

# Automating Library Services, Users Access and Management System in Maseno University Library

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**Abstract:** - The study was conducted to investigate the effectiveness of Automating Library Services, Users Access and Management System in Maseno University Library. The connectivity, self-efficacy, Technology Acceptance Model theories guided the study. Descriptive research design was chosen and data and information was collected from 51 respondents was adopted using stratified simple random sampling techniques. The methods mainly used in data collections included questionnaire, interview guide, observation and direct interviews with concerned people. The study showed that the capabilities and functionality of the library automation, role of automation in revolutionizing the library, level of automation in Maseno university library and the extent of automated circulation system operation, relationship between automated cataloguing and circulation system operation had some challenges of automation in the provision of information needs of users

cataloguing, and classification and circulation control predominantly by computerization (Dietz et al, 2005).

*Users access:* Is the process for creating and managing access to resources in an information technology (IT) system.

*Management system:* Is an ICT term that refers to a set-up consisting of hardware, software, data and the people who use them and it commonly includes communications technology, such as the Internet.

## 1.2 Theoretical Background

The researcher used the Connectivity Theory (Connectivism) of (Siemens, 2004) which states that, Learning is a process that occurs within nebulous environments of shifting core elements – not entirely under the control of the individual.

Self-efficacy theory of (Bandura,1977). It is a theory of how an individual demonstrates his or her ability to perform a particular job or task.

The Technology Acceptance Model (TAM) was developed by Davis (1989) was also adopted in this study. The model suggests that when library and users are presented with a new technology, a number of factors influence their decision about how and when they will use it.

## 1.3 Contextual Background

Maseno University founded in 1991, is the only library on the globe that lies along the equator (0<sup>0</sup>). The University is located in Maseno Town along Kisumu – Busia road 25km from Kisumu city. Maseno University automating library services started in the year 2005. To enable students and staff for their research undertaking as well as learning various subject for their enhancement of their study. Maseno University library provides electronic resources such as; Access to Global Online Research (AGORA) is an initiative to provide free or lower cost of access to 400 Maseno Scientific journals in agriculture and related biological, environmental and social sciences to public institutions in developing countries.

## 1.4 Statement of the Problem

Very many libraries have heavily invested in electronic books, research databases and electronic journals in order to provide users with better and easier access to their electronic collections and services. Maseno University for example has

## I. INTRODUCTION

This chapter presents the background of the study in four aspects of historical, conceptual, theoretical and contextual, problem statement, general objectives, specific objective, research questions significance of the study and Conceptual framework.

The 21<sup>st</sup> Century has made Library a very fast growing organism with rapid transformation in all spheres of human endeavor due to the deployment of digital technologies. Opoku1 (2009) observes that digital technologies have been integrated into virtually every facet of education, commerce, health, governance and civic activity, and have become critical factors in creating wealth worldwide.

This technological innovation is tremendously impacting all levels of education, particularly in critical areas like higher education. The pervading impact of digital technologies have given birth to a number of digital libraries all over the world.

Library automation began as earlier as 1930s when punched card equipment was implemented in library for circulation and acquisition (Tillitt, 1953).

### 1.1 Conceptual Background

*Automation:* Is an application of machines to perform the different routines and repetitively (Falup, 2007).

*Library automation:* Mechanization of library housekeeping operations such as acquisition control, serials control,

been on the forefront of adopting automated libraries to facilitate access to the library materials and services by the users and to control the information and details pertaining to such usage (Ogbenege, 2013).

However, this has not been achieved due to; who are the actual users, user logins problems, low access speed, inadequate trainings and all inadequate funding t maintain automated libraries.

**1.5 Purpose of study**

To investigate the effectiveness of Automating Library Services, Users Access and Management System in Maseno University Library.

**1.6 Specific Objectives**

To determine the process of automating library services at Maseno University library.

To analyze benefits associated with the use of automated library system in information management in Maseno University.

To examine the relationship between automated library services and management system on users’ access at Maseno University.

To find out the drawbacks to automated library services and management system at Maseno University.

**1.7 Research Questions**

What is the process of automating library services at Maseno University library?

**Conceptual framework**

What benefits are associated with the use of automated library system in information management in Maseno University Library?

What is the relationship between automated library services and management system on users’ access at Maseno University?

What are the drawbacks to automated library services and management systems at Maseno University?

**1.8 Scope of Study**

This study was confined to the use of automation and its management system when using computers in accessing and storing of information.

The study was carried out in Maseno University Library in Kenya.

The study was conducted for a period of one academic year 2017/2018.

**1.9 Significance of Study**

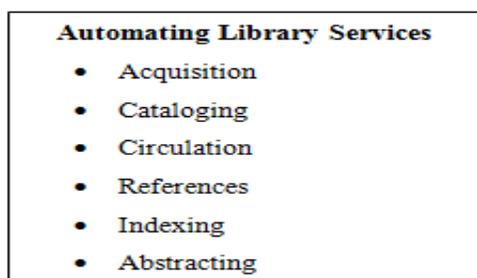
This study will improve on users’ access of automation facility.

The policy makers may gain insight into solutions for the improvement of automated library resources and promote users’ interest and active attendance to the school activities.

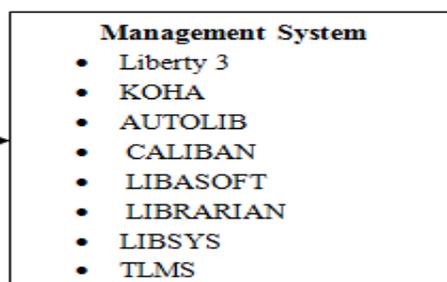
Maseno University may have access to computerized library which will allow its users with quick and prompt services.

Other researchers may also benefit from it study as it may act as base for further reference.

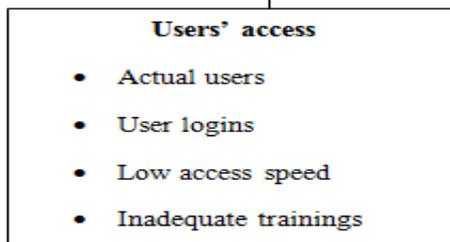
**Independent variable**



**Dependent variable**



**Mediation Variable**



Source: Shabi|& Chinwe, 2011

## II. LITERATURE REVIEW

Digital libraries in 21<sup>st</sup> Century Education provide flexibility of learning in tertiary institutions. It gives the distance learner the opportunity to attain the highest level of education from their offices or homes.

The main purpose of library automation is to free the librarians and allow them to contribute more meaningful to spread of knowledge and information and he gave the basic requirements for library automation as a cleanup collection, principal assistance, Hardware, software, trained staff, user training, maintenance and development (Bhupendra, 2009).

## III. METHODOLOGY

This chapter describes the Research design, study population, sampling techniques, variables and indicators, measurement procedure for data collection, data collection instruments, validity and reliability, data processing and analysis, ethical considerations and study limitations.

### 3.1 Research Design

Descriptive design preferred was employed in this study. This technique allowed the information obtained through interview schedules and observation checklist to be categorized, described, and interpreted in order to answer the research questions of the study. The study design was chosen because cross-sectional studies can be carried out at one time point or over a short period like the one at hand to carry out this research and also because data can also be collected on individual characteristics, including exposure to risk factors, alongside information about the outcome.

The researcher employed two methods namely; Quantitative method and qualitative method while collecting and analyzing data.

### Study Population and Sample Size

Table 1: Sample size of respondents

| No | Category          | Respondents |
|----|-------------------|-------------|
| 1  | Students/ users   | 26          |
| 2  | ICT Professionals | 03          |
| 3  | Lecturers         | 15          |
| 4  | Librarians        | 07          |
|    | <b>Total</b>      | <b>51</b>   |

Source: Morgan and Kref (1998)

### 3.2 Sampling techniques and procedure

The researcher employed stratified simple random sampling techniques. These techniques were selected because they would gather comprehensive and in-depth of respondent's

sample. Corporate resource center which was used in countable organizations and as a result the respondents were purposively sampled and included for the study.

The technique was helpful in establishing the female from male respondents in the study area and treat each member in a given group as capable of being selected for the study.

### 3.3 Methods of Data Collection

The researcher adopted questionnaire, interview guide and observation checklists as research tools for data collection.

Structured or close ended questionnaire and document review guides were used for gathering and collecting data and information from the respondents.

Document analysis was used to obtain information from different sections and departments of the library under the study.

### 3.4 Validity and Reliability

Validity involved the system to be first tested on a personal local machine and verified on other machines within the University library department by running demo library tasks before being officially implemented.

Reliability broadly described the constituency, dependability and repeatability of a project information and data collection, interpretation or analysis.

### 3.5 Procedure for Data Collection

Once the research proposal was approved, the researcher got an introductory letter from the university and presented it Maseno University authority in order to be allowed to access secondary data, reports and carry out research in the areas. Interview guides were designed and reviewed by the researcher.

After scheduling the meeting with respondents, the research team started with in-depth interviews with key informants, followed by personal interviews each lasting 10-15 minutes. During sessions, the researcher was taking down notes and carefully served conversations.

### 3.6 Data Analysis and Processing

Data obtained from the field in raw form was subjected to quality checks, to ensure that the recordings were correctly done with minimal errors.

This entailed editing, repeating interviews where necessary, coding, summarizing, categorizing and grouping similar information, analyzing according to the theme of the study using statistical analysis was done manually using Microsoft Excel Spreadsheets with frequencies presented in a tabular or graphic form like pie-charts, bar graph and frequencies and percentages were generated.

### 3.7 Ethical Considerations

McMillan and Schumacher (2006) state that qualitative researchers need to be sensitive to ethical principles regarding informed consent, confidentiality, anonymity, privacy and being considerate of the participants

The researcher developed a scenario that elicited the cooperation, trust, openness and acceptance of the subjects as well as providing ethical protection of the subjects as discussed in the next section.

#### IV. DATA PRESENTATION, DISCUSSION AND ANALYSIS

This chapter presented, discussed and analyzed the findings about the general characteristics of respondents and findings were presented in statistical tables and figures in chronology with study objectives.

##### *General characteristics of respondents*

| Characteristics      | Frequency | Percentage |
|----------------------|-----------|------------|
| <b>Age Structure</b> |           |            |
| 18 - 25 years        | 13        | 25.4       |
| 26 - 33 years        | 19        | 36.9       |
| 34 - 41 years        | 10        | 20.4       |
| 42 - 49 years        | 7         | 14.6       |

|                        |           |              |
|------------------------|-----------|--------------|
| > 49 years             | 1         | 2.7          |
| <b>Total</b>           | <b>51</b> | <b>100.0</b> |
| <b>Marital status</b>  |           |              |
| Single                 | 13        | 26.2         |
| Married                | 29        | 56.9         |
| Cohabiting             | 8         | 15.4         |
| Divorced / separated   | 1         | 1.5          |
| <b>Total</b>           | <b>51</b> | <b>100.0</b> |
| <b>Gender</b>          |           |              |
| Female                 | 34        | 66.5         |
| Male                   | 17        | 33.5         |
| <b>Total</b>           | <b>51</b> | <b>100.0</b> |
| <b>Education level</b> |           |              |
| None                   | 6         | 10.8         |
| Primary                | 15        | 28.8         |
| Secondary              | 25        | 49.2         |
| Tertiary               | 6         | 11.2         |
| <b>Total</b>           | <b>51</b> | <b>100.0</b> |

##### *The process of automating library services at Maseno University Library*

**Table 3: The process of automating library services at Maseno University library**

| Responses   | Agree |     | Neutral |    | Disagree |    | Total |     |
|---|-------|-----|---------|----|----------|----|-------|-----|
|   | f     | %   | f       | %  | f        | %  | f     | %   |
| Acquisition e-library devices (computers)         | 40    | 78  | 10      | 20 | 1        | 2  | 51    | 100 |
| Distribution of Users in the five libraries under | 51    | 100 | -       | -  | -        | -  | 51    | 100 |
| Distribution of Staff(s) in the Library           | 32    | 63  | 10      | 20 | 9        | 18 | 51    | 100 |
| Distribution of Documents                         | 32    | 63  | 10      | 20 | 9        | 18 | 51    | 100 |
| Distribution of Services Rendered by Library      | 50    | 98  | 1       | 2  | -        | -  | 51    | 100 |
| Library Automation and Computerized Services      | 51    | 100 | -       | -  | -        | -  | 51    | 100 |

Primary Source

*Benefits associated with the use of automated library services*

| Responses                                  | Agree |     | Neutral |    | Disagree |    | Total |     |
|--|-------|-----|---------|----|----------|----|-------|-----|
|  | f     | %   | f       | %  | f        | %  | F     | %   |
| Circulation                                | 34    | 67  | 9       | 18 | 8        | 15 | 51    | 100 |
| Information retrieval                      | 26    | 51  | 20      | 39 | 5        | 10 | 51    | 100 |
| Acquisition / information management       | 51    | 100 | -       | -  | -        | -  | 51    | 100 |
| Computing library statistics               | 40    | 78  | 1       | 2  | 10       | 20 | 51    | 100 |
| Cataloging                                 | 50    | 98  | 1       | 2  | -        | -  | 51    | 100 |
| Manage user accesses and integrated Access | 48    | 94  | 3       | 6  | -        | -  | 51    | 100 |

*The relationship between automating library services and management system on users' access*

**Table 5: The relationship between automating library services and management system on users' access**

| Variables                     | N  | Mean    | R     | r <sup>2</sup> | P     | Decision    |
|-------------------------------|----|---------|-------|----------------|-------|-------------|
| Automated Library Services    |    | 26.2500 | 0.170 | 0.0289         | 0.016 | Significant |
| User access management system | 51 | 34.8400 |       |                |       |             |

*Drawbacks of the Library during Automation at Maseno University Library*

| Responses                             | Agree |     | Neutral |    | Disagree |    | Total |     |
|---------------------------------------|-------|-----|---------|----|----------|----|-------|-----|
|                                       | f     | %   | f       | %  | f        | %  | f     | %   |
| Insufficient funds                    | 49    | 96  | 2       | 4  | -        | -  | 51    | 100 |
| Inadequate staff training             | 49    | 96  | 2       | 4  | -        | -  | 51    | 100 |
| Erratic power supply                  | 38    | 74  | 3       | 6  | 10       | 20 | 51    | 100 |
| Lack of space                         | 38    | 74  | 3       | 6  | 10       | 20 | 51    | 100 |
| User authenticity and logins problems | 40    | 78  | 10      | 20 | 1        | 2  | 51    | 100 |
| Low speed access                      | 50    | 98  | 1       | 2  |          |    | 51    | 100 |
| Lack of user IT knowledge             | 51    | 100 | -       | -  | -        | -  | 51    | 100 |

## V. SUMMARY OF THE FINDINGS, CONCLUSIONS, RECOMMENDATIONS, AND AREAS FOR FURTHER RESEARCH

### 5.1 Summary of Findings

The study findings summarized that the process of automating library services at Maseno University library had a series of advancement of science and technology has made a tremendous improvement in the lifestyle of the society today. It has affected almost all walks of life.

The services rendered with the help of Information Communication Technology (ICT) are faster and more effective. Libraries are not exempted from the impact of the Information Communication Technology.

80% of the implementations of ICT in the library and Information Centers have made a tremendous improvement in the management of these centers. This made the library more users friendly and has increased the efficiency of the library professionals.

The findings revealed that the potentiality of automated library at Maseno university in managing the print and non-print resources and to find the responses of the users' perception towards the benefits of this technology.

The study findings also revealed that automated library used Koha Software as a major e-library application and Koha was being preferred because it was more suitable for the library Automation for the creation of a database and for information retrieval.

### 5.2 Conclusions

The development of digital libraries was gaining a lot of in the 21<sup>st</sup> Centuries. However, some challenges still continue to ensure the digital inclusion of automated library, concerted action geared towards the acquisition of ICT infrastructure was imperative at Maseno University. Internet connections, inadequate computers and human resource management

concerns still continued to hinder automated library services in managing user accessibility.

### 5.3 Recommendations

- ✓ There is needed for Staff training on emerging technologies so that the staff will assist users in locating information that resides in connected networks and Staff be educated on potentials of new technologies to improve job performance before introducing them.
- ✓ University libraries should endeavour to provide an effective Internet connection; steady power supply and sufficient computer systems in order to enable students fully utilize the library

### Areas for Further Research

- The researcher due to limited time and resources did not exhaust all the information that was required in this research and therefore recommended other researchers to research on;
- Factors contributing to low publications of research books by students in private institutions of higher learning and how it impacts on capacity building of online academic libraries.

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