

An Investigation of the Extent of Automation of Public Libraries in South-West, Nigeria

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ABSTRACT

The aim of the study is to explore the extent of automation of public libraries in South-West, Nigeria. Library automation refers to the application of information communication technologies (ICTs) in the day to day operations of the library [4]. Using the Unified Theory of Acceptance and Use of Technology (UTAUT), the study will adopt a mixed methods approach. Survey research design will be adopted. Simple random sampling will be used to select respondents for the study. Data will be collected using both questionnaires and interviews.

The area of study will be South-West, Nigeria. There are five states in this region but only three, namely Ogun, Oyo and Lagos States, will be involved in the study. There are several branches of public library in each state. However, only the headquarters usually referred to as the Library Board will be the focus of this study. Each of these three state public libraries selected has a systems librarian and a state librarian also referred to as the director of library services. The state librarian and systems librarian in each library will be interviewed. Questionnaires will also be administered to other professional and para professional staff as well as the library patrons.

Quantitative data will be analysed using SPSS, while qualitative data from the interview schedule will be analysed using thematic content analysis.

The researcher believes that results from this study would make Nigerian public libraries aware of strategies that can be put in place to leap frog automation stages and adopt current technologies. The study results will help understand how libraries can benefit from a wide range of automated services so as to become relevant and remain so in an era where libraries are competing with an aggressive information industry.

In addition, the study is expected to provide a useful framework for the development of information communication technology (ICT) policies in Nigerian public libraries. Furthermore, this study will contribute to literature on technology adoption and acceptance in public libraries in the context of a developing country.

KEYWORDS

Library Automation, Public Libraries, Information Communication Technologies.

1. RESEARCH QUESTIONS

This study will investigate the following research questions:

1. What is the extent of automation in public libraries in South-West, Nigeria?
2. What are the factors influencing acceptance and use of ICTs in public libraries in South-West, Nigeria?
3. What are the skills and competencies that library staff and patrons possess in the use of ICTs?
4. What are the challenges experienced by library staff and patrons in the use of ICTs?

2. SIGNIFICANT PROBLEMS IN THE RESEARCH FIELD

Library automation activities began during the 1950's and 1960's in the United States of America and United Kingdom, respectively [26].

Developing countries did not begin automation until the 1980s. In Sub-Saharan Africa, elaborate automation projects began in the 1990's [25]. Ekpenyong [7] stated that the University of Ibadan, Nigeria, was a trail blazer in library automation and has since been a reference point for other libraries. Library automation in Africa has gained impetus, but most public libraries are yet to fully automate their services, and for those that have automated, there are discrepancies in the ICT facilities available [38], [13]. Library automation around the world has evolved over the years to the stage where patrons are increasingly seeking information through diverse forms of current technologies [35].

Although some public libraries in Nigeria have incorporated ICTs into the services they render, the extent of adoption is unknown [9]. There is also a dearth of literature on the adoption of automation by public libraries in South-West, Nigeria. Most of the existing studies on library automation have focused on academic and special libraries [2]. This study intends to address the lacuna created by past research in the automation of public libraries in South-West Nigeria. In addition, in terms of methodology, previous studies have focused on the use of either qualitative or quantitative methods. This study will adopt a combination of qualitative and quantitative methods popularly referred to as the mixed method approach. Mixed methods enables an extended and rich understanding of the research problem.

3. LITERATURE REVIEW

Public libraries are libraries that are open to all citizens regardless of status, religion, educational background, age or sex. They entertain a broad scope of tasks and services, they are funded by the government with tax-payers' money and they generally provide free services [10]. Automation of library routines and services have affected both information space and practice. Increasingly, libraries do not necessarily require a building to operate [12]. Through public library automation, there has been an increase in the number of patrons physically visiting the library for various purposes [27]. There are those who do not visit because they have remote access to the library resources [19]. Despite the numerous benefits accrued through library automation, many public libraries in Nigeria still lag behind their counterparts in special and academic libraries. For this reason, they are unable to offer efficient and effective services [32]. In order to respond to the challenges of the electronic revolution, public libraries must emulate their counterparts in advanced countries [10]. It is presumed that the adoption of automation will significantly improve the quality of services rendered.

If new technologies are adopted by public libraries in South-West, Nigeria, they will be able to fulfil the purpose for which they were established. They can be referred to as "Big Libraries" having "Big Data" and "Big Innovations". This study therefore seeks to investigate the extent of automation of public libraries in South-West, Nigeria. The study has implications for policy, practical and theoretical interventions.

Marshall [21], in a study of automation in public libraries in the United States of America, discovered that despite the USA being ranked the world's wealthiest country, many small public libraries in rural areas either relied on obsolete systems or had no automation in place at all. In addition, he noted that the USA has some of the world's most technologically advanced libraries, but also has some for which state-of-the-art technology remain out of reach. Furthermore, he expressed his concern about the large number of public libraries that are lagging behind in automation.

Singh [37] conducted a study on the current status of automation of public libraries in Punjab State in India and discovered that despite the transformation of public libraries from providing basic services through traditional means to technology based services, they are not able to deploy the appropriate ICT tools needed for effective automation.

A review of literature on the use of information and communication technologies (ICTs) in African public library services, affirms that computerised services remain beyond the reach of most libraries, with the exception of South Africa. Public libraries in South Africa have experienced a number of impressive achievements in the past two decades. New libraries have been opened in all provinces, modern facilities have been put in place, and presently, 95% of libraries have access to web based systems [34].

Ngimwa [28] opined that while institutions in Africa are struggling with the adoption of information technologies to suit their environments and are still waiting for the industrial era, the developed world has moved into the information era and the developing world is working towards leap frogging the industrialisation stage to join the information age directly [20].

Elbert, Fuegi and Lipeikaite, [8] in a study on the perceptions of stakeholders and the public towards public libraries in six African countries namely Ethiopia, Ghana, Kenya, Tanzania, Uganda and Zimbabwe, discovered that digital services such as compact discs, videos, computers and internet services were not readily available across all libraries in the countries sampled. Public libraries in these developing countries were given less attention by stakeholders with regards to implementation of automated services. As a result, they are less positioned to benefit from the potentials that ICTs engender [23].

The importance of library automation cannot be over emphasised. It has helped public libraries to automate their core functions. It has also helped in the implementation of efficient and effective library cooperation and resource sharing networks. It provides a wide knowledge base for information seekers, it facilitates reduced labor, easy generation of records, space management, improvement of information services and easy retrieval. It has the potential to create jobs in the areas of web development and system maintenance [2], [30]. Library automation in public libraries in South-West, Nigeria is limited but also remains under researched. Achebe [1] and Kadiri and Adetoro [16] observed that the status of ICT in Nigerian public libraries is low whilst most academic and special libraries have seized the initiative to automate systems. Taking a closer look at the activities in public libraries in more advanced countries of the world, it is obvious that Nigerian public libraries lag behind [11]. Emojorho, [9] in a study on ICT and collection management in public libraries in Nigeria revealed that only a few ICT facilities had been acquired by public libraries.

Eze [11] carried out research on cataloguing in the era of ICTs in public libraries in South-West, Nigeria and observed that despite the fact that ICTs had brought about numerous changes to cataloguing, making it easier, more efficient and making records more accurate, most Nigerian public libraries still relied on the use of traditional 3 by 5 catalogue cards. To this end, most respondents claimed that the benefits of ICTs were not being realised. The study also revealed that most public libraries in Nigeria did not have the required facilities and skills to implement ICTs. They lacked adequate numbers of professional and support staff in cataloguing and other sections of the library. In Summary, with regards to ICT development, public libraries in South-West Nigeria were found wanting and the following recommendations were made: the state government needed to prioritise development of public libraries and provide an adequate budget.

The literature reviewed revealed an emphasis on the use of computers in cataloguing, classification, acquisition, charging and discharging of information materials by library staff, but library automation has moved beyond this. It has come to a point where users are partly involved in automation, using various tools such as social media and mobile phones. Library automation has moved beyond sitting within the four walls of a library to a digital library where patrons can have remote access to resources 24 hours in a day.

A review of the literature also revealed a paucity of research on the use of the UTAUT. It is a technology adoption model that has been used to underpin studies on library automation. It consists of four variables which include performance expectancy, effort expectancy, social influence and facilitating conditions [41]. The theory was developed through a review and consolidation of the constructs of eight models that earlier research had adopted to describe information systems usage behaviour. Since its inception, UTAUT has been used to explain user adoption of a variety of information technologies such as Tibenderana, et.al, [40]; Akbar, [3] and Kaba and Touré, [15]. Its practicality, reliability and appropriateness has also been established by these scholars.

Suggestions would be made in this study as to how Nigerian public libraries can leap frog the stages they have not gone through to adopt current technologies and how they can benefit from a wide range of services through adoption of automation so as to maintain relevance in an era where many libraries are competing with an aggressive information industry.

4. RESEARCH METHODOLOGY

A mixed methods approach will be used in this study. It involves combining the elements of quantitative and qualitative methods. The purpose of using a mixed method approach for this research is to ensure an increase in reliability of data and to embrace the strengths of, and minimise weaknesses in both approaches [6]; [14].

Research design is a framework that guides the researcher in the implementation of the research. Survey research design will be used in this study. It is suitable for this study because it is a valuable tool for assessing opinions and trends [36].

South-West, Nigeria has been purposively selected for this study because the first public libraries emanated from this region and it is expected that by now they should have robust ICT based libraries. Due to time constraints and limited resources for undertaking the research in all the five states that make up South-West, the researcher has selected the headquarters of Lagos, Oyo

and Ogun state public libraries in South West, Nigeria. These three state libraries were selected because they were the first three states to be established.

The target population will consist of the state librarian and systems librarian in each library, professional and paraprofessional librarians and library patrons. A professional librarian is a person who holds either a bachelors or master's degree in library studies [17]. Paraprofessional librarians are those who have some level of training or proficiency in library operations but have not completed formal training for the profession [17]. These categories of staff have been chosen on the premise that they will be able to relate to the researcher their experiences with automated systems. The library patrons are referred to as the library clients/users. The choice of library patrons as respondents is based on the fact that they will be able to provide valuable information from the user perspective of the services provided by public libraries.

The relative number of the population is reflected in Table 2.

Table 2: Relative distribution and strength of the population.
Source: [31]

	Oyo State Library Board	Ogun State Library Board	Lagos State Library Board
Number of Professional Staff	5	5	6
Number of Para professional Staff	10	5	4
Total Number of staff	15	10	10
Total Number of Registered Library patrons	1020	424	180

Sampling is the selection of research participants from an entire population [39]. Simple random sampling will be used to select participants for this study. It is a sampling method in which each member of the population has an equal chance of being selected for inclusion in a study.

Krejcie and Morgan's [18] published table will be used to determine the sample size for library patrons. The total population of staff will be used for the study since the staff population is not large. Krejcie and Morgan's [18] published table has been used by many researchers and still remains viable [22]. Krejcie and Morgan's [18] formula is explained below:

$$SP = \frac{N \times S}{TP} \quad (1)$$

Note: SP = Sample Population, N = Population size of each group, S = Sample size and TP = Total population.

Quantitative and qualitative data will be collected through the use of structured questionnaires and interviews. The state librarian and the systems librarian in each library, who are professional librarians, will be interviewed. Questionnaires will be distributed to the remaining 29 professional and paraprofessional librarians. A different questionnaire will be administered to 310 randomly selected patrons registered within the libraries.

Reliability and validity will be ensured by undertaking a pilot study. Monette, Sullivan and DeJong [24] suggest that for surveys, 20 people should be contacted. For the purpose of this study, questionnaires will be pre-tested on 20 respondents at a branch library in Lagos State, Nigeria. Cronbach's alpha coefficient will be used to determine the internal consistency and reliability of the items in the questionnaire. Quantitative data will be analysed using SPSS. SPSS is preferred because it is a powerful package that can handle complex statistical procedures [33]. Quantitative data collected would be subjected to descriptive and inferential analysis to generate means, mode, standard deviation, t-tests, regression analyses, chi-square and cross tabulation.

Qualitative data from the interview schedule will be analysed by using thematic content analysis. Braun and Clarke [5] maintain that using thematic content analysis offers an accessible and theoretically-flexible approach to analysing qualitative data.

The ethical requirements as set out by the University of KwaZulu-Natal research policy will be complied with.

5. EXPECTED CONTRIBUTIONS FROM THIS RESEARCH

The results from this study are expected to generate recommendations and suggestions that will improve automation policy and practice in public libraries in Nigeria. The use of UTAUT in this study will reveal the factors that influence the adoption and use of automation by library staff and patrons in the selected libraries.

It is believed that public library staff will also be better informed about the recent trends in library automation. In addition, through a review of the literature the study is expected to provide a synopsis of the current state of library automation practices in developed countries of the world. Thereafter, recommendations will be provided on how developing countries can leap frog automation stages and adopt current technologies. This study will also contribute to literature on digital library research, particularly the adoption and use of technology in public libraries from a developing country context.

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