



## **FACTORS AFFECTING LIBRARIANS' APPROACH TOWARDS IT APPLICATION IN LIBRARIES IN NIGERIA.**

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### **ABSTRACT**

**Purpose** – The purpose of this paper is to investigate the factors affecting librarians' approach toward IT application in libraries. It also aims to identify general underlying factors, which could be used to predict the likely behaviour of librarians toward IT innovation in their libraries.

**Design/methodology/approach** – Primary data were collected through a questionnaire survey of (sample of 682) head librarians working in academic libraries across Approach. In total, 76 per cent valid responses were used for factor analysis. The study found that the intensity of librarians' fears in IT handling, ability to cope with the ever-changing IT innovations and their level of understanding of IT-based rules and regulations were good predictors of librarians' approach toward information technology.

**Practical implications** – The findings can be utilized to improve the librarians' approach toward IT applications, their role in IT-related decision making, their ownership of IT application in libraries and for success of library IT projects and innovations.

**Keywords:** Librarians, approach, Library automation, Libraries, Nigeria, Research paper, IT, Innovations.

## INTRODUCTION

Information technology modernization are powering the library functions, operations, processes, infrastructure and services at an growing rate. It is imperative for the library leadership to make changes and innovations in the functions and roles of libraries for the ultimate benefit of its users (Moyo, 2004; Melchionda, 2007; Tsakonas and Papatheodorou, 2008). The librarians' role in this change process has been noted as central as champion of the library technology by several writers (Callahan, 1991; Griffiths, 1995; Lewis, 2007).

Because technology in itself does not bring changes, it is the librarian who uses the technology as a strategic resource to innovate library infrastructure, systems, services and resources and who assists the users in the effective use of technology that makes the difference. A number of studies (Yaacob, 1992; Su, 1993; Finlay and Finlay, 1996; Janes, 2002; Ramzan, 2004; Pors, 2005; Kari, 2006; Genoni et al., 2006; and Hendrix, 2007) have identified that the approach of librarians toward IT innovations play a fundamental role in determining their response toward implementation of these technologies in their libraries. They have further mentioned that the success or failure of IT application in libraries depends on the approach of the librarians, because, they are the key responsible persons for initiating changes, innovations and for planning and implementation of IT projects in their libraries.

Approach in this study signifies librarians' level of favourability or unfavourably for application of IT in their libraries. Ajzen (2001) has mentioned that people learn approach over time by being uncovered to the object directly or through receiving information about the object from peers and colleagues. This means that approach are open to influence through a persons' personal characteristics, personality traits, and the environmental and other factors. Correspondingly, librarians' personal characteristics, and environmental factors affect their approach towards IT applications. It is evident, that to understand the librarians' perceptions toward IT, we need to first examine and determine the possible factors that can influence their approach.

There is hardly any study available to explain the underlying factors that could affect the librarians' approach toward IT application in their libraries, particularly in Approach.

Identification of these factors is of significance as they help understand the dynamics of the existing approach and predict future behaviour of librarians toward IT innovations. It is hoped that the findings of this study will be used to identify the factors that can assist library managers, patrons, government officials, administrators, policy planners and decision-makers in predicting the success or failure of IT projects in libraries.

## **LITERATURE REVIEW**

It is imperative for the librarians to provide enough hardware, software, network facilities, electronic resources and continuously innovative user services. Malone et al.(2008) listed key factors that can influence the decision to provide computers in libraries. These are:

- (1) Users' ownership of computers, laptops, Ipads, internet enabled cell phones.
- (2) Presence or absence of wireless network.
- (3) Presence or absence of IT/library collaboration.
- (4) Space and cost issue.
- (5) Availability of computers in other departments.
- (6) Availability of electronic resources in libraries.

Moreover, one time provision of hardware, software, network infrastructure, and electronic resources is not enough. It involves continuous improvement and upgradation of systems and resources to pace with the fast changing information technologies (Holland, 1997). In addition, Sreenivasulu (2000) noted that the success of librarians in this digital age depends on their human and technology management competencies. A study by Chan and Auster (2003) reported that managerial and organizational support for updating knowledge and skills, age, job status (being part-time), organizational reward system was key factors contributing to the professional development of librarians.

It is well well-known that librarians' approach towards new information technologies play a fundamental role in the provision and application of these technologies in libraries. Their positive approach result in high morale, motivated factors affecting librarians' approach response to innovations and enhanced use of IT, while negative approach produce low morale and resistance to changes in the status quo. A number of factors influence these approach and

perceptions. Ostrow (1998) identified the factors that often contribute to the receptivity or resistance to innovations in libraries. These are:

- (1) Members' participation in decision-making and implementation.
- (2) Perceived availability of training and skills enhancement opportunities.
- (3) Presence of champions.
- (4) Gender and age.
- (5) Prior experience with technology.
- (6) Specialization within the organization.
- (7) Degree of professionalism.
- (8) Organizational slack.
- (9) Fear of technology.
- (10) Fear of change.
- (11) Perceived threats to job security or status.

Winstead (1994) identified ergonomic factors of automation, style of management during implementation of automation projects and communication skills of library administrators as essential factors in successful implementation of library automation projects.

Previous knowledge and experience with information technology may also be related to the acceptance or rejection of technological innovations. Research by Finlay and Finlay (1996) revealed that technical and procedural knowledge of IT tools, innovativeness, encouraging management and learning opportunities are key factors that influence librarians' approach toward internet. However, age, education, job position and location were not significantly correlated with their internet approach. A study by Ramzan (2004) revealed IT utilization, level of IT knowledge, and awareness about the potential of technology as good predictors of librarians' IT approach. Potosky and Bobko (2001) found individual's personal relationship with computers, approach about computers use, and general approach about computers in society as significant predictors of their perceptions about computers.

Librarians' role in IT related decision-making and their level of familiarity with the new system and rank of librarian in the hierarchy of the organization and their overall technology orientation are important factors affecting the acceptance or rejection of automation in

libraries. Idowu (1999) found that computer training and a practical knowledge of computer applications were significant factors, which influence librarians' approach toward library automation. Tella and Ayeni (2006) indicated that self-efficacy and prior computer experience significantly predict and contribute to the creativity of the librarians. Studies by Adedeji et al. (2005) and Uwaifo (2007) revealed that the respondents' age, gender and computer experience does not significantly influence librarians' approach towards the use of computerized information systems. A cognitive process research by Au and Enderwick (2000) determined that an attitude toward technology adoption is affected by compatibility; better value, perceived benefits, adaptive experiences, perceived difficulty, and supplier's commitment.

The earlier studies identify a number of personal and environmental factors that can affect librarians' approach toward IT innovations. This present study focussed on examining the factors that influence the approach of librarians toward use of IT in Approaching libraries.

## **Methodology – target and assumptions**

The data used in this paper has been collected through a questionnaire survey.

Respondents were asked to describe their personal opinions, beliefs and approach on a five-point Likert scale. Forty-two statements were used to elicit the librarians' approach regarding impact of IT on different library operations and services, cost of IT tools, equipments and electronic resources, allocation of resources for IT, and staff and user IT training, and general aspects of IT relevant to libraries and librarianship. These statements were selected from previous studies after discussions with library scholars, IT experts and behavioural scientists. There are multiple stakeholders responsible for application of IT in libraries. The subjects of this study are head librarians' working in academic libraries across the country. Consequently, they were targeted for the collection of primary data. The choice of respondents was based on a number of factors and assumptions. These were as follows:

(1) The head librarian was deemed to be the person with a comprehensive overview and understanding of the initiatives, developments, and implementation status of the various programs and activities being undertaken at the library.

(2) He is most likely to be the person to lead all significant initiatives. Thus, he could be termed as the champions of all major changes taking place in the library. Without his

leadership role, it is doubtful that major developments could be conceived and executed. This is, perhaps particularly true in the context of libraries in less-advanced countries. Given the nature of relatively more hierarchical organizational setup in most local institutions, particularly those in the public sector, the need for the head to lead the department/institution becomes more explicable. Although, one could argue that some other senior person in the institution could champion the cause of certain significant developments in the library, this seems practically unlikely, especially in more professionally managed institutions where departments and their roles are more formally established.

(3) This study also thought that the attitude of head librarian is a vital factor in the induction and successful implementation of IT innovations. Because being the ‘champion’ of major initiatives head librarians, attitude is likely to impact significantly on the final outcome of all major developments and endeavours with regard to IT and other innovations undertaken at the library. Of course, the role of librarians and other staff at the library is also paramount in the successful execution of different library projects.

(4) The cost, time and effort constraints also necessitated the choice of head librarian as the target respondent. The cost factor became particularly important given the geographical dispersion of sample libraries.

A purposive sample of 288 head librarians was drawn from a countrywide population of 682 academic libraries. Of the 288 questionnaires administered, 236 (82 per cent) respondents returned completed questionnaires. A major part of the IT approach and demographic information was incomplete in 17 responses. Finally, 219 (76 per cent of the sample) valid questionnaires were selected for data analysis and interpretation.

## **Discussion and implications**

Results of factor analysis on librarians’ IT attitude statements helped understand the underlying factors that determine their approach toward IT. The emergent key factors indicate that librarians were still confused over ownership of IT implementation in libraries. They believed it was the responsibility of computer professionals to initiate and implement IT in libraries. This kind of behaviour indicates the librarians’ lack of confidence in their abilities and lack of required technology skills and leadership quality as practical innovators. It also appeared that they still believed that IT was for the developed countries and was still a luxury for Approachn libraries. One of the reasons could be that historically, our librarians

have the habit of acting on the advice of foreign experts and consultants, they lack necessary confidence and courage to take risks, and they do not possess necessary skills to plan and implement IT related library projects. The cost of IT tools, lack of professional staff, in-depth IT education and training, IT-based library rules and standards, ever changing IT, job fears (especially for older people) and librarians' level of involvement in IT related decision making also emerged as important factors in determining their approach toward information technology in academic libraries of Approach.

Principal Components Analysis (PCA) technique engaged indicates that IT specialism (separate from librarianship), resource utilization and future IT use in libraries, fast changing information technology (IT fears), IT as an enabler and catalyst are the key common factors influencing the librarians' IT approach. In addition the rules, standards and processes to manage IT systems, librarians' role in IT decision-making and in-depth and continuous IT education and training are also determined as the key factors affecting approach of librarians toward application of IT in libraries. Findings of this study confirmed the results of earlier research by Yaacob (1992) and Ramzan (2004) that librarians' level of knowledge in information technology is the key factor in determining their approach toward information technology. The head librarians' job experience in terms of age above 54 affects their IT approach negatively. Their skill in information technology and libraries' IT availability are important factors influencing their approach toward IT. These underlying factors are important predictors for the success or failure of any information technology project in libraries in Nigeria. In addition to the previously mentioned factors, the study found a need for regular but updated and formal information technology education for librarians. In consonance with Weiner (2003), the study found that librarians' lack of information of innovations and an ineffective role in IT decision-making are the reasons for librarians' resistance to change, their fear of change, fear of computers and insecurity.

This study has provided scientific data and evidence for local authors and international researchers to further probe into the different dimensions of approach of librarians toward information technology in this part of the world. The findings of this study will help planners and decision-makers, such as Higher Education Commission of Nigeria, Planning Commission, Ministry of Science and Technology, Ministry of Information Technology, Ministry of Education, library directorates, vice-chancellors of universities, heads of other academic institutions and members of library committees, educators and librarians. They will benefit by knowing and understanding the factors affecting approach of librarians toward IT.

Through such an understanding, the decision-makers can review their existing library IT projects and can take concrete steps to improve approach of librarians toward information technology, which in turn, will enhance the effective and appropriate use of information technologies in libraries across Nigeria. The enhanced IT application and usage will help in achieving the all-important goal of constant improvement in teaching, learning and research standards of educational institutions in Nigeria. Librarians' knowledge of IT, experience in computer use, age group, their professional commitment, working experience, level of awareness of technologies, recency in IT training, level of support from computer and other departments, project management abilities and their role in IT decision making are key factors influencing their approach toward information technology. These factors need to be addressed while planning and implementing any IT based project in libraries.

## **Conclusion**

It is concluded from the findings of this study and review of literature that librarians' approach are open to influence by their personality characteristics, professional IT competency level and through organizational environment. The most significant of these factors are the issues of ownership of IT application in libraries; who is in charge here; librarians' fears of handling technologies and their involvement in IT-related decision making. First, this implies clearly defining and communicating the role of librarians in their departmental domain, and interrelationship with IT department and the institutions administration. Second, they need to be fully involved and empowered to initiate and make decision regarding IT innovations in their libraries. Third, their fears regarding handling of technologies need to be eliminated or reduced to a minimum through raising their level of knowledge, experience and exposure of emerging information technologies.

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