in place policies regarding outsourcing of services within the campus; all the four libraries had draft policies that were not elaborate on outsourcing procedures. Absence of policies in the university, contributed to arbitrarily outsourcing processes application. For consistency in doing things, it is important todevelop guidelines for the outsourcing processes. The study recommended that all libraries should develop ICT policies to guide ICT outsourcing.

▪ **Involve user departments in outsourcing:** The study indicated that, while the staff understood that outsourcing decisions should originate from the user department, this was not always the case. In two of the libraries, the university management did not consult user departments during the outsourcing their LMS. Yet in another scenario, the ICT directorate did not consult the library in matters relating to the acquisition of the LMS. The staff felt that the failure to consult the user department resulted in acquiring systems that lacked compatibility with others in both the library and the university. The study therefore recommends that user departments should be involved in all the outsourcing activities proposed for their departments. The staff must participate in decision-making so that responses to change and the adoption of the system would be smooth.

▪ **Implement the service level agreements (SLAs):** The study findings indicated that majority of the staff were ignorant on matters pertaining to signing of SLAs. The librarians need to understand the ICT services that suit the set objectives best. Further, the university librarian as well as the systems librarian should participate in the negotiation and signing of SLAs so that they are fully aware of the contents of the contract for the purpose of implementation and evaluation. For libraries, it protects them from unscrupulous vendors out to earn quick money while not delivering the services. Thus, it is important that the librarians undertake to sign service agreements and become familiar with all the requirements and the contents.

▪ **Train staff on ICT services:** This emerged in the study as one of the solutions suggested by staff for improving outsourced services. The study found that in most ICT outsourced cases, the vendor did not train the staff, leading to total breakdown of the ICT service due to lack of skills to continue the project. For instance, in Moi University, Wantech Company had not trained the staff and when the company terminated services it left the university in serious problems. As a result, the delivery of services suffered during the transition period. In all the libraries, the staff were still struggling to manage outsourced services with their limited skills, which showed that training of staff was necessary. The study therefore recommends thatclauses on staff training be engrained in the SLAsto ensure that vendor is provides staffwith training in readiness of the library taking over implementation of services.  Besides most outsourced services were on implementation of software’srequiring library staff be trained to manage on the services.

▪ **Set up a reliable campus data centre and improve connectivity:** The study revealed that two of the major services outsourced included internet ad e-resources. However, access to the services was only from the library limiting the university the full benefits of the services. The librarians felt that inadequate access contributed to loss of monetary gains and underutilization of services that the university paid a lot of money and up front. The universities, in conjunction with the ICT departments, should provide certain areas within or in proximity to the university where the users can have remote access. In addition, the university should introduce more terminals within the library or computer laboratories with Internet wireless connections so that the users can access the e-resources. The university management may use open public networks to create a free or paid up service using authentication requirements, that opens their connection for sharing by anyone within range of the hotspots. Thus, the study recommends that the universities expand off-campus access to the libraries to solve the problem of limited access to library resources and thereby gain economies of scale.

▪ **set up reliable campus “hotspots”:** To increase use of ICT services outsourced and enable the library gain economies of scale,designated areas should be set up as hotspots within the campuses such as the canteen, library, open sitting space, classrooms and other suitable public establishments. This will help those who can afford their personal computers and other electronic devices to access information and hence wider use of the e-resources outsourced by the libraries. The University Management can facilitate the ICT departments to provide a wireless local area network (LAN) with a router connected to link an Internet service provider using Wi-Fi technology. In effect, the study recommends that the university administration increases the number of access points to solve the problem of low access by students.

▪ **Lessen risky engagements:** The study found that ICT outsourcing was sometimes risky since libraries operated in an unstable environment. The libraries can reduce risks of ICT outsourcing by transferring them to the supplier. For instance, for ICT services requiring expensive and volatile equipment, the library can ensure that the vendor owns the equipment to lessen risks and cost implications to the university. When the vendor owns the facilities, any change in technology is borne by the vendor,andthereforethe vendor bears the risk.

## 6.5 Proposed Framework for Outsourcing ICT Services

Based on the findings of the study, there is need to develop a framework that will be used in the outsourcing of ICT services. The proposed framework comprises the following steps as informed by the study findings,discussions and recommendations.

1. The University Library User Department undertakes an ICT service outsourcing, SWOT analysis based on the identified objectives and with regard to mission and vision of the library and the university’s strategic plan.

2. Library User Department identifies ICT services to be outsourced.

3. The University Library User department presents a proposal to the Library Technical Committee for deliberations and recommendations.

4. The Library Technical Committee forwards the proposal with recommendations to the ICT Directorate for their advice and consideration. The Committee consists of ICT Director, Librarians, Deans, purchasing staff, and other heads.

5. The ICT Directorate advises the university’s management on IT service, proposals and feasibility.

6. University Management decides on outsourcing engagement or in-house facilitation.

7. Benchmarking on similar ICT services is conducted and terms of references are prepared.

8. Quotations are floated and evaluated using technical, financial and other additional criteria, the best vendor singled out and Local Purchasing Order (LPO) is prepared.

9. Legal officer draws up service level agreements (SLAs).

10. Implementation, training, evaluation, refinements and reconsideration

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | |
| **MAIN OUTSOURCING PROCESSES** | | | | | | | |
|  | | **PREPARATION** | **BENCHMARKING** | **VENDOR SELECTION** | **RELATIONSHIP MANAGEMENT** | **CONVERSION** | **RECONSIDERATION** |
| **KEY OUTSOURCING PROCESS HANDLERS** | UNIVERSITY LIBRARY USER DEPT | **SWOT ANALYSIS**  **FEASIBILITY** | **IN-HOUSE FACILITATION** |  | **EVALUATION**  **TRAINING**  **REFINEMENTS** |  | ­­­­­­­­  **CONTINUITY OF SERVICE** |
| LIBRARY TECHNICAL COMMITTEE |  | **- SET STANDARDS/ SPECIFICATIONS - REIEW TARGETS** | **VENDOR SELECTION** | **IMPLEMENTATION** | **TRANSITION** |  |
| ICT DIRECTORATE |  |  |  |  |  |  |
| LEGAL AFFAIRS DEPT | **N** |  |  | **SLA Drafting** |  |  |
| MANAGEMENT | OUTSOURCE?  **Y** |  |  |  |  |  |
| **SUB-PROCESSES** |  | Process start  -Feasibility study  -SWOT analysis  -Choice between in-sourcing and outsourcing | Benchmark  -Set standards  -Set targets  -Compare  -Pick the best | Selection of vendor.  -Float quotations  -Receive quotations  -Shortlist  -Select best vendor  -Notify vendor  -LPO | Managing Relationships  -SLA- drafting and signing entry and exit clues.  -Implementation  -Training  -Evaluation  -Refinements. | Transition  -Conversion  -Defining conversion type.  -Asset or service transfer | Reconsideration.  -Assess exit clues as defined in SLA.  -Continuity or termination service |

*Figure 4: ICT Outsourcing Process Framework*

According to the proposed framework, outsourcing ICT services undergoes a series of processes. The major steps included *preparation stage* that involves a *feasibility study, SWOT analysis* and *identification of the ICT service* to be outsourced*.* The *feasibility study* undertaken determines the viability of outsourcing the ICT service including the strategies adopted. The University Library User Department conducts a *SWOT analysis* based on the identified objectives and with regard to the mission and vision of the library and of the university’s strategic plan.

Upon identification of the ICT service, *Planning and preparation stage* commences. The University Library User Department presents a *proposal* to the Library Technical Committee for recommendations. The Committee deliberates on the proposal based on needs, rationalization and objectives. If the ICT service is justifiable, the Committee prepares a proposal with recommendations to the ICT Directorate for their consideration in acquiring the service. The ICTDirectorate advices the university’s management on ICT service, proposal, feasibility and acquisition. The management decides on the mode of acquiring the service either *outsourcing engagement* or *in-house facilitation*.

In the next stage of the ICT outsourcing process, the university’s library and management *benchmarks*the ICT service project with similar services elsewhere thus providing management with common ground of managing pricing, improving relationships and identifying best practices. Benchmarking compares various components of the ICT service contract; price, ICT hardware, software, external service provision, resources, service levels, and terms and conditions to those of peer companies to ensure that contracts remain cost-effective and efficient in the fast-paced technological world. A thorough benchmark process is vital to ensure that the service contracted meets the stated objectives.

The next step is the *vendor selection stage,*which involves a series of activities. University management *floats quotations* inviting various stakeholders willing to bid for the contracts. When the university receives the bids, evaluation of the bids takes place using technical, financial and other additional criteria. Due to the nature of the ICT services, the study recommended that the library vary the criteria to include factors such as competency of vendor, experience and expertise and capital base. The university then *selects the best vendor* to contract the services and hence places a *Local Purchasing Order (LPO).*

The next stage involves managing relationships. The legal office draws up a *service level agreement* (SLA) with the selected vendor; the SLA will define the contract legally as it provides definition of services, performance measurement, problem management, customer duties, warranties, disaster recovery, training, and termination of agreement among other essential information. The university thereafter commissions the vendor to commence services, usually through the launching of the service.

It is crucial that *training* of staff be included in the contracts to allow smooth changeover in management of the services at some time. The training is important to allow smooth transition. Before the vendor exits, staff should have acquired a thorough understanding of the service.

*Evaluation* is important to allow the library to take stock of the benefits accrued from the outsourced service. In this respect, the library staff carries out an evaluation of ICT services to determine whether the library has achieved the objectives. The vendor gets feedback from the library continuously to ensure that the services provided are in accordance with the expectations of the library and as defined in the SLA. *The vendor takes corrective action on unsatisfactory areas anddoes refinement*.

*Transition stage* involves changeover of the services from the vendor to the library as defined in the SLA. Training of staff is necessary for a smooth transition. The vendor transfers assets to the outsourcer if it was part of the contract. Transition may also mean transferring only the activity in case the ICT assets belong to the library. Sometimes problems may arise, but proper mechanisms help to negotiate the transition.

Lastly, for services that the library has outsourced *reconsideration* of renewing contracts is determined to ascertain if there is need to retain the contract and as defined in the SLA. It may also require the library to make the necessary adjustment of the services and contracts based on their assessment.

Library management needs to think, plan carefully and manage the process of outsourcing ICT services. Thus, in the centre of all the services *managing the processes* is crucial for the success of the ICT outsourcing engagements as illustrated in the framework above.

**6.6 Suggestions for Further Research**

The study investigated outsourcing of ICT services in public university libraries and unveiled the extent to which the libraries practiced ICT outsourcing. The study found that there were challenges that hindered effectiveness of outsourcing and revealed potential benefits of outsourcing as well as the challenges and risks management ought to be aware. The study proposed a model of ICT outsourcing services, recommending that the outsourcing policies be clear, documented and communicated to all the stakeholders.

In view of the above, the study suggests further research in the following areas:

* Quantitative empirical studies on transaction costs is necessary to allow libraries make informed outsourcing choices. This would provide empirical evidence on cost savings for in-sourcing and outsourcing as well as facilitate in negotiation of contracts.
* A study on supplier and contractor relationships would provide insight into the various problems that each of the parties encounter in outsourcing. This would also provide guidelines for determining the best practices in negotiating and managing contracts.
* Further, empirical research on the impact of outsourcing on the work force, ICT skills, opportunities available in BPO, KPO and offshore outsourcing is important. Such studies will assist information providers and policy makers to make informed choices on issues relating to outsourcing.

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# APPENDICES

**Appendix 1: Fully accredited Public universities by 30 of June 2013.**

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| *Fully accredited Public universities by 30 of June 2013.*   |  |  |  |  | | --- | --- | --- | --- | |  | Name of University | Location | Year Chartered | | 1 | University of Nairobi | Nairobi | 2013 | | 2 | Moi University | Eldoret | 2013 | | 3 | Kenyatta University | Nairobi | 2013 | | 4 | Egerton University | Njoro | 2013 | | 5 | Jomo Kenyatta University of Agriculture and Technology | Nairobi | 2013 | | 6 | Maseno University | Maseno | 2013 | | 7 | Dedan Kimathi University of Technology | Nyeri | 2012 | | 8 | Chuka University | Chuka | 2012 | | 9 | Technical University of Kenya | Nairobi | 2013 | | 10 | Technical University of Mombasa | Mombasa | 2013 | | 11 | Pwani University | Kilifi | 2013 | | 12 | Kisii University | Kisii | 2013 | | 13 | University of Eldoret | Eldoret | 2013 | | 14 | Maasai Mara University | Narok | 2013 | | 15 | Jaramogi Oginga Odinga University of Science and Technology | Kisumu | 2013 | | 16 | Laikipia University | Laikipia | 2013 | | 17 | South Eastern Kenya University | Kitui | 2013 | | 18 | Multimedia University of Kenya | Nairobi | 2013 | | 19 | University of Kabianga | Kericho | 2013 | | 20 | Karatina University | Karatina | 2013 | | 21 | Meru University of Science and Technology | Meru | 2013 | | 22 | University of Eldoret | Eldoret | 2013 |   Note : adopted from (Commission for University Education, 2013) |

**Appendix I1: Respondents Informed Consent Letter.**

You are requested to participate in a research study conducted by Naomi Mwai from the Department of Library, Records Management and Information Studies, School of Information Sciences, Moi University as part of Doctor of Philosophy. Your participation in this study is voluntary. This research study examines a range of viewpoints on ICT outsourcing in Public Universities libraries.

If you volunteer to participate in this study, you will be asked to participate in a tape-recorded interview, anticipated to last one-half hour to one hour long. I will invite you to talk about your current perceptions of theoutsourcing of ICT services, recollect past events, or discuss other related issues of concern to you in the topic.

This study will not bring you specific benefits outside of an opportunity to share your views and opinions. Your participation, however, will be of considerable benefit for educational purposes, for it will give me a critical opportunity to develop professional skills and to learn about ICT outsourcing activities and opinions.

This Study project is not intended to provoke any physical or emotional discomfort. However, you may choose to share sensitive and confidential information during the interview. All efforts will be made to ensure confidentiality. Any information that is obtained in connection with this study and that can be identified with you will remain confidential and will be disclosed only with your permission or as required by law. Confidentiality will be maintained by using a pseudonym instead of your name when transcribing the interview.

You can choose whether to be in this study. If you volunteer to be in this study, you may withdraw at any time without consequences of any kind or loss of benefits to which you are otherwise entitled. You may also refuse to answer any questions you do not want to answer.

Thank You for your cooperation.

**Naomi Mwai.**  Date………………….

**Appendix II: Interview Schedule for Library Service Providers, (Circulation, Reference, and Librarian)**

**PART 1: General Information**

What is your job designation?

How long have you worked in the library?

What is your level of professional training?

***Part 11.This part will help you to describe your perception of outsourcing Information Communication Technology services.***

Would you support the decision of the library to outsource their service?

What is your understanding of outsourcing Information Communication Technology services by libraries?

***Part III. This part will help you to describe* Information Communication Technology *services outsourced and reasons for outsourcing services by libraries***

Which Information Communication Technology services are outsourced by your library?

What factors have influenced the decision made by your library to outsource Information Communication Technology services?

What are the opportunities of outsourcing Information Communication Technology services?

Which vendor/ supplier are currently providing the Information Communication Technology service for your library?

***Part IV. This part will help you describe the outsourcing procedures and legal framework adopted by the organization while outsourcing services.***

What are the policies regarding outsourcing Information Communication Technology services?

What steps do librarians follow in outsourcing Information Communication Technology services?

What are the factors that are recommend for use in selecting suppliers of the outsourcing services?

***This part will help you describe the ICT outsourced services, the risks involved and challenges.***

How does the library evaluate the quality of the services provided by the supplier?

How does your library assess the performance of the vendors for the contracted service?

What are the risks that outsourcing Information Communication Technology services brings to the organization?

What factors do you consider as risky in outsourcing of the services?

What are the challenges in outsourcing Information Communication Technology services?

What can be done to improve the services outsourced by the library?

**Appendix III: Interview Schedule for Suppliers**

1. What is the name of your department/organization?

2. How long have your organization provided services to the library?

2. Which libraries have your organization provided services to or are planning to provide?

3. Who are the staff involved in sourcing decisions?

4. Which Information Communication Technology services does your organization provide to university libraries?

5. What benefits do you as a provider bring to the Public University Library you are providing services?

6. What are the guidelines followed while submitting contracts? What are the governing principles?

7. What are the factors you would recommend when selecting the most suitable suppliers?

8. When awarded contract do you sign contractual / service level agreements regarding the services.

9. What measures does the library take to ensure that the contract is honored?

10. How does your organization obtain feedback of the outsourced ICT services they have provided to the clients?

11. What methods does your organization use to obtain the feedback from the client?

12. What are the weaknesses of the current outsourcing processes/procedures adopted by Public university libraries?

13. Which areas of the ICT outsourcing should be improved for effective service provision?

**APPENDIX IV:** **Interview Schedule for Top Managers DVC, University Librarians, Procurement Librarians, and Directors of ICT)**

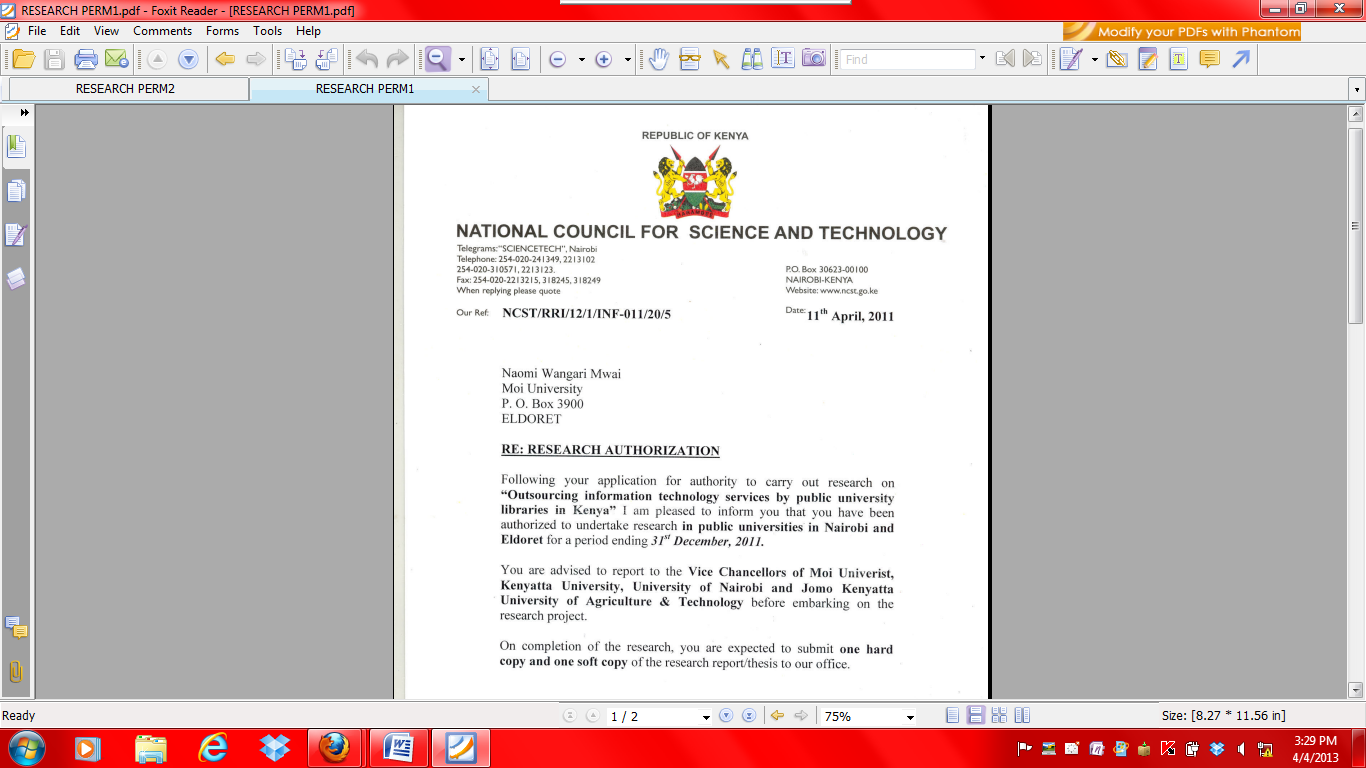
1. What is your Job level
2. How long they have worked in the library
3. What is your Level of training
4. What are your views on outsourcing library services?
5. Would you support decision to outsource ICT services?
6. What are the greatest concerns regarding Information Communication Technology services from the staff?
7. Which Information Communication Technology services are currently being outsourced?
8. What are the reasons why your library outsources these services/activities?
9. Which organizations, individuals, firms, do you source ICT services from?
10. When considering outsourcing services, what factors guide your decisions?
11. What added benefits and opportunities does your library get from outsourced services or activities?
12. Who are the staff involved in making outsourcing decisions?
13. What is the legal framework that helps you while outsourcing Information Communication Technology services?
14. What stipulated guidelines/steps does your library/information unit use during the outsourcing process and are they documented?
15. When outsourcing services, what factors does your organization use to select vendors or to award assignment contracts?
16. What measures are taken to ensure that the supplier abides by the agreement signed?
17. What measures does your organization take when a contract is dishonored?
18. Which risks may occur in outsourcing Information Communication Technology services?
19. What can be done to reduce the risks in outsourcing Information Communication Technology services?
20. What channels do the users use to inform you when they are dissatisfied with outsourced services?
21. How does your library evaluate the level of quality of the services provided by the supplier/
22. What criteria does your organization/ library use to assess the performance of the vendors

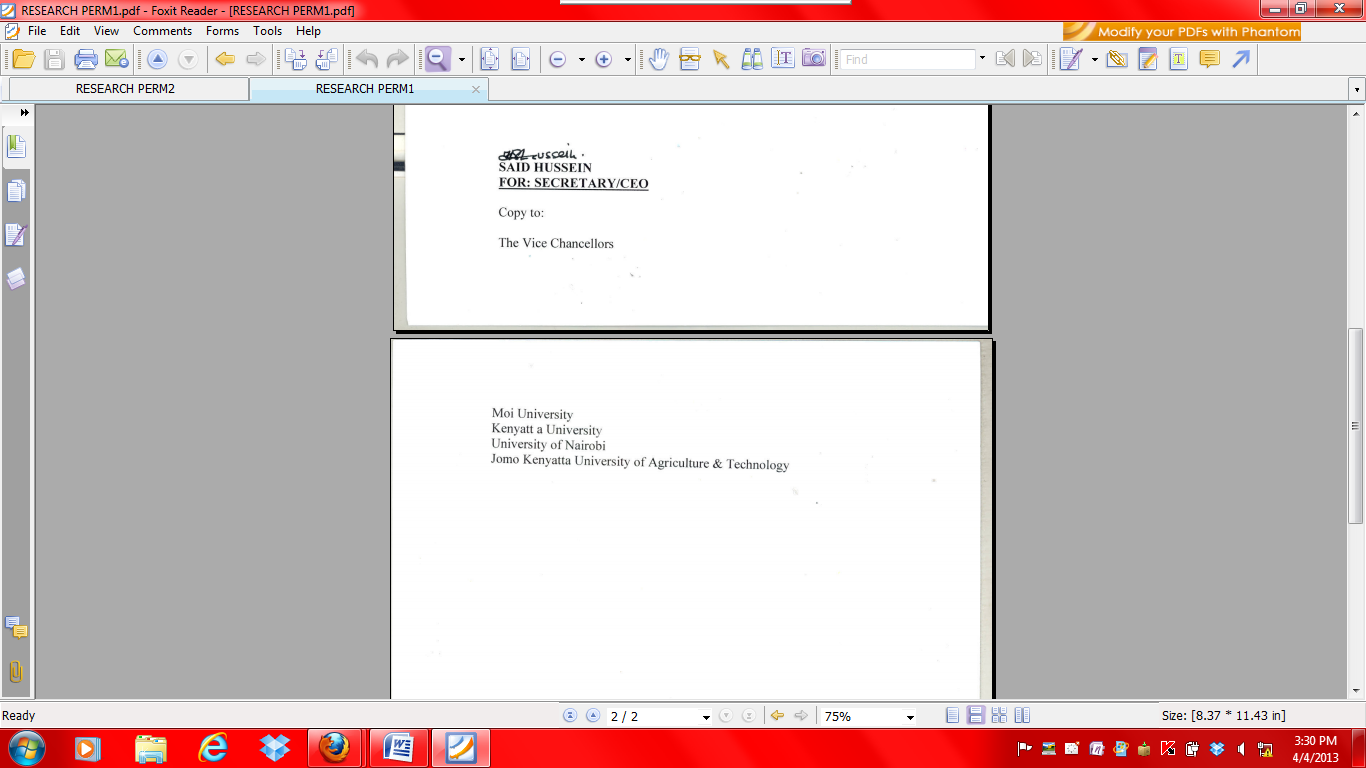
24. What are the weaknesses and challenges with the current outsourcing systems?

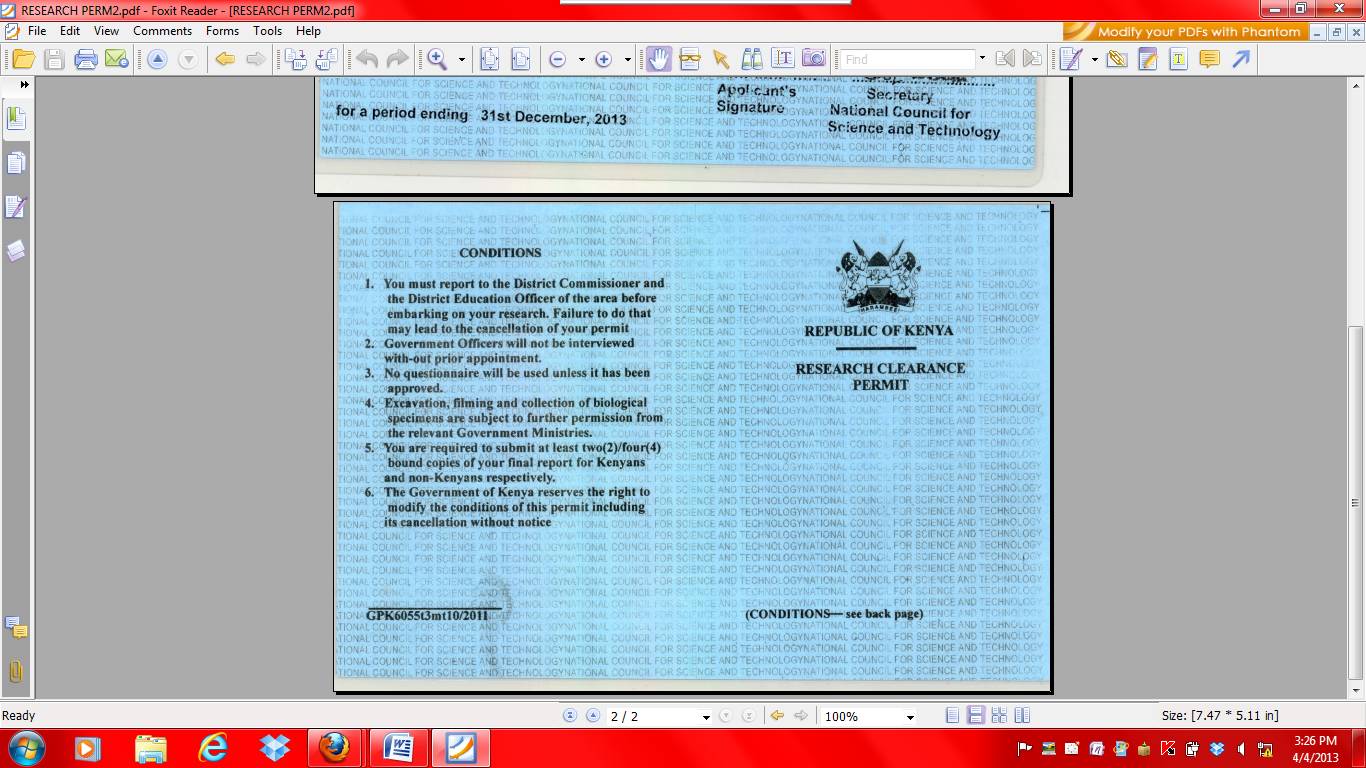
25. Which aspects of the outsourcing require improvement to make outsourcing effective?

**Appendix v**

***Research Permit***

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**”**