

**Library automation in school libraries and media centres in Zambia: case study of  
selected schools in Lusaka city**

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## **Abstract**

The availability of both commercial and free and open source library management systems has presented a window of opportunity for libraries to automate their operations with a view to improving the management, and delivery of information resources to their clients. This study sought to find out the level of library automation in some selected school libraries and media centers in Lusaka city of Zambia. The study was both quantitative and qualitative in design and a survey method was used. A sample of 62 respondents from school libraries and media centres took part in the study and that snowball sampling method was used. This sampling method was used because of lack of a sampling frame of both government and private schools with libraries or media centres in Lusaka city. Data was collected using a self-administered questionnaire and interview guides. The research findings show that 72% of the respondents understand the concept of library automation while 28% do not. In terms of library automation, 2 (3%) of the surveyed library schools were automated while 60 (97%) were not. Further, it was discovered the two school libraries that had automated their operations were from private international schools and that they use the library management system called Destiny. Among factors that hinder automation in school libraries include among other things; lack of ICTs skills among school librarians and lack of political will from school administrators to fund school libraries and media centres. In view of the above findings, it was recommended that school managers adequately fund school libraries to enable them automate their operations and that qualified librarians be employed in schools.

**Keywords:** Library automation, School libraries, Media centres

## **1. Introduction**

The emergence of Information and Communications Technologies (ICTs) has fundamentally impacted on all spheres of life. ICTs have become indispensable in modern day life. In this regard, organisations both public and private have adopted ICTs in their operations. Libraries have also embraced ICTs by automating their operations with a view to improving the management, and delivery of information resources to their clients. According to Mohammed (2006), the inadequacy of traditional library services and tools in coping with the detailed requirements of identifying information relevant to a given problem has forced libraries to automate their operations. Recent developments in information handling processes have also compelled libraries to embrace automation as a means of enhancing their service delivery to their clientele. According to Breeding (2009), libraries are marching ahead as a complete automated medium of hi-tech grounds for resource discovery, with pervasive computer applications.

Schools are giving more thought to the use of computers in libraries and media centres by automating their operations because of the immense benefits that come with automation. Abrizah et al (2002) argue that the reasons given for automating a school library range from practical to philosophical; and cover aspects such as school library management, library efficiency, curriculum support, information access, information skill instruction, public relations, facilitating collaboration, and promoting equity. The management benefits include improved circulation of resources, extensive reporting facilities and increased access to the resource collection.

Library automation has made it possible for many school libraries to provide online library services using library management systems. Many library automation systems are increasingly welded at the seams with other services such as access to online databases (Thomas and Joseph, 2002). Library automation does not only allow libraries to put their services online but also link library users to external information resources and effectively engage in library co-operation through the use of the Internet and the Web. This is a giant leap in the libraries' quest to provide quicker and reliable services to their users. Library management systems help to fulfill one of the *Five Laws of Library Science* propounded by Ranganathan; the law of serving the user's time, as many libraries are automating their services and putting them online thereby providing easy and remote access to all library services.

## **2. Background to the study**

Libraries were among the first institutions to use computers in their operations. In the United States of America (USA) for instance, libraries were the first to use computers in their operations and the Library of Congress pioneered that in the late 1950s (Library Congress, 2014). In Zambia, library automation started in the late 1990s with the University of Zambia becoming the first library in the country to automate its operations. According to Hudwell (1996), the University of Zambia began the automation of its library in 1996 using Dynix; a proprietary library management system which was donor funded. However, in the late 1990s, the library automation landscape in Zambia began to change with the coming of a free library system called Computerised Documentation Services/Integrated Set of Information Systems (CDS/ISIS) which was sponsored by UNESCO. CDS/ISIS was widely used in the late 1980s and 1990s by libraries in Sub-Saharan African countries such as Zambia (Mutula, 2012).

For many years, libraries especially smaller ones in sub-Saharan Africa have struggled to automate their operations because they were unable to afford the cost of commercial software (Chisenga, 2004). However, at the beginning 21<sup>st</sup> century saw the birth of free and open source library management systems (FOSLMS) such as Koha, Evergreen, ABCD and OpenBilio. FOSLMS provides a valuable alternative to proprietary systems and have the potential to accelerate the automation of libraries in developing countries such as Zambia.

## **3. Statement of the problem**

As captured in the background to the study, the introduction of FOSLMS on the market provides a window of opportunity to school libraries and media centres that could not afford automating their operations using commercial library management systems. A research conducted in Kuala Lumpur, in Malaysia by Ahmad (2008) among 288 schools showed that 70% of the schools had automated their library functions. In Zambia and Lusaka city in particular, information regarding the numbers of school libraries and media centres that have automated their operations is not available; there has never been a research conducted to establish the level of library automation among school and media centres in Zambia. It was therefore, imperative that a research be conducted to describe library automation among school libraries and media centres in Lusaka city.

#### **4. Research objectives**

The study main objective was to describe the level of library automation in school libraries and media centres in Lusaka. In so doing, the research sought to: -

- a) establish the number of school libraries and media centres that have automated their house keeping activities,
- b) determine the library management systems used by school libraries and media centres that have automated their operations,
- c) determine the housekeeping activities that have been automated in school libraries and media centres,
- d) establish the challenges faced by school libraries and media centres in automating their operations.

#### **5. Definitions of concepts**

The following terms in this study will denote the following: -

- a) **Library**- a building or room containing collections of books, periodicals, and sometimes films and recorded music for use or borrowing by the public or the members of an institution (Oxford Living Dictionaries, 2019).
- b) **School library or media centre**- a library within a school where pupils, staff, and often parents of a public or private school have access to a variety of information resources (Joan, 2004).
- c) **Library automation**- the use of computer and networking technologies in the library (Tiwari, 2013). The use of computer systems to accomplish tasks originally done by hand in libraries.

#### **6. Theoretical framework**

The study was guided by Technology Acceptance Model (TAM). The model was developed by Davis in 1989. TAM has been widely used by researchers to explain how people and organisations adopt technology. According to TAM individuals' behavioral intention to use an information technology is determined by two beliefs namely:-

- i. perceived usefulness,
- ii. perceived ease of use.

Perceived usefulness in this model entails the extent to which a person believes that using an information technology will enhance his or her job performance. Perceived ease of use on the

other hand, entails the degree to which a person believes that using technology will be free of effort. The above two assumptions namely, perceived usefulness and perceived ease of use are key to librarians in school libraries and media centres in embracing library automation. In this regard, if librarians in schools think that automated systems lead to faster location, retrieval, circulation and cataloguing of information materials, they are more likely to automate their libraries. Further, if library staff in schools perceive that automated systems are easier to use; the systems are not complicated and that they require little effort, many are likely to adopt library automation.

## **7. Literature review**

Library automation in general is very old concept dating back to the 1960s. According to Kent (1997), library automation refers to the application of computers and networking technologies to serve the needs of the library and its users. Tiwari (2013) argues that library automation is simply the use of computer and networking technologies in the library. Other scholars consider library automation as the modernization of library housekeeping operations mainly by computerization. From the above definitions, it can be inferred that library automation is bigger than library mechanization and library computerization. It implies not only the use of machines such as computers but also networking technologies to modernize library operations with a view to improve service delivery. Traditional library activities that are automated are acquisitions, serial control, cataloguing, and circulation and also to library services and networking.

School libraries and media centers use a variety of library management systems. According to the South Dakota State Library (2014) in United States of America (USA), 51% of school libraries in the State use Follett Destiny to manage their operations. Destiny, a proprietary library management system is one of the commonly used systems among school libraries and media centres in the developed countries. Other library management systems reported to be used in school libraries by the South Dakota State library include Book System Inc, companion, Exlibris, LibraryPro, library World and Koha.

Many reasons have been advanced to push for automation in libraries. According to Tiwari (2013) the reasons given for automating a library include the desire by library management to save labour, achieve cost effectiveness, promote speed in operations, and ensure ease and accuracy in data handling. Further, library automation brings about great speed and promptness, elimination of duplication, and great manipulation possible. The South Dakota State Library

(2014) argues that in this day and age, school library automation is an achievable goal even for the smallest school libraries. Library automation allows for the students to have opportunities to engage in the 21<sup>st</sup> Century learning. The South Dakota State Library further spells out the reasons why all school libraries need to be automated which include among other reasons:-

- a) 24/7 access to library materials and services for everyone,
- b) students, parents and faculty have personal electronic devices which can be used to access the library,
- c) library automation encourages parental involvement with the school systems,
- d) encourages browsing online which facilitates better research and increase leisure reading.

Other proponents of school library automation argue that automation improves the general management of the school library collection. A study by Robison, (1991) on school libraries found that the major benefits of school library automation include improved control over circulation records, remote access of the holdings and improved reference.

World over, studies have been conducted on school library automation. Tee and Abrizah (2005) conducted a survey on the status of library automation in Malaysian in 2003 among 89 Independent Chinese Secondary Schools (ICSS) and the National-type Secondary School (NTSS). The findings of the above study revealed that 44% school libraries were automated. While 56% were not. The study further revealed that circulation function was the mostly automated by school libraries, followed by cataloguing and that turnkey systems such as Novel-Magic runtime, e-library and library systems were in use. The study also showed that some libraries opted to used in-house systems to do the automation (Tee and Abrizah, 2005).

A recent survey of library automation in school libraries in the USA in the State of South Dakota revealed that all (378) surveyed school libraries had automated their operations with majority using Destiny System to automate their operations (South Dakota State Library, 2014).

School libraries and media centres are confronted with many challenges in their quest to automate their operations. According to Junaida (2008), the main problems faced by the library staff towards implementation of automation are inadequate ICTs training among school librarians, high cost and retrospective conversion. Library automation is made difficult, if not impossible, by several challenges including lack of funds to sustain the ICT infrastructure, inability by librarians or libraries to keep up with the pace of developments in ICTs, inadequate ICT facilities in the libraries, lack of staff with appropriate skills to manage ICTs (Justine, 2015;

2006).The lack of staff with ICTs skills in school libraries is acute in developing countries. School libraries are run by unqualified staff; worse off, in some schools in some countries, the school libraries have no staff to man them. For instance, in South Africa, the 2015 report by the Library and Information Association of South Africa on the state of libraries in South Africa revealed that after 1994, the Government in South Africa scrapped off the position of teacher librarian in schools thereby making it difficult for school libraries to function (National Library of South Africa, 2015).

Other factors inhibiting school library automation is lack of support by school management. Marcial (2007) laments that implementation of successful school library programmes in Philippine is hampered by among other factors lack of support from school administrators. Some school administrators think that a library is not a priority hence no needs to fund it. Therefore, any project including automation of a school library is given little nor attention in terms of funding.

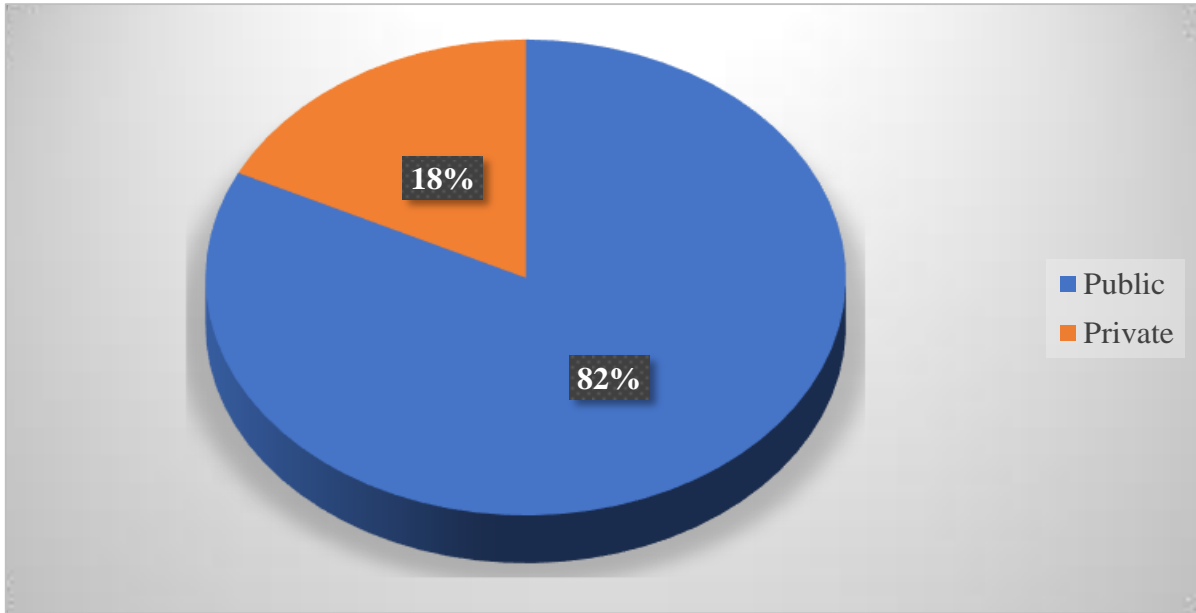
#### **8. Research methodology**

The research design was both quantitative and qualitative in design in which a survey method was employed. A sample of 62 school libraries from both private and public schools in Lusaka city were surveyed. The sample for the study was selected using snowball sampling procedure in which a school library staff interviewed is asked to indicate the next school with a library. This was done because it was difficult to get a sampling frame of schools in Lusaka city that have libraries or Media centres. Data was collected from the respondents using a self-administered questionnaire and interview guides. Quantitative data was analysed using software called Statistical Package for Social Sciences (SPSS) version 16 while qualitative data was analysed using thematic areas.

#### **9. Presentation of research findings**

As already indicated in the research methodology, 62 School Library and Media Centre respondents were surveyed. Majority (82) of the school libraries surveyed were from the public sector as shown by figure 1.





*Figure.1: Types of School*

In terms of gender aggregation, 34 of the respondents were male while 28 were female. The majority (52%) of respondents were in the age range of 30 and 39 as shown by the table below.

*Table1: Age groups of respondents*

Age group	Frequency	Percentage (%)
20-29	12	20
30-39	31	52
40-49	13	22
50-59	2	3
60 +	2	3
<b>Total</b>	<b>100</b>	<b>100</b>

As regard to the highest academic qualification obtained, 18.3% had Grade Twelve Certificates, 13.3% had college certificates, 35% had diploma, 28.3% had bachelor's degrees and only 3.3% had master's degree. In terms of job titles, many staff surveyed in media centres or school libraries were either librarians or teachers. However some combined both titles by table 2 below.

Table 2: Job titles of Respondents

Job title	Frequency	Percentage (%)
Librarian	18	30
Librarian/Teacher	12	20
Teacher	28	47
Others	2	3
<b>Total</b>	<b>100</b>	<b>100</b>

As regards to awareness of the concept of library automation, 43 (72%) indicated having been aware of library automation while 17 (28%) said were not as shown by figure 2 below.

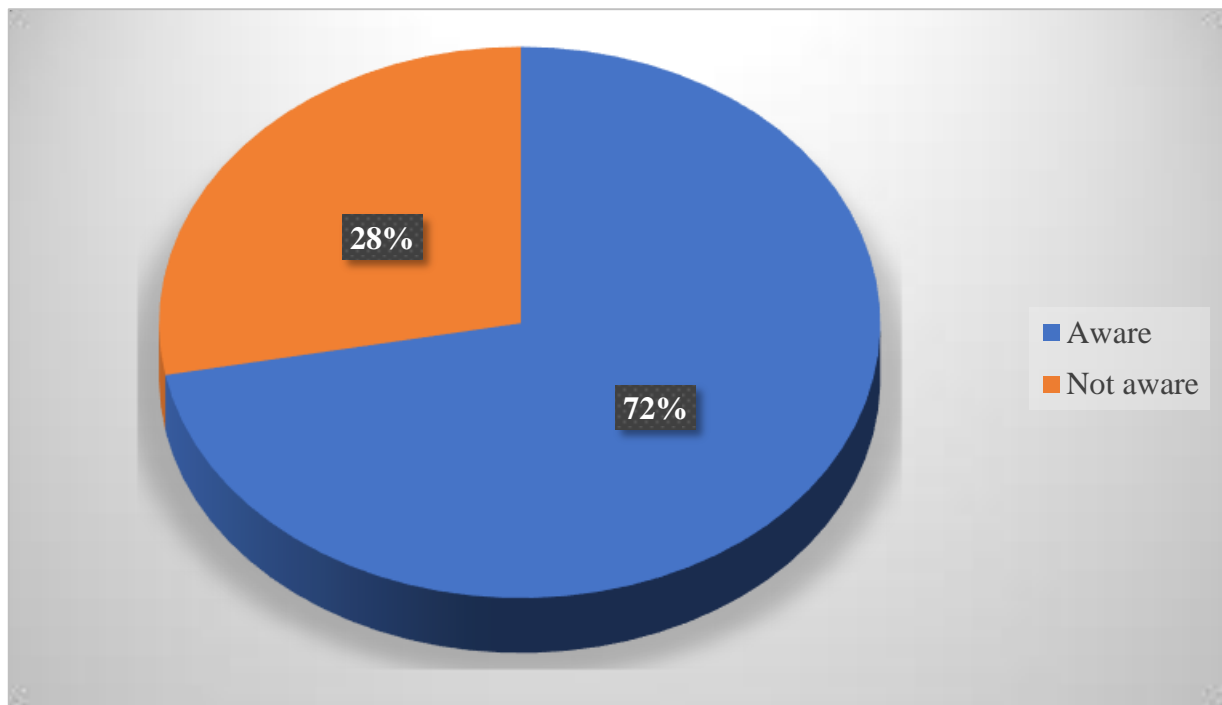
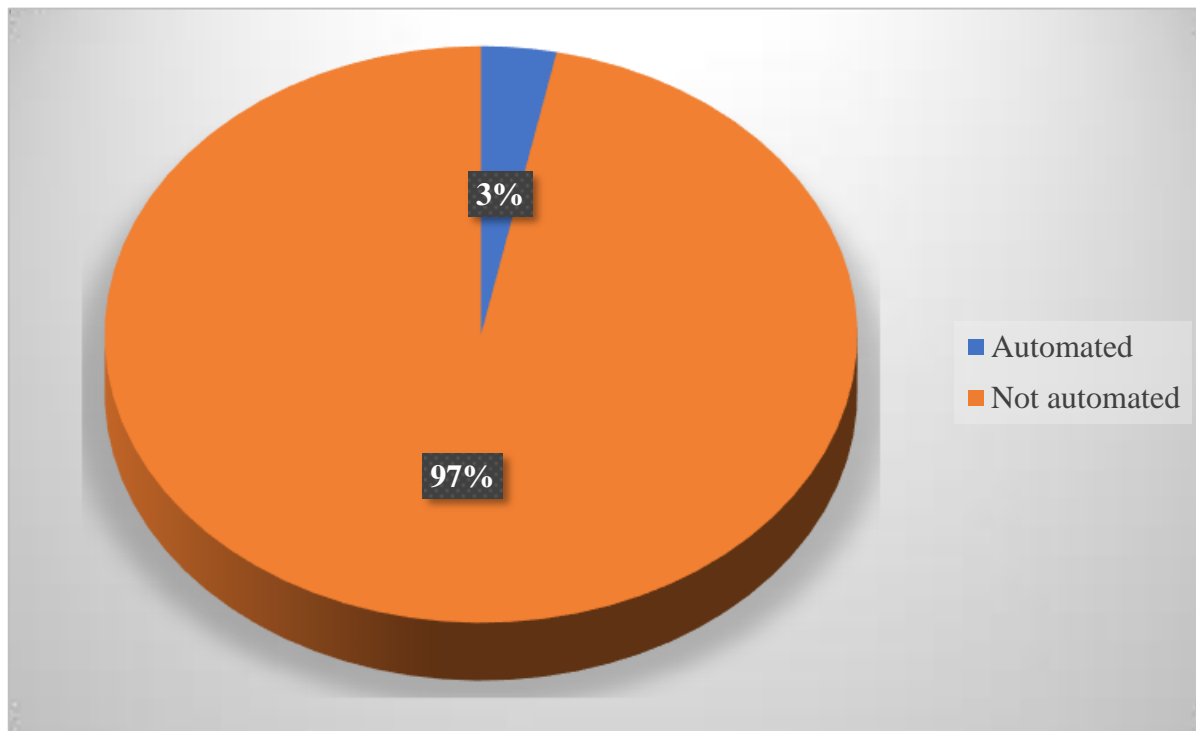


Figure 2: Awareness of library automation

The 72% respondents who indicated having known the concept of library automation expressed some level of understanding of the concept of library automation as they attempted to define it. 13 defined library automation as computer based system used to store all library information materials in the library, 15 said library automation involves recording and accessing of books

using computers and 26 said library automation was the use of software used to manage activities in the library.

In terms of automating their library operations, the research revealed that 2 (3%) of the surveyed school libraries and Media Centres had automated their operations while 60 (97%) had not as shown by figure 3 below.



*Figure.3: Status of Library automation*

The research further revealed that the two school libraries that had automated their operations were attached to big international schools in Zambia; they were from the private sector not public or government schools. The research also revealed that the two school libraries had automated all the basic functions of the library using a commercial library management system called Destiny. These functions include circulation, reports generation, catalogue and cataloguing. Further, the study shows that the two media centres use Destiny system not only as a library management system but also as a digital library system to keep and manage electronic learning resources.

When asked the 60 School library libraries and media centres that have not automated their operations to explain reasons for not doing so, they cited a number of reasons which include lack

of ICTs skills and general absence of ICTs infrastructure in schools. Others cited lack of support from school management.

### **10. Discussion of the findings**

The research has clearly shown that library automation is a farfetched dream among school libraries and media centres in Zambia. Despite 72% of the interviewed school librarians having been aware of the concept of library automation, their libraries are not automated. Almost all the surveyed school libraries in Lusaka city of Zambia have not automated their operation except two (2) libraries. These findings are a sharp contrast of what the State of South Dakota State Library (2014) found when it carried a research on state of library automation among school libraries in that State; all the surveyed libraries had automated their operations. The findings in Lusaka city among school libraries are also a sharp contrast to the research findings of Tee and Abrizah (2005) whose results showed that 44% of surveyed School libraries in Malaysia in 2003 had automated their operations. The research findings further show that the two school libraries that have automated their operations are from private international schools. As part of their strategy to provide better education, international schools invest considerable amount of financial resources in their libraries and media centres by automating them and hiring personnel that are highly qualified. Similarly, to what the State of South Dakota State Library (2014) found in its school libraries, the two international schools have automated their operations using Destiny library manager, a legacy library system of Follett. This system is commercial therefore it cost some money. The system does not only help the library manage its collection but also allows for the storage and access to e-resources such as e-books, audio books, and interactive books, as well as free and paid subscription databases (Follett, 2017).

Government schools in Lusaka city which could be true with the rest of the country have not invested in school libraries. This makes governments schools to fail to provide quality education. The surveyed government school libraries in Lusaka city are a solely sight; they have not received meaningful investments from government and management. Further, most of them are run by teachers or persons without proper ICTs skills thereby failing to drive the process of library automation.

### **11. Conclusion**

It can be concluded that many school libraries and media centres in Lusaka city of Zambia are not automated except two (2) schools run by big international schools. All the government

school libraries studied have not automated their operations. Reasons cited for their failure to automate include among others lack of ICTs skills, non-existence of ICTs infrastructure and lack of support from school managements.

## **12. Recommendations**

In view of the above research findings, the following recommendations can be considered for implementation by schools' management: -

- a) build capacity in school librarians by training them in ICTs,
- b) prioritize school libraries by ensuring that they are well funded,
- c) provide the needed ICTs infrastructure in school libraries.

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