

Library Automation Strategies and Its Benefits to Stakeholders of the Institute of Adult Education in Tanzania

Barnabas Bwango¹ and Christian Mubofu²

¹Library Services Unit, Institute of Adult Education Tanzania
barnabasbwango2015@gmail.com

²Library and Publications Department, The Mwalimu Nyerere Memorial Academy
mubofu.christian@gmail.com

Abstract

This study focused on library automation strategies and its benefits to the Institute of Adult Education (IAE) stakeholders. The study specifically sought to achieve two objectives: 1) to examine strategies for Automation of the IAE library; and (2) to identify benefits of library automation to IAE stakeholders. The study employed descriptive research design due to the fact that the goal was to provide some baseline data on integrating information and communication technology (ICT) in library services at the IAE. In this study, a total of 96 respondents were involved. The study used both quantitative and qualitative research methods in data collection and analysis. Quantitative data were processed using Microsoft Excel and analysed using the Statistical Package for Social Sciences (SPSS), while qualitative data were subjected to content analysis.

The study revealed that strategies for Automation at the IAE, which were underway include the following: installation of local area network, acquisition of library automation software, consultation of Information Technology (IT) experts, budget for automation process, acquisition of equipment for library automation, computer literacy training and discussions of library automation with stakeholders. Moreover, it was found out that the following are benefits of library automation: provision of users with timely access to library materials, reduction of time spent on material acquisition as well as record-keeping, usage of many information search strategies is possible and library users can search for library collection from location outside library walls.

Keywords: Library automation strategies, institute of adult education library, library automation benefits

1.0 Introduction

It is urged that the Library is one of the quickest growing living organisms, and therefore, the previous way of keeping as well as maintaining it is no longer useful and resourceful (Sharma & Roy, 2019; Kpakiko, 2017). For speedy location, retrieval and dissemination of information as well as quality service for users, use and adoption of modern techniques, which uses Information and Communication Technology (ICT) has become completely crucial. Appropriately, a mechanized and automated library will help its users with the quickest and punctual services (Neelakandan *et al.*, 2010). Automated libraries are increasingly replacing old ways of managing resources due to their efficiency for acquisition, storage, and organization of information in digital formats and for simplified ways of locating, searching as well as retrieving information through improved communication network systems. Rufus and Akeem (2017) noted that with computerized libraries, no part of library services, which has not been touched by computers as a result efficiency and effectiveness of librarians has been enhanced. This is in line with Rowley's (2006) assertion that computerized libraries play big roles in modernizing housekeeping in almost all activities. Currently, many institutions are fast moving to automation of their libraries to grab advantages of modern age. Library automation is known as the process of using computers to reduce tasks in conventional libraries (Troll, 2002). Computer usage is meant to perform traditional library housekeeping activities, such as ordering and acquisition, circulation control, cataloguing, interlibrary loans, selection, online public access, reference and serials control (Jan, 2014). Library automation started around the 1950s and 1960s in the United States of America as well as Europe and afterwards spread to some other parts of the world very rapidly (White, 2017).

In Tanzania, like in many developing countries, library automation is a new phenomenon though some notable progress has been made so far. According to a survey by Samzugi (2016), the University of Dar es Salaam library was the first and the oldest of all universities in the country and the first to automate its functions in the early 1990s followed by other universities and institutes. Currently, the library automation process has risen to considerable numbers of institutions. This rise is attributed to availability of open source software, which has been made freely available (Cox, Pinfield & Rutter, 2019). Regardless of negative perspectives and obstacles,

library automation is cost-effectively possible and mechanically needed in current libraries to cope up with requirements of new facts and knowledge. The increase in compilation of information materials, problems in acquiring, storing, processing, disseminating and transmitting information make library automation a necessity in most higher learning institutions (Bhardwaj & Shukla, 2000). Despite the Institute of Adult Education management to make library automation as one of their priorities for more than four financial years ago; but so far it has failed to implement it. Thus, it is the reason this study intended to investigate library automation strategies and its benefits to stakeholders of the Institute of Adult Education in Tanzania.

2.0 Objectives of the Study

The main objective of this study was to explore library automation and its benefits to library stakeholders of the IAE in Tanzania.

2.1 Specific Objectives

This study had the following specific objectives:

- a. To examine strategies for automation of the IAE library and
- b. To identify benefits of library automation to IAE stakeholders.

2.2 Research questions

- a. What are strategies for automation of the IAE library?
- b. What are benefits of library automation to IAE stakeholders?

3.0 Research Methodology

3.1 Research design

A research design has to do with identifying the approach and determining general procedures or strategies of inquiry including data collection, data analysis and data presentation (Creswell, 2009). Due to nature of this study, descriptive research design was considered to be the most appropriate design since its primary goal was to provide some baseline data on integrating Information Communication Technology in library services at the IAE. To achieve the intended goal, both quantitative and qualitative methods were used in data collection and data analysis.

3.2 Participants

The target population of 100 respondents (10% of the total population) was drawn conveniently from the entire population of the IAE, approximately 1000 people. The respondents were selected using non-probability sampling procedure from the target population and thus, the study sample was selected conveniently. It comprised 16 administrative staff, four library staff and 76 library users that included both students and lecturers.

3.3 Data Collection Methods

Data for the study were gathered using questionnaires as the main data collection method, while interviews were used to supplement information gathered through questionnaires. The questionnaires contained both open-ended and close-ended questions. They were distributed and collected from all respondents. The questionnaire was selected because it is free from the interviewer's bias and the answers were in respondents' own words. Also, the questionnaire facilitated reaching convenient respondents who otherwise would not been easily approachable. On the other hand, both structured and semi-structured interviews were used to solicit information from the IAE Head of Library Unit, Deputy Director Academics, Research and Consultancy, Deputy Director Planning, Finance and Administration and Heads of department who were conveniently selected as key informants, stakeholders and beneficiaries of the IAE library services.

3.4 Data Analysis Plan

Data obtained during this study were analysed and presented both qualitatively and quantitatively. Quantitative data analysis involved data preparation and descriptive analysis. Data preparation was conducted soon after completion of data collection from the study area. In that stage, data from the questionnaire were coded and entered in the Statistical Product and Service Solution (SPSS) version 21. Later on, cleaned data were exported to other software packages (Microsoft Excel) for generation of tables. Descriptive stage aimed at unfolding strategies and benefits from library automation at the IAE.

On the other hand, qualitative data were subjected to content analysis. Data collected through in depth interviews were read meant to draw the right interpretation and understanding about implication with regard to the problem under investigation. Then in order to get patterns of significant

themes, data were properly filtered whereby verbal discussions from various respondents were broken into the smallest meaningful units of information. The identified themes were grouped according to specific objectives of the study. Then they were entered in a matrix such that they were subjected to content analysis.

4.0 Results and Discussion

4.1 Strategies used by IAE library staff on achieving automation

With regard to strategies deployed by the IAE towards library automation, four library staff and all the surveyed respondents accepted that setting a budget for automation as well as computer training are strategies used by the IAE library staff. Three library staff maintained that acquisition of library automation equipment, discussions on library automation with stakeholders and consultations with IT personnel were strategies used by the IAE library staff. Furthermore, two respondents noted that acquisition of library automation software was the strategy used by the IAE library, while only one library staff maintained that installation of local area network as the only strategy at IAE instituted towards achieving library automation (Table 1).

Table 1: Strategies IAE library staff use towards achieving automation

Strategies	F	(%)
Installation of local area network	1	25
Acquisition of library automation software	2	50
Consultation of IT experts	3	75
Discussion of library automation with stakeholders	3	75
Acquisition of library Automation Equipment	3	75
Computer literacy training	4	100
Budget for automation process	4	100

Table 1 shows that all library staff accepted that computer literacy training was conducted as part of the strategy that aimed at equipping them with necessary skills to work in the automated environment. This implies that the IAE library is well prepared for use of ICT for smooth running of a new Library Management System (LMS). In addition, all respondents indicated that allocation of funds in the budget for implementation of the automation process is another strategy that IAE library needs to consider when planning

for the Automation. This indicates that library management needs to set aside a reasonable budget for the automation project to take effect. In due regard, the library management has the responsibility of convincing the IAE management to release the required funds to be used for the specified task. Furthermore, 75 percent of the library staff claimed that the automation process at the IAE library required acquisition of valuable equipment such as computers and scanners (Table 1). This implies that some initiatives were already in place at the IAE. Thus, the remaining few types of equipment should be acquired for full project implementation at IAE library to take off at the earnest.

During face-to-face interviews, the Library head reported strategies geared towards implementing library automation at IAE that,

“Despite many challenges hindering library automation at IAE, I am still fighting by using various ways such as convincing the management through proposal writing and presentation to provide a budget for library automation for 2018/2019 financial year as well as sending other staff for training at different colleges to attain new knowledge.”

Similar results were revealed by Ramzan (2019) who investigated librarians' attitudes on application of Information Technology in academic libraries in Pakistan. In the study, respondents indicated various initiatives taken by the academic libraries' authorities in Pakistan such as increasing budgets for meeting IT-related costs from 35 percent in 2004 to 40 percent in 2005 in addition to resource allocation such as computers, hardware and software (*ibid.*). The Internet located in private sector libraries also increased compared to the public sector (*ibid.*). Moreover, a special programme was established for IT training for both library staff and users. The study by Ramzan (2019) further established that majority of respondents showed positive results on application of Information Technology in library services provision.

4.2 Benefits of Library Automation to IAE Library Services Stakeholders.

4.2.1 Benefits of automating library services (library users)

Library users were asked to state benefits of automating library services at the IAE. Findings revealed that 67 (88%) out of 76 library users agreed that one of the benefits of automation in library is to provide users with timely access to library materials and 73 (96%) library users agreed to the maximum that library automation increases speed, accuracy and efficiency of

service, whereas 70 (92%) agreed with benefits associated with automated library services (Table 2). In fact, they said that library automation supports new means for information retrieval by introducing library users to global information. Similarly, 70 (92%) of the library users supported the view that library automation services allow library users to use many search strategies (Table 2). Furthermore, 69 (90%) of the library users indicated that library automation enabled library users to search for library collection from remote locations outside library walls and 52 (68%) indicated that an automated library provides them with lifelong learning experiences (Table 2). Other 55 (72%) of the library users reported that automated Library motivates and equips them with problem-solving techniques of getting the right information (Table 2).

Table 2: Benefits of automating library services (N=76)

Benefits	Response	
	F	%
It provides users with timely access to library materials	67	88
It reduces time spent on material acquisition and record-keeping	50	65
It support new means of information retrieval by introducing library users to global information	70	92
It allows library users to use many search strategies	70	92
It allows library users to search library collection from location outside the library walls	69	90
It provides library users with lifelong learning experiences	52	68
It motives users, equip them with problems solving of getting information	55	72
Library automation increase speed, accuracy and efficiency of service	73	96

4.2.2 Benefits of automating library services (administrative staff)

Administrative staff were asked to state the benefits of automating library services at the IAE. Findings revealed that 13 (81%) out of 16 administrative staff agreed that automated library services provide users with timely access to library materials, which encompasses an essential benefit of automating library services (Table 3). Furthermore, 14 (87%) agreed to the maximum

that library automation increases speed, accuracy and efficiency of service, whereas 13 (81%) agreed with the benefits associated with the automation of library services (Table 3). Moreover, administrative staff indicated that library automation supports new means for information retrieval by introducing library users to global information (Table 3).

Similarly, 12 (75%) administrative staff supported the view that library automation services allow users to use many search strategies (Table 3). Furthermore, 12 (75%) of the respondents indicated that library automation enabled library users to search for library collection from remote locations outside library walls (Table 3). In comparison, 11 (68%) indicated that automation of library services provides library users with life-long learning experiences (Table 3). Only 10 (62%) administrative staff indicated that automation of library services motivates and equips them with problem-solving for getting information, while only 9 (56%) maintained that library automation reduces time spent on material acquisition and record-keeping as indicated in Table 3.

Table 3: Benefits of automating library services (N=16)

Benefits	Response	
	F	%
It provides users with timely access to library materials	13	81
It reduces time spent on material acquisition and record-keeping	9	56
It supports new means of information retrieval by introducing library users to global information	13	81
It allows library users to use many search strategies	12	75
It allows library users to search library collection from location outside the library walls	12	75
It provide library users with lifelong learning experiences	11	68
It motives users, equip them with problems solving of getting information	10	62
Library automation increase speed, accurate and efficiency of service	14	87

4.2.3 Benefits of Automating Library Services (Library Staff)

Also, researchers wanted to know if library staff knew benefits of automating the library services. Findings revealed that 4 (100%) of the library staff agreed that one of the benefits of automating library services is to provide library users with timely access to library materials (Table 4). Moreover, all (100%) agreed to the maximum that library automation supports new means for information retrieval by introducing library users to global information. Similarly, 4 (100%) of the respondents held that library automation increases speed, accuracy and efficiency of service, whereas 3(75%) agreed that library automation allows library users to use many search strategies (Table 4). Furthermore, 3(75%) library staff maintained that library automation enables library users to search for library collections from a location outside library walls (Table 4). Moreover, 3 (75%) respondents agreed that library automation motivates users as well as equips them with problem-solving for getting information and provides library users with lifelong learning experiences, while 2 (50%) noted that library automation reduces time spent on material acquisition and record-keeping (Table 4).

Table 4: Benefits of Automating Library Services (N=4)

Benefits	Response	
	F	%
It provides users with timely access to library materials	4	100
It reduces time spent on material acquisition and record keeping	2	50
It support new means of information retrieval by introducing library users to global information	4	100
It allows library users to use many search strategies	3	75
It allows library users to search library collection from location outside the library walls	3	75
It provide library users with lifelong learning experiences	3	75
It motives users, equip them with problems solving of getting information	3	75
Library automation increase speed, accurate and efficiency of service	4	100

During interviews, one of the administrative staff described benefits of library automation that, “I realise that automation of the IAE library services will help to provide better services to library users than ever before. Despite many challenges that stand in our way, we will try our level best to automate our library services as soon as possible.”

Packyaraj, Chandran and Lewish’s (2016) study on library automation technology in academic libraries had similar results with this study on library automation benefits. They mentioned to be the following: easy access of information, saves time, avoids duplication of work, prompts communication of information, creates awareness services, improves work efficiency, facilitates generation of several reports for decision-making, provision of advanced services as well as quality of products and provides services that cannot be done manually (*ibid.*). Moreover, Mutula (2012) underscored various library automation benefits, which included increased access to a variety of electronic resources, enhanced image of library staff and facilitates prologue of new library services. Others benefits were mentioned to be emancipation of library physical room, helps access to library electronic resources (e-resources) in a wide geographical area, increased functions including accountability of library personnel, and facilitates access to local content via digital library (*ibid.*).

5.0 Conclusion

In this paper, the researchers highlighted library automation strategies at the IAE that included installation of local area network (LAN), acquisition of library automation software, consultation of IT experts, budget for automation process, acquisition of library automation equipment, computer literacy training and discussions of library automation with stakeholders. It is concluded that benefits of automating library services as identified by library staff, administrative staff and library users included the following: provision of users with timely access to library materials, reduction of time spent on material acquisition plus record keeping, support of new means for information retrieval by introducing library users to global information, usage of many information search strategies is possible, library users can search for library collection from location outside the library walls and provides library users with lifelong learning experiences. Others encompassed the following: motivates users as well as equips them with problem-solving of retrieving the right information; and lastly, library automation increases

speed, accuracy together with efficiency of service. Researchers suggested that another study needs to be conducted at the IAE to establish perception of academic staff on suitability of library automation systems and electronic resources in supporting teaching, research as well as consultancy services at the IAE.

5.0 References

- Bhardwaj, R. K., & Shukla, R. K. (2000). "A Practical Approach to Library Automation". *Library Progress (International)*, 20 (1): 1-9.
- Creswell. J. (2009). *Research Design: Qualitative, Quantitative and Mixed Approaches (3rd Ed.)*, Sage Publication. Inc. Thousand Oaks, California, USA.
- Cox, A. M., Pinfield, S., & Rutter, S. (2019). "The intelligent library". *Library Hi Tech*, 37 (3): 418-435
- Jan, S. U., & Sheikh, R. A. (2011). "Automation of university libraries: A comparative analysis of Islamabad and Khyber Pukhtoon Khwa, Pakistan." *Library philosophy and practice*, 1-12.
- Kpakiko, M. M. (2017). "Redesigning Library and Information Science Curriculum for Career Practice in the 21st Century in Nigeria". *International Journal of Topical Educational Issues*, 1 (1): 128 - 135
- Mutula, S.M. (2012). "Library Automation in Sub Saharan Africa: Case Study of the University of Botswana." *Emerald Insight*, 46 (3): 292-307. Retrieved on 19th December, 2018 from <https://doi.org/10.1108/00330331211244832>
- Neelakandan. B., Duraisekar. S, Balasubramani.R, Srinivasa Ragavan. S. (2010). "Implementation of Automated Library Management System in the School of Chemistry Bharathidasan University using Koha Open Source Software." *International Journal of Applied Engineering Research*, 1(1): 149-167, Available: <http://www.ipublishing.co.in/jarvol1no12010/EIJAER1014.pdf>. Retrieved on September 13, 2019
- Packyaraj, S., Chandran, R. & Lewish, Y. (2016). "Library Automation Technology in Academic Libraries. *Journal of Library Science and Research (JLSR)*." 2(1): 22-26. Retrieved on 12th December, 2018 from <http://www.tjprc.org>
- Ramzam, M. (2010). "Attitudes of Librarians towards Application of Information Technology in Academic Libraries in Pakistan." A thesis in fulfillment of the requirements for the degree of doctor of philosophy of the University of Malaya Kuala Lumpur.

- Rowley, J. (2006). *Computer for Libraries*. London: Bringley.
- Rufus, A. I., & Akeem, L. B. (2017). "Impact Analysis of Information Communication Technology (ICT) in Project Evaluation and Management in Nigeria." *Canadian Social Science*, 13(7): 6-16.
- Samzugji, A.S. (2016). "Status of Library Automation in Tanzania's Public Universities." *University of Dar es Salaam Journal* 11 (1), 24-38
- Sharma, A. K., & Roy, T. C. D. (2019). "Book Acquisition using Koha: A Case study of Rabindra Granthagar, Assam University Central Library." *Library Herald*, 57(4): 491-502.
- Troll, D. A. (2002). "How and Why Libraries are changing? Carnegie Mellon: Digital Library Federation." *Libraries and the academy*, 2 (1): 99-123
- White, M. J. (2017). "The history of the Engineering Libraries Division, part 2: 1960-2017." In *2017 ASEE Annual Conference & Exposition*.