AN EVALUATION OF ACADEMIC LIBRARY AUTOMATION PRACTICES
AT MULTIMEDIA UNIVERSITY, KENYA

BY

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A Research Thesis Submitted to the School of Postgraduate Studies in Partial
Fulfillment of the Requirements for the Award of Degree of Master of Information
Science of the Faculty of Information Science and Technology, Department of
Information Science, Kisii University

NOVEMBER, 2016
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DEDICATION
To my dear parents Mr. Francis Obiri and Mrs. Hellen Obiri, my brothers Joshua Obiri, Edward Obiri and Geoffrey Obiri; My sisters Gladys Obiri, Esther Obiri and Maureen Obiri; Our God above will bless you abundantly for your selfless sacrifice and support. By you, I have all reasons to smile.
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ABSTRACT

The need for adoption of new information and communications technologies in order to share locally and internationally available information resources has become an important feature in today’s libraries. It is for this reason that this study set to evaluate academic library automation practices at Multimedia University in Kenya. This was guided by specific objectives; to establish the role of continuous teamwork and interuniversity library cooperation on library automation practices, to determine the availability of technology in library automation and to identify the significance of infrastructural, financial and human resources in library automation practices. The researcher employed descriptive research design in undertaking this study. The target population was 2208. The sample comprised of a librarian, 2 assistant librarians, 20% of departmental staff and 10% of library users comprised the sample of 234 respondents. Random sampling was used in selecting the departmental staff. Stratified sampling was used in selecting library users according to their stage of study. Primary data was supplemented by secondary data. Results indicated that many university libraries had challenges in ensuring effective automation of their services due to lack of commitment on the part of the involved parties and sufficient resources and insufficient technology and ICT training. The researcher found out that there was significant interuniversity library cooperation in terms of inter-library lending and provision of external access. However, there existed incompatibility issues and prohibition by programmers. This demonstrated that although there was sufficient commitment for university library automation, there lacked sufficient ICT training on such technology and that there was only a moderate provision of e-resource facilities. This study concludes that there was a strong positive relationship between interlibrary cooperation and library automation. The study recommends that university library administration should integrate their ICT training arrangements. Secondly, proper mechanisms should be developed to carry out periodic audits of library automation resource allocation. Thirdly, there is need to adopt a common automation technology to solve incompatibility issues. A similar study that can employ longitudinal surveys and case study analysis to corroborate these research findings is suggested as well as research on the suitability of the automation technologies adoption.
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LIST OF ABBREVIATIONS

CHE  Commission for Higher Education
FAO  Food and Agricultural Organization
ICT  Information Communication Technology
ILMS Integrated Library Management Systems
IT   Information Technology
KENET Kenya Education Network
KLISC Kenya Library and Information Services Consortium
MARC Machine Readable Catalogues
MIS  Management Information System
MMU  Multimedia University
OPACs Online Public Access Catalogues
PSU  Pennsylvania State University
RFID Radio Frequency Identification
SERVQUAL Service Quality
UKRR United Kingdom Research Reserve
CHAPTER ONE

INTRODUCTION

1.1 Background of the Study
The last one decade has witnessed a quantum leap in information and communication technology (ICT) that has a light-emitting diode to the magnified frequency with respect to the employment of computers in each public and private library. Social and technological changes have had a serious impact on each profession. During this last one decade, speedy technological development therefore affected library services (Arif and Mahood, 2010).

The application and follow of ICT in libraries began in 1980's once on-line public access catalogs (OPACs) began to be used extensively. Though the normal and remote functions of the library still stay primarily identical, the tactic of information dissemination and the format are dynamic. The encircling surroundings within which libraries operate have modified considerably with Associate in nursing advancement and alter of the data age, particularly the net (Okojie, 2010).

The desire to use the information and communications technologies (ICTs) sector domestically and internationally obtainable information resources have become vital. Libraries all world over are being considerably needed to re-evaluate their role within the era of increase in price and demand for information converged by the emergence of an advanced category of purchasers. From the inter-global purpose of read, it looks that there's a confluent read that there exists between the use of information and communication technologies and job sweetening of librarians.
Initially, the general objective of the library systems developers was to alter librarians in their work even in spite of totally different approaches used. The anticipated outcome was a proliferation of library software system while not common standards. The event of code Catalogs in the 60s was to be seen as a serious turning purpose in library software system development. By the mid-60’s, computers were being employed for the assembly of code catalog records by the Library of Congress. Between 1965 and 1968, Library of Congress began the MARC project, followed quickly by MARC II. This was a major development as a result of the standards created meant that a listing record may be browsed and transferred by the PC between totally different library systems (Castro Sánchez and Alemán, 2011).

Information and Communication Technology (ICT) provides important advantages in work, starting from the measure, improvement of productivity and higher quality services to shoppers and beneficiaries. Indeed, regarding this, it is accessibility that makes use potential and it is the use that creates performance gettable. So, the combined result of accessibility of information and communication technologies enhances the duty performance of the tutorial librarians (Parvez, 2011).

There was need for all developed and developing nations of the planet particularly in south of Saharan Africa to require information and communication technologies (ICTs) as tools that aid the improvement of job performance of the library workers through the utilization and application of the ICTs by the librarians and alternative users (Boyle and Brown, 2010).

It is a reality that this cannot be simply achieved unless educational librarians and libraries acknowledge the wonderful role that information and Communication
Technologies may play to facilitate the effective services. However, libraries got to develop a strategic information and communication set up that might facilitate the employment of ICTs in their libraries. The ICT integration and application is finished by educational librarians, United Nations agency area unit trained to manage specific sectors of the library.

Some libraries within the developed countries have developed automatic libraries like the American state Digital Library, University of American state system, University of Tilburg Library, European nation, among others have placed measures to confirm the standard development, running and management of digital libraries, for improved output. For example, within the University of Silver State, Las Vegas (UNLV) libraries' medical aid program, the bulk of libraries had created the key provision for conversion activities in their library's strategic plans and management ways. At intervals that set up, the requirement for money property was emphasized so as to boost, migrate and sustain resources over time (Lampert and Vaughan, 2009).

Azzolini(2011), in his opinion, a digital library need to be thought to be an associate degree enterprise that it is meant to satisfy specific goals and from the start designed to be property so as to produce price to those that invest in it and people who use it. In alternative words, the requirement for money coming up with as well as short and long prediction still as benchmarks cannot be neglected.

Chisenga(2004), in his survey of the use of ICTs, public libraries in the African nation, had a terribly restricted use of computers. The study discovered that almost all public libraries heavily relied on donor and well-wishers' help for the acquisition, maintenance
and development of ICT facilities. This indicated that there were inadequate budgets and scant application and readying of ICTs in library utility and use.

Although Chisenga, (2004) centered on public libraries in the African nation, the South of Sahara Africa was totally different in university libraries. The compact disks (CDS/ISIS) use in university libraries was complemented by optical disk Random in operation Memory (CDROM) databases particularly on the world of agriculture that were cheap or given (Ekpenyong, 1997). The studies disclosed that prerequisite technical skills resulted in under-utilization of technologies and policy restrictions on web access in such places just like the university of Nairobi in Kenya, and Copper-belt University within the republic of the African nation (Mutula, 2004).

The automation of libraries normally in universities in Africa poses many challenges. Chisenga (2004), therefore states the challenges facing library automation in Africa as follows; lack of budgets, inadequate ICT facilities, lack of ICT methods, low level of skills of users, lack of qualified workers in ICT, lack of commitment by institutional management, and reluctance among workers to use ICT.

Benefits of Library automation embrace acquisitions of latest ability by library workers, sharing of resources through consortia, provision of knowledge services remotely all day night across the week, and improved image of librarians’ access to the diversity of resources, and the introduction of latest services. Digital libraries are more and more being recognized as economical channels for the gathering, storage, organization of knowledge in digital formats and for his or her simple looking, retrieval and process of knowledge via improved communication networks. Digital libraries have the potential to supply timely access to information, improve facilities for information sharing and
collaboration and also cut back the digital divide among its users (Chowdhury and Chowdhury, 2003).

In universities, digital libraries have invariably provided opportunities to information, thus giving important support to learning, analysis, and teaching experiences. They supply access to the intellectual and studious output of the university community and play a crucial role in promoting the university to the remainder of the globe by exposing works to the broader community. Access to information is created on the market through the ever-widening vary of digital library resources and services, together with full-text on-line databases, school analysis, schoolroom materials, transmission digital resources, electronic journals, electronic books and digital libraries from everywhere the globe (Chisenga, 2004).

Kenyan libraries area unit compelled to shift gears so as to justify their existence within the dynamic information surroundings. The recent past has seen several universities in African nation constructing/refurbishing their libraries. The trend has been occurring in each public and private universities beginning with the International University (USIU), Catholic University of Africa (CUEA), KCA University and Kenyatta University that have since been formally opened. In an endeavor to make sure that libraries stay forecast in their objectives during this era of ICT development, CUE counseled that libraries shall adopt and maintain new information and communication technologies as they develop which each University Library shall embrace the new opportunities created by the technology employed in teaching, learning, and analysis.

It was conjointly suggested that libraries ought to incorporate, facilitate and support the availability of virtual services, like sites, net looking out and victimization technology
for the electronic property. The library building should offer an area adequate for print associate degreed IT primarily based resources which it shall incorporate ICT desires as a part of the planning conception together with trunking and cabling and wireless property. The advice was summed by the stress that each one librarian, para-professional and different library workers shall be trained to use ICT product and services accessible within the library (Makori, 2009).

Technological innovation is not well grounded in tutorial libraries in the African nation; however, few tutorial libraries have integrated the mandatory technology such as USIU Library, CUEA Library among others (Makori, 2009). Therefore there is a need for tutorial libraries in the African nation to integrate ICT solutions into their thought information product and services. These solutions embody integrated information systems, digital information systems, computing, often identification (RFID), native space and wide space networks.

Although historically libraries are the foremost vital of the university facilities in supporting advanced scholarship, today, maybe as never before basic queries are being raised regarding their nature and purpose as establishments. In spite of the popularity that libraries play a key role in development and success of upper education, in several components of the developing world, there is close to the total collapse of a university library and data services (Kavulya, 2004).

During the last decade, several university libraries in the African nation have machine-driven their services. The main and customary goals for automating their services appear to be that of rising potency and effectiveness within the management of information resources whereas at an equivalent time providing increased information
services and product to their business. To its extent, university libraries appear to possess similar goals (Keralapura 2009).

The distinction comes within the automation ways that completely different university libraries have adopted to realize their goals. Some libraries have adopted open supply systems, others have opted for proprietary systems and still, others have engaged the services of laptop programmers to develop systems for them. No common standards that are united on by the libraries in as so much as software package acquisition worries and this pose a significant challenge to cooperative efforts between and among the libraries. Similarly, a study by Keralapura, (2009) identified that information technology influenced the functions of libraries and altered the knowledge seeking behavior of readers.

Online library services that began with on-line catalogs within the Nineties were not internet based mostly and so needed the catalog software package to run interactively across the net victimization varied protocols. World Wide internet and machine-readable text based mostly catalogs became obtainable by 2000 and it absolutely was then that libraries began to incorporate their catalogs digital resources command of their assortment that university and different establishments began to build discipline-based collections of knowledge resources in digital kind. Access to those collections was provided through native and wide space networks (Singh et al, 2007).

The emergence and development of the online allowed developers to supply universal access to digital libraries. Digitization of libraries in the continent has over the years been principally related to educational establishments that are legendary for manufacturing documentation as a result of analysis and studies conducted as a demand
of the educational method. The progression to different sectors that have data keep generated as records that ought to be preserved for future reference or safe keeping has seen additional stakeholders concerned within the development of policies and tips for effective information management (Keralapura, 2009).

Digitization of information materials is thus a theme that has attracted interest and far discussion information professionals from all sectors. Libraries, archives and record centers in the continent ought to affect new technologies and trends effective management of knowledge. Machine-controlled libraries have additionally been named as electronic or virtual libraries. They are libraries and not walls since they are not existing in physical kind and knowledge within the digital library is not found in print. In line with the international organization, the digital library may be managed and assorted with information resources, preserved for an extended time, with associated user services wherever the information is kept in digital format and accessed over a network, Agriculture Organization (FAO, 2010).

The University Libraries divides responsibility for building the Libraries' collections among a variety of librarians, every of whom is chargeable for choosing library materials on one or additional subject areas. Management of those universities repositories draws on a spread of ancient assortment development and management skills, as well as policy development for material choice and deselection, information creation and management and access management (Connel and Cetwinski, 2010).

The Contribution of ICTs in developing of the Management system for the colleges, higher establishments of learning and schools within the country is important to make a sure assortment of information, its analysis for distinguishing trends, keeping track of
resources/funding and their observation. The institution of on-line MIS system provides smart prophetic management of information, for example, ICAR is covering all agricultural universities, and UGC is the method of developing. The convenience of data for analysis and alternative educational analyses is either restricted or is unnatural because of gaps in information. Most of the universities/institution compiles and provides the information manually (Brush, 2008).

Development of MIS would lead to potency and transparency, correct and timely info, would offer support for the higher cognitive process, easy accessibility to information, facilitate social control of standards, leads to reduced information redundancy and concern associated efforts. MIS for universities could embody student system, examinations system, alumni system, placement information, college and workers system, stores management system, documents management system, legal and estate management system, finance & accounting system and alternative specific module (Brush, 2008).

The United Kingdom Research Reserve (UKRR) has signaled a move off from native storage of generic content (printed journals) by facilitating the de-duplication of stock across taking part in libraries, making advantages for native library users through vital house savings for individual establishments, while guaranteeing the long preservation of the journal content. Totally different authors have come up with different University Management structure. Below may be a trendy University Library Management structure (Boyle and Brown, 2010).
Figure 1.1 Management of Modern University Library Structure

Source: Wright (2007)
The figure above depicts a management of recent university library. In this case, it illustrates the most effective practice style with respect to management and administration of a contemporary library by use of ICT and its connected facilities.

1.2 Statement of the problem
In pursuit of the particular methods to alter the Republic of Kenya to become a regional centres for research and development in new technologies, the Social Pillar of the Republic of Kenya, Vision 2030 endeavors to ascertain a laptop offer program that might equip students with trendy IT skills joined of its flagship comes for education and coaching (The Government Of Kenya, 2007). So as to suit this demand, tutorial establishments that each public and personal should create adequate progress toward making certain that the libraries, as sources of information dissemination, area unit well equipped with new technologies to boost reliable information management.

Multimedia University has endowed in information systems with the aims of progressively mistreatment electronic systems throughout the 2011-2015 strategic plan to alleviate the high value of written info resources and luxuriate in the good benefits of recent databases. Despite the significant investment in info systems and knowledge technology by the university, there seems to be low use by the majority of workers and students which can imply less profit increased from the investment.

In his study, Kavulya, (2004) argues that the availability of library services in Kenyan public universities is characterized by extraordinarily inadequate resources in terms of funds, information materials, instrumentation, and workers. Non-public university libraries expertise these issues albeit to a lesser degree. There is an additional awareness
that university libraries in Kenya, particularly those public universities don't seem to be effectively providing services that have restricted their role in the analysis and learning within the university. Trendy information and communication technology is being incorporated into the management of university libraries in Kenya. However, this trend has been hindered by firstly, lack of funds to buy instrumentation like computers and started networks, secondly by lack of accomplished personnel in information technology, and lastly by poor telecommunications infrastructure within the country.

The strengths and weaknesses of the library software package directly have an effect on the library management and services (Kaliamal et al, 2007). Several authors have acknowledged that lack of trained personnel and negative perspective of university management is a major factor that impedes effective adoption of ICT in university libraries (Bantu, 2011).

1.3 Purpose of the Study
The purpose of the study was to evaluate the academic library automation practices at Multimedia University, Kenya

1.4 Specific Objectives of the Study
The specific objectives for this study were:

1. To establish the role of continuous teamwork and interuniversity library cooperation on library automation practices at Multimedia University

2. To determine the extent at which university library automation practices are available at Multi Media University
3. To identify the effects of infrastructural, financial and human resources on library automation practices at Multimedia University

1.5 Research Questions
This study was guided by the following research questions:

1. What is the role of continuous teamwork and inter-university library cooperation on library automation practices in Multimedia University?

2. To what extent is library automation technology available in Multimedia University?

3. What is the significance of infrastructural, financial and human resources in library automation practices in Multimedia University?

1.6 Assumptions of the Study
The study assumed that the services at Multimedia University were not machine-controlled therefore adequate hardware and resources which the samples selected for this study were representative enough to give results that may replicate the overall prevailing situation with relation to the automation of university libraries in Kenya.

1.7 Significance of the Study
This study is extremely vital in the sense that it shed lightweight on correct administration and management of libraries in thought to automation and use information technology. In this 21st century, most establishments of upper learning have made an attempt to reinforce service provision to clients, with well-developed ways to support their company missions and have incorporated information
systems/technology to boost potency and effectiveness. Therefore, this study encompasses the use of IT as not simply a resource to support regular operations however as a tool that may have a vital impact on an organization's strategic position in national and world markets.

Kroenke, (2011) asserts that information systems square measure an accepted and integral part of strategic designing for nearly all organizations and per se, organizations square measure currently finance heavily in information systems and knowledge technology. As per Laudon and Laudon (2010), many innovative firms have used IT for strategic blessings and with the expansion of the net, and also the development of e-business, it has become a strategic tool in each business. Information systems and world networks permit firms to increase their reach to secluded locations, provide new merchandise and services, reshape jobs and workflows and maybe deeply amendment the method they conduct business.

1.8 Scope and Limitation of the Study
The study centered on Multimedia University library that is one among the general public universities in Nairobi. The population of the study was restricted to the institutions' library employees who square measure directly involved in the daily activities, management of the library and also the students. This, to some extent, restricted the study. However, the investigator was able to conduct the study throughout hours once the respondents were on the market.
1.9 Conceptual Framework

The conceptual framework explains either diagrammatically or in narrative kind, the most things to be studied and also the likely relationships between them. The conceptual framework used for this study show, however, the dependent and independent variables act to have an effect on the end result. In this case, the dependent variable is the University library Automation whereas on the opposite hand, the independent variables square measure the continual cooperation and interuniversity cooperation, library automation technology and resource availability, Shields et al, (2013). The interaction between the two variables is often depicted diagrammatically as shown below:

**INDEPENDENT VARIABLE**

- i) Continuous Teamwork
- ii) Availability of Technology
- iii) Resources: infrastructure, finances and human

**DEPENDENT VARIABLE**

**MODERATING**

H1

- Good Quality of

H2

- Goals

H3

Effective Automation Systems in University Libraries

DV=f (indvar +Mvs+……Vn) Where

Dependent variable=Library Automation Practices

Independent variables = Interlibrary cooperation, technology and resource availability

Moderating Variable=Goals

Vn= Any other variables that may arise
H1 These are factors to consider when designing automation systems in Universities

H2 Automation systems depends on goals

H3 Automation goals influences automation systems in Universities

1.10 Definition of Terms

Goals: Aim of an action or task that a person consciously desires to achieve or obtain.

Library Automation: Application of automatic and semiautomatic data processing machines (computers) to perform traditional library housekeeping.

Integrated Library System: It is an enterprise resource planning system for a library used to track items owned, orders made, paid and patrons who have borrowed.

Library cooperation: It is the creation and generation of equitable that is mutually “fair” collaborative arrangement between libraries and information providers which enhance the common good through making information available to all potential users.

Strategies: The focus of all planning processes and it usually incorporates purpose, policies, programs, actions, decisions and resources allocation that serve to define any organization. In this case, it is the planning process of automating the academic libraries.
2.0. Introduction
This chapter bestowed the review of connected relevant studies conducted by different students. In keeping with Boote et al, (2005) a review of literature represents the foremost vital step of the analysis method in qualitative, quantitative, and mixed analysis studies. He observes that "a thorough, subtle literature review is that the foundation and inspiration for substantial, helpful analysis. The advanced nature of education analysis demands such thorough, subtle reviews". Further, Onwuegbuzie et al., (2010) highlights several advantages for conducting a substantive literature review, like identifying what has been investigated and what must be examined or investigated, determine variables that area unit associated with the subject, determine convergences between theory and or ideas and apply, establish exemplary analysis, avoid extra duplication, determine the most analysis ways and styles that are exploited, determine divergences and gaps, and determine strengths and weaknesses of assorted analysis ways that are used.

This chapter presents the theoretical framework and reviewed connected literature to availableness of technology, resources (financial, technical and human resources), continuous framework, information gap and chapter outline.
2.1 Theoretical Framework
According to Miles, and Huberman, (1994) a theoretical literature review may be an appraisal of a phase of a broadcast body of data and or theories through the outline, stratification, and different of previous analysis studies, reviews of literature, and theoretical articles. The theoretical literature analysis will take one in all 2 approaches: in-study literature analysis or a cross-study literature analysis, Onwuegbuzie et al (2010). each approach of analyses area unit essential and may be conducted altogether literature reviews, except within the terribly rare occasion once the literature review involves a purposive choice of 1 work (e.g., single article, or book chapter), in order that this work isn't compared to the other work.

The studied literature involves analyzing the contents of a particular work. In its most rigorous and comprehensive type, a within-study literature analysis doesn't just involve analyzing the findings of a study or the key premise utilized in a non-empirical work. Rather, optimally, it involves analyzing each part of the work, as well as the title, literature review section, abstract framework/theoretical framework, procedures used, results section, and discussion section. This study was radio-controlled by the subsequent theories

2.1.1. SERVQUAL Theory
SERVQUAL was initial introduced to live the standard of service within the space of selling within the year 1985. The champions United Nations agency brought this theory appreciated that though quality in tangible merchandise had been delineated and measured by marketers, quality in services was extremely vague and unsearched.
Therefore, the target of SERVQUAL was to: determine the difference(s) between tangible merchandise (like as an example, an automobile or a radio) and services (such because the driving, shoe shining or transport industry) in terms of activity of quality and services provided; elaborate the measures accustomed operationalize the constructs in commission quality research; analyze the impetus that explains the service quality; promoting researchers are in accord that almost all services are comprised of many elements, however, that it disgraces significantly from tangible product, (Buttle 1996). Although the standard of tangible product typically will be measured objectively by indicators like color, label, feel, package, durability, style, and fit, likewise by a number of defects, service quality is associate degree abstract and elusive construct. Another characteristic feature of a service as against a tangible product is that almost all services are comprised of multiple elements and every element might have its own distinctive results of associate degree outcome analysis (Nyeck, 2002).

As SERVQUAL was designed to live service quality, the term "service quality" may be a major construct in SERVQUAL analysis. Parasuraman, et al, (1985) delineated service quality as being characterized by 3 themes: Service quality is tougher for the patron to judge than tangible merchandise quality. Service quality perceptions result from a comparison of shopper expectations with actual service performance. Service quality evaluations aren't created entirely on the result of a service; they additionally involve evaluations of the method of service delivery(Nyeck, 2002).
2.1.2. LibQUAL
On the opposite hand, LibQUAL for library assessment functions was developed pegged on the idea of SERVQUAL, that was designed to live service quality across the service industries. Analysis findings from the SERVQUAL literature embody studies of banks, hospitals, net suppliers, retail stores and lots of different styles of service industries. SERVQUAL, initially introduced by Parasuraman, et al, (1985), is one among the foremost heavily cited studies of its kind. It is evidenced to own a longtime analysis history, and it deserves and limitations are wide tested and confirmed by each recurrent sensible activities across service industries and analysis findings from several service areas.
A refined SERVQUAL scale later stated by Parasuraman, Zeithaml, and Berry (1985) enclosed 5 dimensions—tangibles, responsibility, responsiveness, assurance, and sympathy characterized by twenty-two things. Once employed in learning totally different industries, the phrasing of individual things within the life is also adjusted within the actual instrument for specific service assessment. LibQUAL swollen from SERVQUAL, currently recognized as a regular tool for measure library services, continues to be a relatively young assessment lives. Developed on an equivalent framework as SERVQUAL, LibQUAL additionally applied these 5 dimensions with its scales worded specifically to live library services
As antecedently mentioned, the conceptualizations and dimensions of LibQUAL were derived from SERVQUAL. The LibQUAL approach is introduced to the library user as an internet form tool. The terms expectations, needs, and library services are introduced
on the primary page of the LibQUAL knowledge kind with a gap statement reading that they're committed to up library user services.

The disconfirmation model to acknowledge the impetus of client satisfaction has applied principally to analysis product consumption. In commission surveys, well-developed and standardized constructs area unit found to allow an outline of service areas overall analysis industries. On the opposite hand, SERVQUAL was designed as a tool to assess solely services. Even "tangibles" in SERVQUAL means that to the physical proof of the services, like physical infrastructural facilities, look at personnel and tools, and or equipment accustomed to offer the desired services. SERVQUAL wasn't developed to live product or otherwise each service and product. For example, Parasuraman, et al, (1985), used SERVQUAL to work out the standard of services of banking establishments. The 5 dimensions (responsiveness, assurance, tangibles, reliability and empathy) utilized in their study solely measured the bank's service parts. The merchandise component(s) of the banks weren't measured. The merchandise parts of a bank could, as an example embrace the programs the bank offers, like saving, checking, and or investment accounts command by the clients; and also the options of its product, like sort of IRAs and mortgage rates.

2.2. Empirical Literature review
According to Ogunsola, (2004), in different libraries, varied electronic systems are developed for his or her numerous house-keeping functions and additional still area unit being developed and refined, as a result of the technology of larger scale integration. These one's area unit spoken as microcomputers that area unit handy I such some way
that they'll handle any of the library processes like cataloging, serials management, bibliographical management, or Selective Dissemination of data (SDI), acquisitions, circulation management. Information Technology is applied to the operation of libraries and information centers to confirm that information delivered is timely, and relevant, accurate, precise (Madu 2002).

The thought of Library Automation, as we have a tendency to currently realize it, has so become widespread. Consistent with Coben (2003) within the ancient manual library service and management system, utilized human workers handle the assorted tasks needed to accomplish every operation and this takes an excessive amount of time, however, if a PC is employed to perform some process operations, an automatic library results". Bierman, (1980) and Madu, (2002), outlined library automation as "the use of computers and associated technology to try and do specifically what has been tired libraries with the justification of reduced value and or accumulated performance. Thus, automation helps within the acquisitions, organization, storage and dissemination of data in libraries. Generally, IT applies to library services in a very variety of how, that include: Acquisitions, Cataloguing, Circulation, Serials and user services. But within the read of Harinarayana, (1991) the thought of library automation suggests that a high level of mechanization of many routine and repetitive tasks to be performed by kith and kin. With the appearance of automation, the human intervention is reduced to an excellent extent. The incorporation of data and communication technology has extremely raised the library automation. additionally to laptop advancement, telecommunication, and audio-visual technologies gave thanks to new potentialities in data handling In India; the employment of computers is prescribed to just some
specialized libraries not like the case of developed countries. Library automation incorporates application and integration of computers and alternative semi-automatic devices like punched cards to reprography. These are semi-automatic as a result of human intervention is bigger in extent. So, once one talks of library automation, it's ideally the employment of computers; such media accessories (which might embody however not restricted to use of magnetic tapes, optical media, disks, etc); laptop primarily based product and services in library work. Library automation is also outlined because the application of automatic and semi-automatic processing machines (computers) to perform ancient library work activities like acquisition, circulation, cataloging, and reference and serials management. These days "Library Automation" is out and away the foremost normally used terms to explain the mechanization of library activities mistreatment the PC (Uddin, 2009).

Odero-Musakali and Mutula, (2007) discovered that the longer term of universities greatly depends on their ability to include and leverage the potentiality of those rising technologies all told levels of their business endeavors and methods. Educational libraries don't have any alternative, however, utilize ICT within their functions. As Omoniwa (2001) hypothesized that in the 21st century, the economic process of data and also the adoption of data technology are going to be the hallmark of nice libraries. If libraries are to operate effectively within the gift age, the manual processes or strategies collapse to data and communication technologies (ICT) and a laptop-driven setting (Orolunsola 2009).

In the gift times particularly during this twenty-first century, libraries are confronted with challenges that cut across; geometrically progressive data growth and shrinking
house, of organizing the flood of data, an amendment in users' data behavior, means price increment of written reading materials and want for resource sharing. The necessity to beat these problems and additionally create the library additional economical and effective in their service delivery makes automation of library services imperative.

Choosing the incorrect computer code will result in semi-permanent adversaries on maintenance prices, the inadequacy of use or under-utilization or under-exploitation of the system by the users thus, it's necessary that computer code are critically evaluated before a range is created. Belyk and Feist (2002) declared that the key options to contemplate in choosing computer code embody however not restricted to; cooperative tools (Asynchronous – email, conferencing; Synchronous – chat, audio- conferencing, whiteboard, virtual networking, the supply of technical support (that is, user manual; commonly asked questions; price, on-line and offline help); Isosynchronous – problems like desktop video conferencing), easy use, practicality, security issue (password protection; encryption; firewall), Clarity (Resolution, sound, size, layout, etc.), ability, quantifiability, Integration and File-sharing options and administrator tools (registration; report generation).

On the opposite hand, Oketunji (2006) made public that problems such as: hardware connections, your right in respect of the computer code, supplier's history, level of sophistication, risk of preview or demonstration, rating structure, support problems, parameterization, teaching aids, references sites, system administration, and desires for documentation ought to be primarily examined once choosing a computer code.
The recent ancient manner of handling the library is not economical and reliable. This can be as a result of the employment of computers and different connected technologies are speedily adopted to facilitate services provided by the library. Library automation improves the productivity, adequacy, speed, and potency of the library staff. Time and therefore the personnel that can be gone in acting some technical and readers services routine and clerical tasks like filing, sorting, duplicating, etc, are units preserved once the library is machine-driven.

Aswal (2006) asserts that library automation is crucial to library effectiveness for the actual fact that it will increase human workers' productivity, allows advancement in technology enhances work operations, and allows access to external info through the America and application of the net.

Sudhamani (2010) on his take, supports the on top of argument, on the other hand, made public the that the employment of data and Communication Technology in libraries improves the standard of services, speed, and potency of services, it improves access to native remote users, enhances wider sharing of data, merchandise, and services, facilitates resource sharing among libraries, speedy communication with different libraries, improves the management of physical and money resources, facilitates generation of reports for higher cognitive process and effective management of the library.

Concerning its impact and role, Abdelrahman, (2009) observes that the trade of ICTs has had a bigger reaching impact on library and knowledge sectors (industries) and services everywhere the worldwide. A survey by Haneefa, (2007) indicated that libraries {and information centers are using ICT and electronic information resources
and services to satisfy the various information desires of their users. Intense efforts are created by varied libraries in using ICTs in their varied operations with info retrieval systems that area unit being designed to suit the requirements of finish users moreover on modify the method. The ICTs as employed in tutorial libraries tries to deliver various applications like wide-area network applications, native space networks, on-line info services (the Internet), on-line databases, library databases, CD-ROMs, on-line access catalogues, retrieval networks, digital on-line archives, mainframe computers, personal computer labs, and different digital content services, Ghuloum and Ahmed (2011).

With the applying of ICTs in libraries, accessing info has become additional dynamic for the students United Nations agency got to attain specialized information. Trendy and current ICT tools have modified hugely on ancient teaching strategies and therefore contributed to distance learning and education management more practical and reliable by providing multimedia system information repositories which may function incessantly dynamically updated information (Naidu 2006).

ICTs enhance nearer cooperation and coordination among libraries and distant learning communities. Therefore, it improves the quality of people's lives providing reliable access to distributed info that is needed for his or her day to day lives. ICTs in tutorial libraries became a more practical tool for the dissemination of data to the bookish communities within the developing countries. E-learning may be delineated as on-line learning, virtual learning, distributed learning, network and web-based learning. All of them use ICTs for teaching and learning activities. It may be spoken as the intentional use of ICTs in teaching and learning. E-learning may be done on-line or offline or via networked or standalone computers and different electronic devices (Naidu (2006).
2.2.1. The Availability of Technology
Technology has resulted in a convergence of 2 movements within the libraries poignant information access that is new kind of information and new kind of technologies that have reworked library holdings. New kind of information has a direct impact on the transformation of library managements. Haddad and Draxler (2002) observe that ICTs have modified the means library holdings offer endless potentialities of going over a similar material in an exceeding style of formats. for instance it's potential for one to seek out in descriptive linguistics and or literature, a bit of labor in treatise or textual matter as is usually known , on a CD as a text format, on a video tape or in an exceedingly DVD as a play being acted or in the other kind of media.

Much more necessary to notice is that there are several advantages increased to use and apply ICT in library management. New technologies have additionally wedged on library holdings. The impact of automatic technology is clear in varied on-line services, particularly the worth of remote access to electronic resources. Libraries have portals wherever access to info is not any longer restricted to the physical library building, however, spreads through field networks and through the globe Wide internet to completely utilize these technologies concerning a replacement style of preparation called e-readiness. In line with the EU Economic Intelligence, e-readiness refers to the degree to that a community is ready to participate in the Internet-based opportunities.

According to Das and Dutta, (2004), e-readiness is also measured in 2 ways in which, first, it is measured or determined by assessing a society's relative advancement within the areas that are most simple for ICT integration and also the most important applications of knowledge Communication Technology. Such areas embodying
procession of necessary skills problems poignant access and affordability, for utilization of ICT inside people, ICT and prevalence and use of ICT for services. Second, through individual readiness measured through factors like info attainment rates and locus of access to the web.

It is currently changing into the obvious indisputable fact that library automation allows quick access to library resources materials, and permits employees to raised serve users and facilitates a large number of tasks like acquisitions, cataloging, circulation, and reference (Egunjobi and Awoyemi, 2012). Library automation brings with it many advantages to each the users and or learners likewise because of the librarians World Health Organization man the libraries. Within the course of library automation, materials in poor condition are repaired so at the tip of the method materials won't solely be accessible however additionally in condition. It additionally allows reconciliation of decision numbers so copies of a similar title won't be settled at totally different places within the library. It enhances and promotes weeding of books that have outlived their utility (Ahenkorah-Marfo and Borteye 2010).

Library automation in higher learning establishments and particularly university libraries is expounded to a variety of advantages that vary from economy in expenditure; exaggerated productivity in terms of labor output and data retrieval, exaggerated use of assortment, increased in extending library services expedited the status of the library and high user satisfaction (Obaseki 2010).

According to PSU (2012), ciao as a library system is totally automatic, there are some important advantages that employees and students get pleasure from. they'll embody however not restricted the introduction of latest services, PC attainment and the web
and on-line info searches, Library automation can address the matter of manual process of materials overcoming the issues of filling and writing errors, retrieval errors, and also the time concerned (Kadiri, 2004).

Kadiri (2004) also discovered that the benefits of library automation include less reluctance and forms, straightforward retrieving of records, improvement of knowledge services, conservation of house, and simple retrievals. Library automation contains a tendency of jobs creation within the areas of internet development, and system maintenance, (Obaseki, 2011).

But in line with Ahenkorh et al (2010), libraries in higher establishments of learning may also be ready to conduct an inventory and quality reliable stock throughout automation exercises. Owe to the automation, circulation is one among the foremost affected areas of library services that saved plenty of your time of users likewise as employees. With the assistance of WEBOPAC, library users will search info from anywhere at any time, users will simply do the reservation of library.

According to Bruce and Kelly, (2008) every year tertiary establishments and universities set specific and measurable goals then push on a daily basis to realize them. Some are short term goals that they commit to accomplishing throughout that year, whereas others are long-term goals designed to grow their merchandise and services to fulfill the academic challenges of tomorrow.

Bruce observes that such establishments rigorously re-examine and change their set goals to make sure that everyone supports their mission. Goal mechanizations have an effect on performance by increasing motivation to succeed in set goals. they supply access to shared data resources, guarantee continued library development through the
effective use of technology, training, support, and consultation, seeking the foremost property models of delivery, evaluate, implement, research, and communicate data concerning new and rising technologies, give library support and leadership for problems with concern to varsity libraries, enhance library services and resources through dependent alliances (Bruce and Kelly 2008).

2.2.2. Resources: Infrastructure, Finances, and Human

A number of things associated with infrastructure finances and human resources. Below infrastructure, this study examined the standard of physical instruments in addition to different connected resources. Below finances, the study reviews literature associated with cash and probable monetary fund allotted towards strengthening library automation by universities and different higher learning establishments. Finally, below human resources, we tend to examine association with expertise, coaching, and qualifications

2.2.2.1. Financial Factors

It is challenging to manage and win full automation of library while not correct monetary fund allocation and enough funding. Tutorial libraries in higher learning establishments, a bit like different departments in tutorial establishments of upper learning need enough funds so as to accumulate trendy ICT facilities like servers, scanners, computers, photocopiers, software package in addition as obtain or take online/offline resources like e-books, e-journals, and digital books among different resources. With the dwindling monetary donor support state of affairs, it's unlikely that things can improve abundant (Amutabi, 2009).
According to Bantu (2011), all libraries that became totally machine-driven within the early and middle Nineteen Nineties, however, couldn't afford to search out their current software package terribly limiting, migrate and unless one afforded to migrate onto new and updated systems, the first begin can be an obstacle. The totally machine-driven libraries are those who either started late with donor help or have secured funds to migrate to up-to-date systems.

A considerably larger and by currently well-established literature has indicated the vital importance of the national economy for economic process. What emanated with easy cross-country regressions, as utilized by King and Levine (1993), has developed into oversized literature victimization AN array of various techniques to appear on the far side correlation and dominant for bias arising from endogenity and omitted variables. Specifically, victimization instrumental variable approaches, difference-in-difference approaches that think about the differential impact of finance on specific sectors and therefore purpose to a evidence, explorations of specific regulative changes that light-emitting diode to monetary deepening in individual countries, and micro-level approaches victimization firm-level information have provided an equivalent result: monetary deepening could be a vital a part of the general development method of a rustic.

According to Klapper, et al, (2006); Ayyagari, al, (2011), Aghion, et al, (2007), monetary capability is vital to program effectiveness. This literature has additionally provided an insight into the channels through that finance fosters economic process. Generally, the proof has shown that finance features an additional vital impact on
growth through fostering productivity growth and resource allocation than through pure capital accumulation (Levine and Loayza 2010).

According to Rajan and Zingales (1998) and Gesteure et al. (2005) the supply of external finance framework is very completely related to entrepreneurial muscles and better firm entry yet like firm dynamism, power, and innovation. They further discuss that finance conjointly permits existing companies to use growth and investment opportunities, and to realize larger equilibrium size. Additionally, companies will safely acquire a lot of economical productive quality portfolio wherever the infrastructures of finance square measure in situations and that they are ready to select a lot of economic structure forms like incorporation.

Aghion et al... (2010) assert that monetary sector development is very important not just for fostering the method} process, however conjointly for wetting the volatility of the expansion method. Monetary systems will alleviate the liquidity constraints on companies and facilitate long-run investment that ultimately reduces the volatility of investment and growth. Similarly, well-developed monetary markets and establishments will facilitate dampen the negative impact that charge per unit volatility has on firm liquidity and therefore investment capability. This is often particularly necessary in economies that rely heavily on natural resources and square measure, therefore subject to high terms of trade and real charge per unit volatility (Aghion et al... 2009). Gesteure et al (2006) on the other hand states that, there is robust proof to point that it's necessary to notice, however, the necessary distinction between real and monetary or financial problems, whereby the next are often exacerbated by deeper monetary systems.
Finally, this line of analysis has shown that the impact of monetary sector deepening on firm performance and growth is stronger for tiny and medium-sized than for giant enterprises. However, the operational capability is incredibly necessary for any program effectiveness. It's at the operation level wherever operations square measure scheduled to assure in-time delivery of ultimate merchandise to customers or beneficiaries. These levels act in many ways that. First, higher levels establish constraints that have an effect on performance at lower levels. For instance, the strategic level determines method capability, and also the military science level positions inventories to be used by the operational level. Second, every level addresses a selected timeframe, and these time frames should be integrated to assure seamless client service. For example, the operational level should assure that short material flow meets customer-service goals, coordinative strategic and military science levels fittingly. Thus, Associate in nursing approach that unifies these 3 levels is critical to style and operate a competitive and effective program.

According to Vickery et al. (1997) and Slack et al. (2004), quality and economical operations in an exceedingly program square measure determined by factors associated with price, flexibility of the program, quality service, responsibility and speed as vital producing competitive priorities. A study developed by Philip Milton Roth et al (1991) within the service sector has found out courteous service, client relationships and consistent service because the most crucial competitive priorities for service corporations implementing varied programs. Whereas courteous service and client relationships square measure relative components basically, consistent service is Associate in nursing operations facet related to responsibility or dependableness.
It is thus vital once such operations square measure dependable. As per Stank et al. (1999), the responsibility of operations capability in an exceeding program is most closely related to operations performance, because it is basically involved with dependableness and accuracy of the service. Several researchers have treated dependableness of services on an individual basis from quality Wright, 1984; Nemetz and Fry 1988; Weikum 1999; and yet as Avizienis et al. 2001). Therefore, during this study quality was measured on practical aspects and dependableness was treated severally as they were.

2.2.2.2. Technological Factors
Technological factors contend a significant role in respect to supporting the spirit of library automation, particularly in higher learning establishment. This study reviewed many kinds of literature that, as mentioned below indicated that technological support was extremely important in achieving the wishes and also the spirit of automation of library. Inadequate technological infrastructure to support the mixing of ICT within the library functions has been cited by many authors jointly of the foremost challenge that tutorial libraries face. ICT isn't fine to unfold and used in African establishments of upper learning, principally thanks to a poor communication network, restricted access to ICT hardware and computer code (Kamba 2011). This refers to problems as poor or lack of ICT policy, low net property, the inadequate provision of electricity, inadequate range of PCs(Minishi-Majanja 2007).
In the quest to totally utilize the utilization of ICT, workers and students within the higher learning and educational establishments are expected to play a vital role to make
sure that the information systems are properly managed to gain strategic advantage. Consistent with Alter, (2002), once applied properly, ICT and data systems will be ready to bring necessary edges for people, organizations, and customers. Once misapplied, however, they'll waste tremendous amounts of your time, effort, and money. Thus, Strategic info systems should, by definition, contribute considerably to the accomplishment of associate degree organization's primary objectives.

2.2.2.3. Human Factors
Human factors emanate from the library leadership, organization culture associates degrade trained library personnel WHO here play an important role in decisive the role and standing of educational libraries in respect to the management and automation, (Kamba, 2011). Many authors have additionally recognized the impact of correct investments in human resourceand have indicated that lack of trained personnel and negative angle of university management on that as major factors that impede effective adoption of ICT in university libraries (Sife 2008; Minishi-Majanja 2007; Odero-Musakali and Mutula, 2007).

According to Grey and Larson (2004), the event and authorization of project groups are of profound influence in respect to improved project performance. The authorization of the project groups starts with the choice of the human personnel. Several managers can favor in choosing members with a robust sense of volunteerism, drawback identification and determination skills. This therefore ensures that there's personal commitment to the project vital to making a sure further effort is place in once the project hits difficulty.
Another obvious thought once choosing groups are choosing folks with necessary expertise and knowledge/technical skills vital for project completion. Belout and Gauvreau (2004) advocate the conducting of a team identification exercise to make sure that the strengths and weaknesses of every team member are appreciated. Project groups with the higher level of skills lead to higher probabilities of success (Horse & Slevin (1995). This premise is supported by Nieuwenhuizen and Estonian monetary unit (2003) who found a medium result size of 0.419 for data and skills on the project success. This finding is supported by the findings of Roy and Wheeler (2006) who found a statistically vital correlation between formal education/training and acquirement with perceived level of success.

In respect to the opinion of Belout and Gauvreau (2004), once the choice of the human personnel, the project manager then fits the human resource to the various project tasks. This involves instructive job descriptions and writing system out deliverables. This essential exercise ensures there are not any human resource surpluses or shortages throughout the project execution. The project manager should set not solely the team however additionally individual goals, associate degree exercise that allows the watching and measure team and individual performance. The goals set ought to be difficult however come-at-able, appreciating the wants of the team and during this manner produce a way of accomplishment and private growth.

According to Pallavi (2013), the main target of Human personnel authorization is on developing the foremost superior and qualified personnel that facilitates the organization for consecutive growth and quality performance. All human personnel and staff are needed to be valued and that they ought to apply collective efforts within the
labor market on every occasion. This may solely be increased or realized through correct and calculatedly implementation of worker authorization and coaching programs. Staffs are perpetually regarded with development in career-enhancing skills that results in worker motivation and retention. There is little doubt that well trained and developed workers are a valuable quality to the corporate and thereby can increase the possibilities of their potency and effectiveness in discharging their duties. Coaching may be a learning expertise that includes a capability to form positive changes and reach up to the specified objectives of the organization. It improves the power of the worker to perform the task with efficiency and with excellence.

Human personnel coaching and authorization programs are the crucial structural and useful pillars for the authorization of the workers. These foundations are necessary for showing the direction to the workers through totally different things. Authorization and coaching programs are the framework for serving to staff to develop their personal, ethical, data and skilled skills, and talents. Coaching imparts data to the workers relating to totally different problems within the organization and also the correct execution of those programs lead to a range of advantages like the development of profitable, variable additionally as an economical organization and productive & easygoing staff. It is that therefore argued Human capability coaching (HCT) is the most vital apply in relevancy arming the human personnel for effective program implementation. The variety of students so far has declared the requirement to equip the human resource with relevant skills for program implementation.

According to Oatey (1970), coaching improves a person's ability at associate assignment or assigned the task. Coaching helps in socially, intellectually and
associated with mentally developing a worker, that is essential in facilitating not solely the extent of productivity however additionally the event of personnel in any organization. Yoder (1970) asserts that coaching and development in today's employment setting are way a lot of acceptable than coaching alone since human resources will exert their full potentials only the training method goes for on the far side the straightforward routine. Hesseling, (1971) observes that descending could be a sequence of experiences or opportunities designed to change behavior so as to realize an expressed objective.

Kane, (1986) on the opposite hand argues that if the coaching and development operate are to be effective in the future, it'll have to be compelled to move on the far side its concern with techniques and ancient roles. He describes the strategic approaches that the organization will fancy coaching and development, associated suggests that the selection of approach ought to be supported an analysis of the organization's wants, management and employees attitudes and beliefs, and therefore the level of resources which will be committed. A lot of strategic viewpoints ought to be of use in assessing current efforts likewise as once coming up with for the long run.

Raymond (1986) on the opposite hand indicates that the influences of trainees' characteristics on coaching effectiveness have centered on the extent of ability necessary to be told program content. Psychological feature and environmental influences of coaching effectiveness have received very little attention. This analysis integrates necessary psychological feature and situational factors from structure behavior theory and analysis into a model that describes however trainees' attributes and attitudes might influence the effectiveness of coaching.
Adeniyi (1995) observes that the employees coaching and development could be a work activity which will build an awfully important contribution to the general effectiveness and profitableness of a company. On the opposite hand, Chris (1996) coaching and development aim at developing competencies like technical, human, abstract and social control for the furtherance of individual and organization growth.

Seyler et al., (1998), observe that the continual dynamical situation of the business world, coaching is a good life employed by employers to supplement employees' data, skills, and behavior. Akinpeju, (1999) on the opposite hand says that the method of coaching and development could be a continuous one. the requirement to perform one's job expeditiously and therefore have to be compelled to skills to guide others square measure enough reasons for coaching and development and therefore the need to satisfy organizations objectives of upper productivity, makes it completely required.

However, consistent with Bates and Davis (2010), coaching while not follow and implementation of earned experiences may be a waste of resources that ought to are otherwise reborn to one thing else which might profit the establishment or program. Quality of coaching program is feasible only if the novice is ready to follow the theoretical aspects learned in training program in the actual work atmosphere. They highlighted the employment of case, simulation, mediate exercises, role taking part in and even laptop primarily based learning to produce exposure to a current and relevant body of data and world things.

In managing the project team, the project manager should commit to succeed coordination among the various team members taking part in different tasks. Here the manager creates activity inside the team by guaranteeing that team members leverage
off every others' strengths and complete every other's weaknesses. The manager tries to harness the potential of project groups to hand in glove direct their energies towards accomplishing the project activities.

Hand in hand with this can be the method of correct and active team building that should have begun early and sustained throughout the project and contributes lots a lot of towards developing and finalizing an efficient project personnel. because the project goes through phases and totally different levels of its cyclic endeavors, social psychology usually characterized by varied stages starting from forming stage, storming stage and activity stage ought to be ready to be run parallel with the processes of coming up with and management incomes(Thomas et al 2008).

It is additionally necessary to notice that conflicts emerge in reference to integration of ICT in library automation. During this case, arising conflict inside the team (which is Associate in a Nursing inevitable product of formal and informal groupings that return up inside the team) ought to be managed properly and resolved amicably. Conflicts emerge not solely between the groupings however additionally inside the groupings, (Stoner, et al, 1996). They ought to be ready to build structure capability to react to drawback as they arise (Horse & Slevin 1995). Belout and Gauvreau (2004) found this variable to be considerably related to project success and demanding throughout the execution stage of the project.

However, review and correct analysis of data are incredibly vital. This allows people to enhance the standard of product and services. Review of the offered literature on the analysis of economic development studies shows that the square measures 2 classes of evaluations, namely; method evaluations and impact evaluations (Bradshaw 2002).
Although this study didn't withdraw a lot of on the method evaluations it had been price exploring because it shed a big quantity of sunshine on the main impact of assessment and evaluations. Several students and authors agree on the very fact that method evaluations square measure is easier to realize since they involve already established higher kinds of management like internal audits and value profit analysis, that square measure additional explained below. Thus, they endeavored into these evaluations. Few students though have studied the impact of evaluations. This can be chiefly attributable to the difficulties moon-faced in getting knowledge for such evaluations and assessments(Bartik and Bingham 1997).

According to Archer and Pagano (1992), associates ICT connected program for library automation is also deemed to possess major end-result if it is accomplished its social economic and organic process purpose in spite of it not having created a big profit on the funds invested with. Numerous students and specialists on programming united that impact evaluations are the foremost tough to attain and nevertheless they supply an additional correct image of the extent to that the project will meet its objectives(Morduch, 2010).

The scholars united that the difficulties they were facing were because there was short methodology; political overtones were connected to such results; it concerned evaluating the policy itself; the method was terribly expensive; management teams were not available, and alternative external variables existed.
2.2.2.4. Continuous cooperation

According to Bhanja and Barik, (2009) library automation has so enlarged access to a range of educational sources and materials; meaning that users are able to access and seek for materials at intervals the library and from remote or interior locations through search things like author, subject, title, mark and or keyword. It additionally ensures that machine-readable catalogs are reached and be showcased or displayed during a many ways in which could otherwise not be doable with the utilization of manual catalogs. Automation of the standard library house-keeping activities create materials easier for patrons to find moreover as permitting workers to perform higher user services by facilitating a large number of workers tasks like acquisitions, cataloging, circulation, and reference.

The application of library automation and connected activities is not so a replacement plans. Libraries are clutching the most recent technology to manage the various styles of data, communication and increasing use by patrons. The new derivate technology that's referred to as data and Communication Technology (ICT) makes the tremendous impact on library's operations, services, users, and workers. normally terms the ICT automation problems encompasses all trendy technical suggests that exploited to store and manage data, its communication through PC and connected hardware, communication networks technology and necessary code etc. data Communication Technology (ICT) is important to the libraries to attain their goals for management of data, effective services and extension of boundaries from the four-walls to the world.

ICT presents a chance to libraries to supply added data services and access to a large kind of digital-based data sources to their shoppers. Libraries are mistreatment trendy
ICT to change their core functions, implement economical and effective library cooperation and resource sharing through networks. They use ICT to implement the management data systems (MIS), develop institutional repositories (IR) of digital native content, and digital libraries. Libraries also are initiating ICT-based capability building programs for his or her workers and data acquisition programs for library users, Emanuel and Sife (2008).

Thomas et al, (2006) found a correlation between project success and management of conflicts. Clear communication channels play an enormous role in stemming conflict as will develop ground rules on team member relationships. The project manager has to build decent commitment towards project success among the project team, (Horse and Slevin 1995). This issue (commitment) gains in connotation particularly among project groups with longer operate expertise(Hyvari 2006).

Outstanding and committed project groups are possible to steer for a reliable implementation. Achieving commitment is completed through motivation of project team mistreatment intrinsic and extraneous rewards. Of equal importance is giving accessory feedback on performance to team members and also the recognition of achievements at individual or cluster level and giving rewards(Thomas et al… 2008).

Since plans don't very come about for sure, activity deviated ideologies from plans appear to convey the project director the power to expect issues, to use corrective measures and to confirm no deficiencies are overlooked(Horse and Slevin 1995).

Project management enhances the aim of guaranteeing regular observance of performance against set targets. During this construct, project management and administration can produce benchmarks for project personnel and inspire them to try to
attain the project objectives. Essential to the management method is that the baseline arranges that forms the link between the design and dominant and also the work breakdown structures that outline the work tied to a deliverable and at intervals a length and budget (Grey et al. 2005).

According to Richman (2008), project management and administration involves dominant for 5 aspects; such aspects are time (in that case the particular performance online is compared with baseline schedule); value (in that case needs contrastive actual expenses with baseline value plans); scope and quality (this refers to the technical specifications, quality standards, performance needs, safety rules, security problems and environmental issues are examined); resource management (whereby there’s strict comparison of utilization of all resources that should be together with the human personnel with the baseline) and at last project objectives and or goals (which involves determinative whether or not work is being accomplished or not).

But in step with Hormozi and Dube (1999) the method of observance should be rigorous, vigorous and regular within the sense that it should be able to last throughout the project cycle and it should so involve not solely the project director and or manager however additionally the project workers and alternative human personnel. this suggests that the observance method should all be associate inclusive method that is integrated at intervals the project functions with that the results are assembled into reports that inform the project management of deviations from the plans and permit for corrective actions. The project leader should so want to make support from at intervals the team and at intervals the organization for the observance performs to confirm that it’s accepted by all.
The method ought to be guided by measures that are developed through a process that involves shaping the essential project factors to be measured, mapping the cross-functional method accustomed deliver results, distinguishing essential tasks and capabilities needed and planning measures to trace those activities and capabilities. The resultant measuring system ought to be versatile, and capable of reportage unforeseen changes in project performance and at an equivalent time straightforward to work, maintain and modify (Hormozi and Dube 1999).

Another key thought to form once developing the measures is to differentiate between results measures and method measures. Hormozi and Dube (1999) differentiated the 2 on addressing themselves to project goals and project practical priorities severally. They underscore the importance of the 2 variables and their reciprocity and their connation throughout the project. So the measuring system should embrace parts of each if it’s to convey a transparent image of the project.

According to Horse and Slevin (1995), the accessible ICT system ought to create allowances for adequate feedback mechanisms and mitigation measures thus on promote potency and utilization. Key personnel have to be compelled to receive feedback on however the project is scrutiny to initial projections. The project management ought to comply with a group of specific boundaries that once crossed signal that the project has developed serious issues that need intervention (Hormozi and Dube 1999). Within the same breadth, one will argue that measures should additionally replicate the dynamism of the project and alter because the relative importance of every project performs changes. As activities and even structures modification thus ought to the measuring system (Hormozi, and Dube 1999).
High standards ought to be set for programs that area unit promoted and disseminated at a provincial level. Before a program is best, it's necessary to indicate clearly that it's a major, sustained deterrent impact which it will be expected to possess positive leads to a good vary of community settings (as long because it is enforced properly and with the suitable population).

Researchers so use the spread of ICT products and services for analysis and more remarked that ICT products facilitate, evaluate, create, access data to determine data, manage, integrate, and communicate data (Ahmad and Mohammed 2009).

2.3. Knowledge gap
In his study, Kavulya (2004) argues that the supply of library services in Kenyan public universities is characterized by very inadequate resources in terms of funds, data materials, instrumentation, and workers. There is conjointly awareness that university libraries in the Republic of Kenya, particularly those public universities are not effectively providing services that have restricted their role in the analysis and learning within the university.

On their take, Kaliamal, and Sasvad, (2007), observe that trendy data and communication technology (ICT) is considerably being incorporated within the management of upper learning establishments and university libraries in the Republic of Kenya. However, they argue that this trend has been hindered by many factors like lack of funds to get equipment and necessary tools like computers also as putting in networks, lack of well consummate personnel in data technology, also as challenges about poor telecommunications infrastructure within the country. They conjointly list
the strengths and weaknesses of the library software package as having directly had an effect on the library management and services.

The organization culture, library leadership, and trained library personnel play an important role in crucial the role and standing of educational libraries. Many authors, Sife (2008); Minishi-Majanja (2007); Odero-Musakali and Mutula, (2007), have known that lack of trained personnel and negative perception of university management of Technology, as major factors that hinder effective adoption and utilization of ICT in higher learning institutions' university libraries. This so shaped the premise of this study, hence has to be compelled to assess the educational library automation practices.

2.4. Chapter Summary
The worldwide unfold and evolution of knowledge and communication technology (ICT) throughout last forty years had been fast and difficult to the prime company and ICT management. Throughout this era, new industries have emerged, new structures are created, new issues have cropped up, new responsibilities are outlined and settled, and new management ways are introduced. New systems are, and area unit being developed, that deeply have an effect on the ways that during which organizations operate resulting in the necessity for innovative structure and ICT management.

The effects of the new technology area unit profound and are felt so much and wide, together with public universities in the Republic of Kenya. The fast infusion and diffusion of knowledge and communication technology into public universities in the Republic of Kenya raise vital management problems for prime management and therefore the technical workers. Though ICT is utilized in organizations to achieve a
bonus over previous ways that of doing things, fashionable approaches to management of knowledge systems, that acknowledge distinct platform of practical areas, application area units, and technical areas are used for the institution of the many PC centers publically universities while not clear aims, objectives, and management. This has semiconductor diode to associate degree alienation of those units from their organizations inflicting them to control mostly severally of the organizations they're supposed to serve. This is often due, in part, to the arrangement of objectives.
CHAPTER THREE

RESEARCH METHODOLOGY

3.0. Introduction
This chapter presents the analysis methodology used during this study. They include varied procedures, schemes, and algorithms utilized in the analysis. All the ways employed by an exploration throughout a research study area unit are termed as research ways. They are basically planned, scientific and value-neutral. They embody theoretical procedures, experimental studies, numerical schemes, applied mathematics approaches, etc. analysis ways facilitate America collect samples, knowledge, and notice an answer to a retardant(Ogula 2005).

Particularly, research project ways involve explanations supported collected facts, measurements, and observations and not on reasoning alone. They settle for solely those explanations which might be verified by experiments. Analysis methodology could be systematic thanks to solving a retardant. It is a science of finding out however analysis is to be meted out. Basically, the procedures by that researchers move their work of describing, explaining and predicting phenomena area unit referred to as analysis methodology. It is conjointly outlined because the study of ways by that data is gained. Its aim is to offer the work set up of analysis. It enclosed research design, area of the study, target population and sample, sampling procedure, instruments of data collection, data collection procedure, data analysis, data presentation and ethical issues(Merriam 2001).

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3.1. Research Design
The study utilized a descriptive analysis style. In line with Trochim et al, (2006), a descriptive research design was best for this type of analysis wherever studies were conducted to demonstrate relationships between things or interactions between teams of individuals. The technique that was used beneath descriptive methodology was the survey approach. As explicit by Majumdar (2005), a survey may be a reliable supply of first-hand info since the researcher directly interacts with the participants and is in a position to assemble factual information, information on attitudes and preferences beliefs and predictions, behavior, and experiences.

3.2. Area the Study
The study was conducted in multimedia University library, a public university in Kenya. This was as a result of Kenya’s major developments and achievements in the use of automatic systems had been, chiefly within the educational and analysis libraries, and like several alternative public university libraries, Multimedia University was a reproduction of a contemporary university library in Kenya.

3.3. Target Population
According to Ogula (2005), a population refers to any cluster of establishments, folks or objects that have common characteristics. The term target population refers to any clearly determinable cluster of people and/or families who are experiencing a drag or want. Choosing the target population is that the initial of the many vital choices one can build. It is vital as a result of an outsized extent it sets the parameters for the complete study. If you were conducting the requirements assessment for office, the agency would
in all probability outline the target population for you. During this case, you may have
to be compelled to outline the population as a bunch exercise.

The target population is that the total clusters of people from the sample could be
drawn. Generalizability refers to the extent to which we will apply the findings of our
analysis to the target population we have a tendency to be curious about. In this case,
the target population consisted of the chief librarian, two assistant librarians, one
hundred and five division library employees and 2100 library users. The users enclosed
the third year, fourth year and postgraduate students of Multi-Media University. This
amounted to a target population of 2208.

3.4. Sampling Techniques and Sample Size
The sample comprised of an entire population of the Librarian, 2 assistant librarians,
20% of division employees and 10% of library users. In line with Mugenda (2004), this
20% sampling methodology is representative enough for such tiny populations. This
was best fitted to this study thanks to the tiny range of the population. According to
Saunders et al., (2008), 10% of the population is representative enough and best suited
to make a sample. This was suggested during this study thanks to the massive range
of users. It so fashioned a sample of 234 respondents. Random sampling was utilized in
choosing the division employees. Stratified sampling was utilized in choosing library
users in line with their stage of study. This methodology was best-suited thanks to the
stratified nature of the users in terms of various faculties of colleges to that they belong
and their different stages of their study. The table below shows the sample frame of the
students:
Table 3.1 Population Sample Frame

<table>
<thead>
<tr>
<th>S / N</th>
<th>Occupation</th>
<th>Population</th>
<th>Sample (10%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Librarian</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>Ass. Librarian</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>Technical</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>4</td>
<td>Acquisitions</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>5</td>
<td>Reference</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>6</td>
<td>E-Resources</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>7</td>
<td>Circulation</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td>8</td>
<td>Library Users</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

Total: 220 (10% = 22)


3.5. Data Collection

This study relied on primary and secondary data. The analysis utilized the subsequent data collection tools and data collection procedure.

3.5.1. Data Collection Tools

Questionnaires with semi-structured queries were used. The tool was chosen considering a large amount of information that may be collected by the fastest doable time. It had been conjointly deemed applicable for this study as a result of it builds uniformity and standardization of inquiries to the respondents and extremely simple to investigate furthermore. The questionnaires were tailored for straightforward use by the
respondents within the study. Document review for secondary data was used to gather information that had been recorded within the establishment.

3.5.2. Data Collection Procedure
An authorization letter was obtained from the university and connected to the form thus on facilitate in up the response rate. The questionnaires were self-administered by the investigator to the respondents throughout library operating hours. The respondents were allowed two days to fill them and then they were collected for analysis by the researcher.

3.6. Validity and reliability
Validity refers to the degree to which proof and theory support the interpretation of check scores entailed by the use of tests. The validity of the instrument is that the extent to that it will live what it is presupposed to live. Consistent with Mugenda and Mugenda (1999), Validity is that the accuracy and significance of inferences that are supported by the analysis results. It is the degree to which ends obtained from the analysis of the information truly represent the variables of the study. The analysis instrument is valid in terms of content and face validity. The content connected technique measures the degree to that the queries things mirrored the particular areas lined.

3.6.2 Reliability
Reliability is that the ability of a hunting instrument to systematically live characteristics of interest over time. It is the degree to that a hunting instrument yields consistent results or knowledge when continual trials. If an investigator administers a
check to an issue double and gets an equivalent score on the second administration because of the initial check, then there is reliability of the instrument, Mugenda, and Mugenda (1999). Reliability is bothered with consistency, reliability or stability of a check, Nachmias, and Nachmias (1996). The investigator measured the reliability of the form to work out its consistency in testing what they were meant to live. The check re-test technique was used to estimate the reliability of the instruments. This concerned administering an equivalent check double to an equivalent cluster of respondents. Pilot testing during this study concerned one member from every department therefore on a test the appropriateness of the queries and their comprehension. The identical form was administered to an identical class of respondents throughout the study. The answers were then compared to work out the similarity. The content validity was ensured by supervisors’ knowledgeable opinions. Their observations and suggestions were accustomed to review the draft form before final adoption.

3.7. Data Analysis
Data analysis (DA) is that the science of examining data with the aim of drawing conclusions about that information. It is the method of systematically applying statistical and/or logical techniques to explain and illustrate, condense and recap, and value information(Shamoo and Resnik 2009). Varied analytical procedure gives a way of drawing inductive inferences from information and identifying the signal (the development of interest) from the noise (statistical fluctuations) gift within the information (Shamoo et al, 2003).
While information analysis is majorly quantitative, the analysis will embrace applied math procedures over and over. Analysis becomes an in progress reiterative method wherever information is endlessly collected and analyzed nearly at the same time. Indeed, researchers typically analyze for patterns in observations through the complete information assortment part (Savenye, et al, 2004). The shape of the analysis is decided by the precise quantitative approach taken (field study, anthropology content analysis, oral history, biography, unassertive research) and also the type of the information (field notes, documents, audiotape, videotape).

3.7.1. Data Analysis Tools
The data was analyzed using quantitative strategies. These embrace the mean and percentages.

3.7.2. Data Analysis Techniques
The information collected was analyzed using statistical, mathematical and data interpretation techniques that embrace the five-point Likert scale. Within the Weighted Average score technique, specific weights were present on the idea of the ranks given by respondents or the strength of the opinions. Data analysis was done using SPSS, (Statistical Package for the Social Sciences).

3.8. Data Presentation
The results of the analysis were presented using tables. This was because tables effectively present data for reference purpose. The aim of presenting results of experiments into tables is two-fold. First, it is visible to examine the information and
see what happened and build interpretations. Second, it is typically the simplest when showing or giving the information to others, (Schwandt, 2001).

3.9. Ethical Issues
Ethics mechanisms, as well as moral codes and pointers, and analysis ethics committees are means of making an attempt to confirm that moral standards are met and maintained in the analysis. This study utilized human participants, and intrinsically, sure moral problems were self-addressed. Among the numerous problems that were thought about are embodying consent, confidentiality, information protection, fairness, integrity and lawfulness, (Letter 1996). This was through with the hope that it may promote trust between the research worker and therefore the respondents. Within the conduct of the analysis, the survey form was written in a very clear and pithy manner to stop conflicts among respondents. People that participated in the analysis got ample time to reply to the queries expose on them to avoid errors and inaccuracies in their answers.

3.10. Chapter Summary
The purpose of an exploration style was to maximize valid answers to an exploration question. This was achieved by a quantitative and descriptive approach that might be discourse. The questionnaires were the most information assortment instruments. Information was collected by means that of administering questionnaires to the targeted parts. The researcher then created a sense of knowledge by employing a descriptive methodology to investigate it and conjointly ensured that the information was trustworthy.
CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND DISCUSSIONS

4.0 Introduction
This chapter deals with data presentation and analysis. The results of this study are presented, analyzed, and interpreted in the context of the purpose of the study and the research questions formulated. The main purpose of the study was to evaluate strategies in relation to academic library automation practices in Kenya. Multimedia University was singled out for this study.

4.1 Bio Data
The research sought to analyze the profile of the respondents. This includes the response rate, gender, education levels of the respondents, the department worked in and how long they have worked in the organization. The following were the findings of this study.

4.1.1 Respondents rate
The researcher sampled 234 respondents. This is shown in table 4.1 below

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expected respondents</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Successful respondents</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

Table 4.1: Respondents rate
The response rate was 96.2%. Only 9 respondents did not return the questionnaires, and they were specifically library users (students). The respondents provided reliable evaluation of strategies in relation to academic library automation practices.

4.1.2. Gender analysis of respondents
The researcher sought to find out the gender representation of respondents. Data regarding the sex of participants was therefore collected, analyzed, and presented in the table below.

**Table 4.2: Gender analysis of Respondents**

<table>
<thead>
<tr>
<th>Gender</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>13</td>
<td>57.8%</td>
</tr>
<tr>
<td>Female</td>
<td>9</td>
<td>42.2%</td>
</tr>
<tr>
<td>Total</td>
<td>22</td>
<td>100%</td>
</tr>
</tbody>
</table>

The findings in table 4.2 revealed that 57.8% of the respondents were male, and 42.2% of the respondents were females. This showed that the sample was fairly representative in terms of gender. However, there were lesser female users as compared to male users.

4.1.3. Age analysis of respondents
The study sought to establish the demographic profile of the respondents. Data giving information of the age of the respondents was therefore analyzed and presented below.
Table 4.3 Age analysis of respondents

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>18 - 25 years</td>
<td>14</td>
<td>65.4%</td>
</tr>
<tr>
<td>26 - 35 years</td>
<td>36</td>
<td>16.0%</td>
</tr>
<tr>
<td>36 - 45 years</td>
<td>53</td>
<td>23.8%</td>
</tr>
<tr>
<td>46 - 55 years</td>
<td>3</td>
<td>1.3%</td>
</tr>
<tr>
<td>56 years and above</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Total</td>
<td>225</td>
<td>100%</td>
</tr>
</tbody>
</table>

With regard to age distribution of the library users, the study established that majority of the respondents were between 18 and 25 years and were represented by 65.4%. This implies that majority of the respondents were students, a group that was more significant to this research. Those aged between 26 and 45 years were majorly employees and represented a total of 33.3% of the sample. The staff therefore represented a reasonable sample to compare their results with those of users.

4.1.4 Education background of respondents
The study sought to find out the respondents’ level of education. The data obtained in relation to the education levels of library staff was analyzed and presented in the table below:
Table 4.4: Respondents Education level

<table>
<thead>
<tr>
<th>Education level</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Secondary</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Diploma</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>University</td>
<td>2</td>
<td>0</td>
</tr>
</tbody>
</table>

**Total** 2 2 5 100

According to the findings, the researcher established that no respondent had less than diploma level of education. 22.7% of the respondents had diploma level education and 11.1% had university level of education. This implies that respondents, mostly staff, were learned and informed hence their perception were trusted as captured in the questionnaires.

4.1.5 Duration of employment and service

The researcher in this section sought to determine the duration the staff respondents had worked in the organization. Data obtained in relation to duration respondents worked was analyzed and presented in the table 4.5 below:
Table 4.5: Analysis of duration Respondents worked

<table>
<thead>
<tr>
<th>Duration worked</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 3 years</td>
<td>1</td>
<td>6.7%</td>
</tr>
<tr>
<td>3 - 6</td>
<td>1</td>
<td>34.6%</td>
</tr>
<tr>
<td>7 - 10</td>
<td>2</td>
<td>26.7%</td>
</tr>
<tr>
<td>11 - 14</td>
<td>1</td>
<td>13.2%</td>
</tr>
<tr>
<td>15 years and above</td>
<td>1</td>
<td>6.7%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>4</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

According to table 4.5 above, only 6.7% of the respondents had worked below 3 years. 46.7% had worked between 3-6 years, while 46.7% had worked between 7-10 years, 13.2% had worked between 11-14 years, whilst only 6.7% had worked for 15 years and above. The study implies that majority worked between 3-10 years. It can be concluded that employees enjoyed working with the organization and their responses to the questionnaires can be trusted as a true representation of the situation in the organization since most of them had a long working relationship with the organization due to a low turnover rate.

4.2. Evaluation of Academic Library Automation Practices

The study sought to evaluate academic library automation practices in public universities. The researcher sought to identify issues concerning library automation and how they influence effective library practices.
4.2.1 Continuous Teamwork and Interuniversity Cooperation

The researcher sought to find out the extent to which universities embrace interuniversity cooperation. The respondents were asked to state the extent of agreement as far as interuniversity cooperation of their libraries is concerned. Data obtained from the findings were analyzed and presented in the table below, where the score of 5 represents those who agree that their universities engagement in interuniversity cooperation, is very often, 4 for often, 3 for moderate, 2 for less often and 1 for not at all.

Table 4.6: Continuous Teamwork and Interuniversity Cooperation

<table>
<thead>
<tr>
<th>S. No</th>
<th>Category</th>
<th>Ranks</th>
<th>Weighted averages</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>1</td>
<td>Inter-library lending</td>
<td>98</td>
<td>72</td>
</tr>
<tr>
<td>2</td>
<td>provision of external access</td>
<td>101</td>
<td>82</td>
</tr>
<tr>
<td>3</td>
<td>Incompatibility issues</td>
<td>58</td>
<td>79</td>
</tr>
<tr>
<td>4</td>
<td>Prohibition by the programmer</td>
<td>65</td>
<td>75</td>
</tr>
</tbody>
</table>

In the above table, it is evident enough that out of the 225 successfully filled questionnaires, 98 (44%) of the respondents were in agreement that interlibrary lending was very often, 72 (32%) of the respondents indicated that it was often, 35 (16%) of them agreed that interlibrary lending was just moderate while 19 (8%) of them indicated that the activity was less often. Provision of external access was agreed upon by 101
(45%) respondents that it was very often, 82 (36%) of the respondents agreed that it was often, 34 (15%) of them indicated that it was only moderate, 6 (3%) of the respondents recorded that the provision of external access was less often as the other 2 indicated that there was no such activity. According to the results above, 58 (26%) of the respondents were in agreement that incompatibility issues was very often, 79 (35%) of them indicated that it was often, 85 (38%) of the respondents agreed that the incompatibility issues were moderate while the other 3(1%) recorded that it was less often. As for the prohibition by the programmer, 65 (29%) of the respondents agreed that it was very often, 75 (33%) of them indicated that it was often, 78(35%) respondents recorded that it was moderate while other 5 (2%) indicated that prohibition by the programmer was less often.

The results indicated that to a large extent, the respondents were in agreement that there is interuniversity library cooperation. According to the findings, inter-library lending at a score of 4.09 indicated that universities were keen on promoting teamwork and cooperation among university libraries. This was the case with provision of external access at a score of 4.21. However, there were cases of moderate rating on incompatibility issues and prohibition by programmers. Results indicate that such issues were fairly recurrent at a score of 3.87 each. This implies therefore that the university libraries have to put in place mechanisms to ensure effective compatibility and access.

These findings are in agreement with Naidu (2006) who stated that with the application of ICTs in libraries, interuniversity access to information has become more dynamic for
the scholars who need to gain specialized knowledge. Modern ICT tools has changed traditional teaching methods and made distance learning education more effective and efficient by providing multimedia data repositories which can serve as continuously changing up-to-date information. ICTs facilitate closer cooperation among libraries and distant learning communities. Scholars have found out that ICTs in academic libraries have become more effective tool into the dissemination of information to the scholarly communities through E-learning, virtual learning, distributed learning, network and web-based learning. Libraries use ICTs for teaching and learning activities. It can be referred as intentional use of ICTs to enhance closer cooperation in teaching and learning which Naidu(2006) argues that it can be done online or offline or via networked or standalone computers and other electronic devices.

4.2.2 Availability of Appropriate Technology
Further, respondents were asked on the extent of availability of appropriate library automation technology. Data collected were illustrated in the table below.
### Table 4.7: Availability of Appropriate Technology on Library Automation

<table>
<thead>
<tr>
<th>S. No</th>
<th>Category</th>
<th>Ranks</th>
<th>Weighted Averages</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>1.</td>
<td>Support for automation</td>
<td>76</td>
<td>99</td>
</tr>
<tr>
<td>2.</td>
<td>ICT training</td>
<td>65</td>
<td>98</td>
</tr>
<tr>
<td>3.</td>
<td>Provision of e-Resource facilities</td>
<td>131</td>
<td>54</td>
</tr>
</tbody>
</table>

Form the findings in table 4.8, on the Availability of Appropriate Technology on Library Automation, 131(58%) respondents strongly agreed that there was a provision of e-resources in the library, 54 (24%) of the respondents agreed that it was in place, 24(9%) of them moderately agreed while 5(2%) of the respondents disagreed that there was a provision of e-resource facilities and one of them strongly disagreed with the statement. With ICT training, 65(29%) of the respondents strongly agreed that it was in place, 98 (44%) of them only agreed that ICT training was provided, 39 (17%) of the respondents moderately agreed with the statement, 18(8%) of them disagreed as 5(2%) of the respondents strongly disagreed. On support for automation, 76 (35%) of the respondents strongly agreed that it was fully supported by the university management, 99 (44%) of the respondents only agreed that automation was supported, 45(20%) of them moderately agreed, while 3(1%) of them disagreed as the other 2 strongly disagreed. As it is explained above, it is therefore evident that majority of the
respondents agreed that there was only a moderate availability of appropriate technology on library automation.

According to the findings, provision of e-Resource facilities was moderately rated with a score of 3.87. ICT training and support for automation were rated at 3.89 and 4.08 respectively. This demonstrated that although there was sufficient commitment for university library automation, there lacked sufficient ICT training on such technology and that there was only a moderate provision of e-resource facilities. This implies therefore that effective commitment on the part of university library administration should be enhanced. A regression coefficients analysis on the availability of appropriate technology was as follows.

The set goals on the access to the appropriate technology have been a challenge. The intended goal is the provision of accessibility to shared information resources, ensuring continuing library development through the effective use of technology, training, support and consultation, seeking the most sustainable models of delivery, research, evaluate, implement and communicate information about new and emerging technologies, provide library advocacy and leadership for issues of concern to college libraries, enhance library services and resources through mutually beneficial alliances, Bruce and Kelly (2008). This is in line with the findings of this study. Bruce and Kelly attest to challenges in the provision of sufficient support in modern libraries. The same has been the Kenyan case. There was only a moderate rating in terms of the availability of appropriate technology.
The estimated equation as generated above will be:  \[ Y = 1.8379 + 0.0270x_2 + e \]

Where, \( y \) = Effective Library Automation

\[ x_2 = \text{Availability of Appropriate Technology on Library Automation} \]

\( e = \text{margin of error.} \)

The positive beta value of 0.0270 indicates that availability of appropriate technology on library automation has a positive influence on effective library automation in public universities. This implies that a unit increase in availability of appropriate technology increases the effectiveness of library automation in public universities by approximately 2.7%. The \( t \)-Value of 3.89 is higher than 2.0 and the \( P \)-value of 0.029 is lower than 0.05. This implies that the estimated results of the coefficients are both individually and statistically significant. This demonstrates that reasonable attention should be paid to mechanism that can enhance the availability of appropriate technology on library automation.

A section of the respondents were requested to indicate whether, in their opinion, there was significant support for automation from the university administration. Their responses were as shown in the table below.

<table>
<thead>
<tr>
<th>Coefficients</th>
<th>Standard Error</th>
<th>( t ) Stat</th>
<th>( P )-value</th>
<th>Lower 95%</th>
<th>Upper 95%</th>
<th>Lower 95.0%</th>
<th>Upper 95.0%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>1.837939</td>
<td>0.445944</td>
<td>4.121458</td>
<td>0.025892</td>
<td>0.418747</td>
<td>3.257132</td>
<td>3.257132</td>
</tr>
<tr>
<td>( x_2 )</td>
<td>0.027025</td>
<td>0.006934</td>
<td>3.897264</td>
<td>0.029976</td>
<td>0.004957</td>
<td>0.049093</td>
<td>0.049093</td>
</tr>
</tbody>
</table>
Table 4.9: University Administration’s Support for Automation

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Library staff</td>
<td>68</td>
<td>6</td>
<td>74</td>
</tr>
<tr>
<td>Library users</td>
<td>141</td>
<td>10</td>
<td>151</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>209</td>
<td>16</td>
<td>225</td>
</tr>
</tbody>
</table>

Source (Field Survey)

The results show that university administrations support library automation. A further analysis to test the homogeneity of responses from the two groups of respondents using the chi-square test was carried out and the findings are as shown in the table below, where the formula for calculating the expected (E), is as follows:

\[
\text{Expected (E)} = \frac{(A) \times (B)}{N} = \frac{209 \times 74}{225} = 68.74
\]

Table 4.10: Chi-Square test for homogeneity of responses

<table>
<thead>
<tr>
<th>Observed</th>
<th>Expected</th>
<th>((O-E)^2)</th>
<th>((O-E)^2 / E)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(O)</td>
<td>(E)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>68</td>
<td>68.74</td>
<td>0.5476</td>
<td>0.0081</td>
</tr>
<tr>
<td>141</td>
<td>140.26</td>
<td>0.5476</td>
<td>0.0039</td>
</tr>
<tr>
<td>6</td>
<td>5.26</td>
<td>0.5476</td>
<td>0.1233</td>
</tr>
<tr>
<td>10</td>
<td>10.74</td>
<td>0.5476</td>
<td>0.0547</td>
</tr>
</tbody>
</table>

\[
\sum \frac{(O-E)^2}{E} = 0.19
\]
The table value for chi square for one degree of freedom ((2-1) (2-1)) at 0.05 significance level is 3.841. The calculated value of chi sq is 0.19, which is less than the table value. This means that there was no significant difference on the respondents as pertains their evaluations of university library automation practices.

### 4.2.3 Infrastructure, Finances and Human Resources,

In this section, the researcher wanted to know the extent to which universities provide support in terms of infrastructural, financial and human resources and their effect on library automation practices. Respondents were asked to give their opinion on the extent of resource support. The findings were captured on a five-point scale on the basis of their level of agreement as shown in the chart below.

The score of 5 was given to those respondents who strongly agreed, 4 to those who agreed, 3 to those who reluctantly agreed, 2 to those who disagreed, and 1 to those who strongly disagreed. On the basis of this, weighted average was employed,

\[
\text{Weighted average} = \frac{\sum f(n)}{N}
\]
Table 4.11: library Automation Resources: Infrastructure, Finances and Human

<table>
<thead>
<tr>
<th>S.No</th>
<th>Category</th>
<th>Ranks</th>
<th>Weighted Averages</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Level of Agreement</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>1.</td>
<td>Financial support</td>
<td>76</td>
<td>112</td>
</tr>
<tr>
<td>2.</td>
<td>Technological support</td>
<td>87</td>
<td>96</td>
</tr>
</tbody>
</table>

According to findings shown above, majority of the respondents who comprised of both library staff and users agreed that there was sufficient resource support. This was true especially with the 4.17 score on financial support, 4.14 on technological support, and 4.12 on human resource support. This demonstrates that emphasis on library automation by public universities was stressed to a large extent. There is a clear indication that there was a strong relationship between resource support and effective library automation practices.

This study has established that there has thus far been sufficient resource support. This seems to contradict studies that have shown that several factors such as financial factors, technological factors, human factors and cultural factors may have been a barrier in ensuring utilization of ICTs (Ghuloumy and Ahmed, 2011).
Table 4.12: Library Automation Resources: infrastructure, finances and human

<table>
<thead>
<tr>
<th>Coefficients</th>
<th>Standard Error</th>
<th>t Stat</th>
<th>P-value</th>
<th>Lower 95%</th>
<th>Upper 95%</th>
<th>Lower 95.0%</th>
<th>Upper 95.0%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>1.30747</td>
<td>0.407949</td>
<td>3.204984</td>
<td>0.049144</td>
<td>2.605745</td>
<td>0.009194</td>
<td>2.605745</td>
</tr>
<tr>
<td>X</td>
<td>0.11436</td>
<td>0.021585</td>
<td>5.298157</td>
<td>0.013123</td>
<td>0.183053</td>
<td>0.045667</td>
<td>0.183053</td>
</tr>
</tbody>
</table>

The estimated equation as generated above will be: \( Y = 1.3075 + 0.1144X_3 + e \)

Where, \( Y = \) Effective Library Automation

\( X_3 = \) Library Automation Resources

\( e = \) margin of error.

The positive beta value of 0.1144 indicates that Library Automation Resources has a positive influence on effective library automation in public universities. This implies that a unit increase in library automation resources increases the effectiveness of library automation in public universities by approximately 2.7%. A t-Stat of 5.29 and P-value of 0.013 indicates that the coefficient, library automation resources, is statistically significant.
CHAPTER FIVE

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

5.0 Introduction
This Chapter presents the summary of study findings, conclusion and recommendations which are provided below based on the objectives of the study.

5.1 Summary of Study Findings
Library automation practices have an important role in library effectiveness. Many university libraries have challenges in ensuring effective automation of their services. This study found that as a result of inadequate commitment on the part of the involved parties, there was sufficient allocation of resources to support technology and ICT training. The current study aimed at evaluating library automation practices.

5.1.1 Role of Continuous Teamwork and Interuniversity Library Cooperation
From the findings, the respondents indicated that there a significant interuniversity library cooperation. According to the findings, inter-library lending, provision of external access were significantly rated. Public universities engaged in activities that promote cooperation. It was also noted that there was a clear indication of a strong relationship between effective library service dispensation and interlibrary cooperation. However, there existed incompatibility challenges where software and programs do not work in complementing one another, supporting or relating with the commands to execute certain tasks as the user wishes and prohibition by programmers. This implies
therefore that the university libraries have to put in place mechanisms to ensure
effective compatibility and access.

Selecting the right software for an organization or institution such as the library could be challenging tasks considering the fact those organizations adopt these technologies with the aim of: increasing their productivity, addressing operational challenges, increasing their level of competitiveness and reducing their cost of operation. The inability to have a proper strategy in place for selecting the right software could significantly hamper the efforts towards achieving these goals.

5.1.2 Evaluation of Availability of the Right Automation Technology

From the findings, the majority of respondents agreed that there was only a moderate availability of appropriate technology on library automation. According to the findings, provision of e-resource facilities was moderately rated. This demonstrated that although there was sufficient commitment for university library automation, there lacked sufficient ICT training on such technology and that there was only a moderate provision of e-resource facilities. This implies therefore that effective commitment on the part of university library administration should be enhanced through provision of financial resources.

From the study findings, respondents agreed that there was sufficient resource support. This demonstrates that emphasis on library automation by public universities was stressed to a reasonable extent. There was a clear indication that there was a strong relationship between resource support and effective library automation practices. If the training and development function is to be effective in the future, it will need to move beyond its concern with techniques and traditional roles. The strategic approaches that the organization can take to training and development, and suggests that the choice of approach should be based on an analysis of the organization’s needs, management and staff attitudes and beliefs, and the level of resources that can be committed. This more strategic view-point should be of use in assessing current efforts as well as when planning for the future.

5.2. Conclusions

Based on the research objectives of the study, it was concluded that in order to have effective library automation, interuniversity library cooperation needs to be enhanced. The findings showed that there is a strong positive relationship between interlibrary cooperation and library automation. However, despite the significant commitment on the part of libraries, more needs to be done to ensure compatibility of library technologies. The universities must therefore step up efforts to minimize incompatibility issues in library team-working.
The provision of e-resource facilities was moderately rated. From the findings; there was only a moderate availability of appropriate technology on library automation. This demonstrated that although there was sufficient commitment for university library automation, there lacked sufficient ICT training on such technology and that there was only a moderate provision of e-resource facilities. Sufficient and effective commitment on the part of university library administration on the search for the right technology must be enhanced. A good training arrangement will facilitate participation effective exploitation of technologies available for automation.

This study has established that there has far been sufficient resource support. Therefore it is a clear indication that there is a strong relationship between resource support and effective library automation practices. However, it seems to contradict studies that have shown that several factors such as financial factors, technological factors, human factors and cultural factors may have been a barrier in ensuring utilization of ICTs in a university library.

5.3 Recommendations

The study recommends that university library administration should integrate their ICT training arrangements as an on-job training program. This is aimed at achieving an all-participatory approach to automation as well as achieving better automation practices.

Secondly, the study recommends that proper mechanisms should be put in place to carry out periodic audit of library automation resource allocation. Thirdly, there is need to adopt a common automation technology so as to solve incompatibility issues.
5.4 Suggestions for Further Research
This research adopted a descriptive design approach based on one institution, namely, the Multimedia University. This consequently limits the generalization of results. This study therefore recommends a similar study that will employ longitudinal survey and employ case study analysis to corroborate these research findings in more similar institutions. Further research on the suitability of the automation technologies adopted is recommended.
REFERENCES


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Kulkarni Pallavi P. (2013): A Literature review training and development and quality of


Chinese Librarianship: An International Electronic Journal, issue 32

www.whiteclouds.com/iclc/cliej/cl32U1.pdf


Dear Respondent

My name is Obiri Marceline, a post-graduate student undertaking a Masters degree in Library and Information Studies in Kisii University and currently I am doing a research on “Evaluation of Academic Library Automation Practices in Kenya, With reference to Multimedia University”. The researcher has identified you as a potential respondent to assist in providing relevant information relating to the objectives of this study. The information given will only be used for the purpose of this study and will be treated as confidential. Thank you for your co-operation.

Section A: General Information

Level of education

Years of experience in the current position

Your Designation

Your Department

Section B: Library Automation Questions
1. a) What are the areas of ICT application in which the library has developed expertise?

........................................................................................................................................
........................................................................................................................................
........................................................................................................................................

b) Have you received any ICT training in the last two years? (please tick one)

Yes (  )      No (  )
If yes, indicate the training(s) received
........................................................................................................................................
........................................................................................................................................
If No, why?
........................................................................................................................................
........................................................................................................................................

c) How would you describe your library in terms of computerization?

Not computerized (  )    Planning to computerize (  )    Computerized (  )

Fully computerized (  )

d) Which kind of system are you using in your library?

MARC-based system (  )    Non MARC-based system (  )

e) Which library software do you use in your library?

ALICE (  )    LIBMAN (  )    KOHA (  )    MANDARIN (  )

Others (Please specify).................................................................................................

f) How do you rate your automation software’s performance so far?

95
2. Effectiveness of ICT

a) Please indicate your degree of agreement with each statement by using the following rating scale, 5 = Strongly Agree ( ) 4 = Agree ( ) 3 = Neutral ( ) 2 = Agree ( ) 1 = strongly disagree

(To the table below, kindly tick where appropriate)

<table>
<thead>
<tr>
<th>Statement</th>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>i) Common library automation standards will enhance interlibrary cooperation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ii) University libraries will benefit more if they had common library automation standards</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>iii) There is need for a library automation coordinating agency</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

b) In your opinion, to what extent do you agree that your library is committed to enhancing quality automation standards?

a) Strongly Agree ( ) b) Agree ( )

c) Reluctantly Agree ( ) d) Not sure ( )

e) Cannot Agree ( )

c) Is your library involved in any cooperation or collection ventures with other libraries?

Yes ( ) No ( )

If yes, what kind of cooperation/collaboration are you involved in?
Inter-library lending ( ) Union catalogue ( ) Centralized cataloging ( )

Other (please specify) ..........................................................................................................................
.................................................................................................................................................

d) Does your library provide external access to the online public access catalogue (OPAC)?

Yes ( ) No ( )

If yes, does the catalogue allow other libraries to download bibliographic records for their own use?

Yes ( ) No ( )

If No, what could be the reasons?

Incompatibility issues ( ) Prohibition by the programmer/vendor ( )

Libraries have not expressed any need for this ( )

You do not want others to copy yours records ( )

e) What automation challenges does your library face in the application of ICT?

...................................................................................................................................................
...................................................................................................................................................

f) What suggestions would you offer to these challenges? ............................

...................................................................................................................................................
...................................................................................................................................................

3. Library Automation Resources

a) In your own opinion, do you think there is significant support for automation from the university administration?
YES ( ) NO ( )

If yes, to what extent do you rate your university administration’s commitment towards supporting library automation?

a) A very large extent ( ) b) A large extent ( )
c) A moderate extent ( ) d) A small extent ( )
d) A very small extent ( )

b) To what extent does your university support automation with reference to the following elements?

Please indicate your degree of agreement with each statement by using the following rating scale, 5= Strongly Agree ( ) 4= Agree ( ) 3= Neutral ( ) 2 = DisAgree ( ) 1= strongly disagree

<table>
<thead>
<tr>
<th>Statements</th>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>i) Financial support</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ii) Technological support</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>iii) Human Resources</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Thank you.

APPENDIX II: QUESTIONNAIRE FOR LIBRARY USERS.
Dear Respondent

My name is Obiri Marceline. I am a post-graduate student undertaking a Master degree in Library and Information Studies in Kisii University and currently I am doing a research on “Evaluation of Academic Library Automation Practices in Kenya, With reference to Multimedia University”. The researcher has identified you as a potential respondent to assist in providing relevant information relating to the objectives of this study. The information given will only be used for the purpose of this study and will be treated as confidential. Thank you for your co-operation.

Section A: General Information

Faculty………………………………………………………………………………………………………………………………………………………………………………

Department…………………………………………………………………………………………………………………………………………………………………………………………

Course………………………………………………………………………………………………………………………………………………………………………………………………

Section B: Automation Questions

1. How did you learn to handle the e-Resources?

   Training from university library ( ) Guidance from colleagues and friends ( )
   Self instruction ( ) External courses ( ) Any other ( )

2. How long have you been using the e-Resources section?

   Less than 6 months ( ) 6 months-1 year ( ) 1-2 years ( )
   2-4 years ( ) More than 4 years ( )

3. How often do you use e-Resource section?

   Daily ( ) 2-3 times a week ( )
   2-3 times a month ( ) Once in a month ( )
4. From which place do you most frequently use for e-Resource?
   At university library ( ) Other place in university ( )
   At home ( ) At other place ( )

5. The purpose(s) you mainly use the e-Resources for?
   Research ( ) Education ( ) Any other ( )

6. How has the use of e-Resources has influenced your academic efficiency?
   Use of conventional documents has increased ( )
   Dependency on the e-Resources has increased ( )
   Expedited the research process ( )
   Improved professional competence ( )

7. Up to what extent, are you satisfied with the e-Resource facilities provided by the university library?
   Fully ( ) Partially ( ) Lease satisfied ( ) No comments ( )

8. Are the university library staffs helpful in solving your queries?
   Yes ( ) No ( )
   If yes, how do you rate your institution’s library staff’s expertise when assisting you?
   Outstanding ( ) Satisfactory ( )
   Average ( ) Below average ( )
   Poor ( )
9. Rate your institution’s commitment to library automation

Outstanding ( ) Satisfactory ( )
Average ( ) Below average ( )
Poor ( )

10. Does your university library embrace interuniversity cooperation?

Yes ( ) No ( )
If yes, how often do you use your university library to access other university’s study materials?

Very often ( ) b) Often ( )
Moderate ( ) d) Less often ( )
Not at all ( )

11. Does your university library embrace interuniversity cooperation?

Yes ( ) No ( )
If yes, how often do you use your university library to access other university’s study materials?

Very often ( ) b) Often ( )
Moderate ( ) d) Less often ( )
Not at all ( )

12. What troubles face you mostly when using the e-Resources?

Slow access speed ( )
Difficulty in finding relevant information ( )
Overload of information on the Internet ( )
It takes too long to view/download pages ( )

Privacy problems ( )

Any other, please specify .................................................................

Thank you.