

Attitudes of Librarians in Selected Nigerian Universities toward the Use of ICT

Paul Adesola Adekunle

National Open University, Nigeria

Rosnold Ogie Omoba

Redeemers University Library
Ogun State, Nigeria

Adeyinka Tella

Department of Library & Information Studies
University of Botswana

Introduction

Implementing information communication technology (ICT) in the library depends largely on librarians' attitudes toward it. The application of ICT has caused significant changes in libraries: automated cataloguing, circulation, information retrieval, electronic document delivery, and CD-ROM databases, for example. According to Ostrow (1998), the advent of the Internet, digitization, and the ability to access library and research materials from remote locations created dramatic changes by the end of the twentieth century. Ramzan (2004) observes that expert systems, wireless networks, virtual collections, interactive Web interfaces, virtual reference services, and personal Web portals have brought changes since the start of the new millennium. There have been fast and significant changes in librarianship, where digital and electronic libraries complement, and in some cases replace, traditional libraries.

Fishbein and Ajzen (1975) explore the role of attitude in their Theory of Reasoned Action (TRA), which looks at the relationship between attitudes and norms and their influence on behaviour. Others have considered how people are influenced by peer opinions (Dillon and Morris, 1996). Attitudes affect behaviour and must be considered in managing staff, especially during change and innovation (Spacey, Guilding, and Murray, 2004).

Technological change is posing a particular challenge to librarians in developing countries. Librarians in developed countries moved quickly to learn and adopt new information technologies (Ramzan, 2004). ICT was introduced to perform library functions and provide innovative user services. Librarians gained knowledge of new technologies through continuing education programs, professional training, and revisions to library school curricula, which helped them benefit from the new technologies. Their libraries became equipped with appropriate hardware and software (Ramzan, 2004). The story in developing nations is quite different.

Ramzan (2004) has described the situation in Pakistan and other developing countries. He observes that librarians in Pakistan were not prepared to embrace the changes forced on them by new

technologies; and that most of them were uncertain about ICT applications in their libraries and benefits for their organizations, because they had little knowledge ICT. The problems associated with this lack of knowledge are also discussed by Mohammed, et al. (1992), Khan (1995), Haider (1998), Mahmood (1999), and Saeedet et al. (2000). Nigeria is also a developing country. This study will explore attitudes of librarians in Nigeria towards ICT in their libraries. It is useful to have empirical evidence from a population of Nigerian librarians on this topical issue, which is important to the development of libraries at the digital era.

Literature review

Attitudes are “inclinations and feelings, prejudices or bias, preconceived notions, ideas, fears and convictions about any specific topic” (Taiwo, 1998). Many have cited Allport (1935), who states that an attitude “is a mental and neutral state of readiness organized through experience exerting a directive or dynamic influences upon individual's response to all objects or situations with which it is associated.” This study explores the response and readiness of librarians to ICT applications. Attitudes represent the conceptual value of these technologies in the minds of the librarians, not the values of the technologies themselves. According to Spacey, et al. (2003), Fine (1986), and Evald (1996), positive attitudes are fundamental in implementing new technologies. The Technology Acceptance Model (TAM) (Davis, 1989) is another way of looking at the relationship between attitude and behaviour. Other research in this area include Mathieson (1991), Morris and Dillon (1997), and Taylor and Todd (1995).

Winter et al. (1998) found a correlation between attitude toward technology and number of hours spent using a computer. Craghill et al. (1998) and Jones et al. (1999) both carried out research that reinforced the importance of a positive attitude on the implementation of ICT.

The literature on training is voluminous. Many studies have explored the role of training in the success of ICT implementation. Those include Igbaria et al. (1995, 1997), Brosnan (1998), Library and Information Commission (1997, 1998), Craghill et al. (1989), Biddiscombe (1997), Gilmore (1998), Cooper, (1998), Jones et al., (1999), Woodhouse and Baigent (2002), Gilmore, 1998), Torkzadeh et al. (1999) Clark and Kalin, (1996), (Williamson, (1993) Quinn, (1995), Coulson (2000), Small, (2001), and Swann (2003).

The use of ICT is growing in Nigerian libraries. Lee, in Popoola (2002), asserts that microcomputers will create remarkable changes in the nature of professional work. Krbec and Pakia (1994) describe the advantages of ICT for library processes and user services. Igberia et al., in Popoola (2002), argue that there is widespread fear and negative attitudes that have slowed the progress of ICT implementation. Atwell and Rule (1984) assert that many people resist using computers and other ICT technology.

The findings of a survey of more than 3,000 teachers by Williams, et al. (1998) revealed a correlation between levels of use, skills, familiarity, and knowledge of ICT and teachers' attitudes. Johnson (1991) observes that a major reason for failure of library automation projects in developing countries is that librarians plan without sufficient knowledge of the purchase of hardware, software, and power supply requirements. Finlay & Finlay (1996) sought to establish a connection between current knowledge and personality types in measuring librarians' attitude toward the Internet. The researchers hypothesized that those with more knowledge and more innovative personalities were likely to have a more positive attitude toward innovation. The hypotheses about knowledge were supported, but the hypothesis regarding innovativeness was not supported. Janes (2002) found that reference librarians with digital reference experience had more positive attitudes than those who had no experience.

Yaacob (1990) investigated the attitudes of librarians in government-supported special libraries in Malaysia, and examined the relationship between the librarians' attitudes toward IT and other variables. A significant relationship was found among attitudes and awareness of the potential of IT, recency of

attaining professional qualifications, and knowledge of IT. Librarians' level of knowledge of technology was good predictor of attitudes toward IT.

Al-Zahrani (2000) investigated the perceptions of 147 library professional and paraprofessional staff concerning information technology innovations and training in university libraries in Saudi Arabia. He found a significant relationship among respondents' educational background, experience in using information technology, and their perceptions about IT.

Two research questions were developed to guide the study.

1. What is the attitude of Nigerian librarians toward the use and application of ICT in their libraries?
2. Does ICT training or librarian knowledge of ICT influence attitudes towards use of ICT in their libraries?

Methodology

This study uses a descriptive survey method.

Population and sample

The study targeted librarians in libraries in Oyo state of Nigeria that have automated systems. These are: Kenneth Dike Library, University of Ibadan; Ladoke Akintola University of Technology Library; The Polytechnic Ibadan Library, and International Institute of Tropical Agriculture (IITA) Library, Ibadan. All librarians in the population were included in the survey. A librarian in this study is assumed to mean a full-time professional who works as a department head.

Table 1: Sample selection

Library name	number of librarians surveyed
Kenneth Dike Library, University of Ibadan	17
Ladoke Akintola University of Technology Library, Ogbomoso	10
The Polytechnic Ibadan Library, Ibadan	8
International Institute of Tropical Agriculture Library, Ibadan	6
Total	41

Of the total population, 26 were male and 15 female. Five hold a PhD and the remaining 36 have an MLS.

Instrument

The instrument used for the collection of data on this study was a modified Igberia and Chakrabarti (1990) Computer Anxiety and Attitude towards Microcomputer Utilization (CAATMU) scale and Librarian attitude questionnaire developed by Ramzan (2004). This instrument is divided into three parts.

Part 1: Demographic variables of the respondents

The items included in this part were respondent's gender, age, highest educational qualification, department/section/division, and length of service.

Part 2: Attitude toward ICT

This part of the survey contains ten items measuring librarian attitudes toward the use of ICT in libraries. They relate to both positive and negative effects of ICT in automated libraries. Respondents were asked to rate their belief about ICT applications to library practices on a 2-point scale: 2 = Agree and = 1 Disagree.

Part 3: ICT Experience and Training

This part contains seven items assessing librarian ICT experience and training relating to query language, library software packages, operating systems, knowledge of programming, participation in design and implementation of ICT, and method of acquiring ICT experience.

Procedure

The researcher visited participating libraries to administer the instrument.

Results

The results of the analysis on the study are presented as follows:

Research Question 1: What is the attitude of Nigerian librarians towards the use and application of ICT in their libraries? To answer this question respondents were asked to rate the extent of their agreement with the attitude items. A Friedman Test with Percentage and Frequency Count was used to analyze the responses. The results is contain in table 2.

Table 2: Attitude of the Librarian to ICT (No = 41)

Attitude statement	No	Mean	Agree	Disagree
1 ICT enables most effective ways of resource sharing	41	6.39	40(97.6%)	1 (2.4%)
2 ICT helps in making specific information available	41	6.23	39(95.1%)	2(4.8%)
3 ICT will not appreciably reduce the number of library staff	41	6.11	39(95.1%)	2(4.8%)
4 Card catalog can be modified more easily than OPAC through ICT	41	6.05	38(92.7%)	3(7.3%)
5 Online databases provide more up-to-date Information	41	5.08	37(90.2%)	4(9.8%)
6 Data retrieved through print resources is authentic	41	5.92	36(87.8%)	5(12.2%)
7 Each year ICT offers more efficient ways to carry out library operations	41	4.61	31(75.6%)	10(24.4%)
8 Computer creates health and environmental Problems	41	3.32	12(29.3%)	29(70.7%)
9 Data storage on computers is highly risky in the library	41	3.21	12(29.3%)	30(73.2%)
10 Extensive use of ICT has created job fears amongst Librarians	41	3.03	8(19.5%)	33(80.5%)
11 Automated acquisition is not feasible for our libraries	41	3.10	7(17.1%)	34(82.9%)
12 Changes occurring due to ICT application are out of control of librarians	41	3.11	5(12.2%)	36(87.8%)

Table 2 shows the result of the Friedman test, Mean, and Percentages, which indicate that the librarians in the study have a positive attitude toward ICT, with large majorities agreeing about its usefulness. These results generally show that respondents have a positive response to all the attitude items.

Research Question 2: Does ICT training or librarian knowledge of ICT influence their attitude towards use of ICT in their libraries?

To answer this research question, the responses to items in part 3 were correlated with the responses to items in part 2. The result obtained is presented in table 3.

Table 3: Librarian training/knowledge and attitude to ICT

variables	No	Mean	SD	Df	r.obs	P	Remark
Librarian training/knowledge	41	43.7	6.8	39	4.47	0.05	S**
Librarian attitude to ICT	41	41.9	6.3				

Table 3 shows a significant between training/knowledge of ICT and attitude towards ICT. This is shown with the Pearson correlation matrix where (df = 39, r.obs = 5, at P<0.05), which can therefore be interpreted to mean ICT training and knowledge possessed by librarian can influence their attitude toward ICT.

Discussion

The results reveal generally that librarians in the study have a positive attitude toward the use and implementation of ICT in their libraries. The reasons may include an understanding of the benefits of ICT. In Table 2 above, the respondents reacted favorably to the advantages of ICT, rather than to any perceived negatives. The results reveal further that librarian training and knowledge of ICT influence their attitudes toward it. This is consonant with the findings of earlier studies (e.g. Williams, et al., 1998), which revealed a significant correlation between levels of use, skills, familiarity, and knowledge of ICT and teachers' attitudes. Similarly, Finlay & Finlay (1996) established a connection between current knowledge and personality types in measuring librarians' attitudes towards the Internet. These findings lend credence to the results of this study. Moreover, Janes (2002) reveals that reference librarians with digital reference experience tended to have more positive attitudes than those who had no experience. Training and experience with particular events, behaviour, or action affects the attitude of an individual toward them. Adequate training and knowledge of ICT are crucial in encouraging librarians to show a positive attitude toward it. Johnson (1991) observes that the major reason for the failure of library automation projects in developing countries is that librarians and funding agencies plan without sufficient knowledge of hardware, software, and power supply requirements. This reaffirms that sufficient knowledge of ICT and its resources are important to the development of a positive attitude to ICT by librarians.

Conclusion

Training and knowledge are the *sine qua non* of a positive attitude toward ICT. In this era, when new technologies are introduced almost daily, it is essential for librarians to keep up with ICT developments. The fear of some in the developing world toward ICT is widening the digital divide. In Africa, it is time to bridge the digital gap. African libraries who are not yet automated should begin thinking about it now. Training is the first step, which will reduce fear when implementation of ICT begins.

References

- Allport, G.W. (1935). Attitude, in G. Murchinson (ed.), *A handbook of social psychology*. Worcester, Mass.: Clark University Press, pp.798-884.
- Attewell, P., & Rule, J. (1984). Computing and organization: What we know and what we don't know. *Communications of the ACM* 27, pp. 1184-1192.

- Bichteler, J. (1987). Techno stress in libraries: Causes, effects and solutions. *The Electronic Library*, 5, pp. 282-7.
- Biddiscombe, R. (1997). Training for IT, Library Training Guides. London: Library Association.
- Brosnan, M. (1998). *Technophobia: the Psychological Impact of Information Technology*. London: Routledge.
- Mohammad, F., Rehman, H., Ali, S.L., & Salim, A.A. (1992). *Challenges in Automating the Library Services*. Peshawar: Department of Library & Information Science, University of Peshawar.
- Cooper, A. (1998). Managing change to enhance technological orientation and knowledge among library staff. *The Electronic Library* 16:4, pp. 247- 52.
- Coulson, S. (2000). A provisional study of the strategic management of three public library authorities working towards 'New Library: The People's Network, Southborough: Department of Information Science, Southborough University. M Sc thesis.
- Craghill, D., Neale, C., & Wilson, T.D. (1989). The Impact of IT on Staff Deployment in UK Public Libraries. London: British Library.
- Dillon, A., & Morris, M. (1996). User acceptance of information technology: Theories and models. *Annual Review of Information Science and Technology* 31, pp.3-32.
- Evald, P. (1996). Information technology in public libraries. *Program*30: 2, pp. 121-31.
- Fine, S. (1986). Technological innovation diffusion and resistance: An historical perspective. *Journal of Library Administration* 7 (1). 83- 108.
- Fishbein, M., & Ajzen, I. (1975). *Belief, Attitude, Intention and Behaviour: An Introduction to Theory and Research*. Boston, MA: Addison-Wesley.
- Gilmore, E. (1998). *Impact of training on information technology: Attitudes of university faculty*. Available at: <http://www.tcet.unt.edu/research/dissert/gilmore> [Accessed 30 May 2007].
- Igbaria, M., Guimaraes, T., & Davis, G.B. (1995). Testing the determinants of microcomputer usage via a structural equation model. *Journal of Management Information Systems*, 11:4. pp. 87-114.
- Igbaria, M., Zinatelli, N., & Cragg, P. (1997). Personal computing acceptance factors in small firms: A structural equation model. *MIS Quarterly*, 21: 3, pp. 279-305.
- Igberia, M. & Chakrabarti, A. (1990). Computer anxiety and attitudes towards microcomputer use. *Behaviour and Information Technology* 9:3. pp. 229-241.
- Janes, J. (2002). Digital reference: Reference Librarians, Experiences and Attitudes. *Journal of the American Society for Information Science and Technology* 53:7. pp. 549-566.
- Johnson, J. S. (1991). Computerising information systems in developing countries: Keys to sustainable development. *Pakistan Library Bulletin*, 22:3, pp. 22-30.

- Jones, B., Sprague, M., Nankivell, C., & Richter, K. (1999). *Staff in the new library: Skill needs and learning choices. Findings from Training the future, a public library research project*. London: British Library. British Library Research and Innovation Report 152
- Jones, D. (1999). Ten years later: Support staff perceptions and opinions on technology in the workplace. *Library Trends* 47:4, pp.711-45.
- Khan, N.A. (1995). Information technology in the university libraries of Pakistan: Stresses and strains. *Pakistan Library Bulletin* 26:1, pp. 1-11.
- Krbec, P., & Paika, P. (1994). Reasons for and benefits of library automation. *Casopsis* 36:20, pp. 40-46.
- Library and Information Commission (1997). *New Library: the People's Network*, London: Library and Information Commission.
- Library and Information Commission (1998). *Building the New Library Network*. London: Library and Information Commission.
- Mahmood, K. (1999). The development of computerised library services in Pakistan: A review of the literature. *Asian Libraries* 8:9, pp.307- 28.
- Popoola, S.O. (2002). User's attitudes towards microcomputer use in agricultural research libraries in Nigeria. *Journal of Librarianship in Information Science in Africa* 2:1. pp. 15-25.
- Quinn, B. (1995). Reducing stressful aspects of information technology in public services. *Public and Access Services Quarterly*, 1:4, pp. 1-34.
- Ramzan, M. (2004). Does level of knowledge impact librarians' attitude toward Information Technology (IT) applications? 2nd International CALIBER- 2004, New Delhi, 11-13 February.
- Rehman, S. (1993). Library automation in Pakistan: Myths and realities. In
- Saeed, H., Asghar, M., Anwar, M., & Ramzan, M.M. (2000). Internet use in university libraries of Pakistan. *Online Information Review*, 24:2, pp. 154-160.
- Small, G. S. (2001). Making the training work. *Public Library Journal*, 16:4, pp. 136-8.
- Spacey, R., Goulding, A., & Murray, I. (2003). ICT and change in UK public libraries: Does training matter? *Library Management* 24:1&2, pp. 61-69.
- Swann, D. (2003). ECDL for educators: ICT skills training in context. *Computer Education* 103, pp. 16-17.
- Swanson, E.B. (1982). Measuring user attitudes in MIS research: A review. *Omega* 10, pp. 157-165.
- Taiwo, A.S. (1998). *Some psycho-social and linguistic variables as determinants of performance in English language in selected secondary schools in Kwara State, Nigeria*. An Med thesis. University of Ibadan.
- Taylor, S., & Todd, P. (1995). Understanding information technology usage: A test of competing models. *Information Systems Research*, 6:2, pp. 144-76.

Torkzadeh, R., Pflughueft, K., & Hall, L. (1999). Computer self-efficacy, training effectiveness and user attitudes: An empirical study. *Behaviour and Information Technology*, 18:4, pp. 299-309.

Williams, D., et. al. (1998). *Teachers' ICT skills and knowledge need: Final Report to SOEID*. The School of Information and Media, Faculty of Management. The Robert Gordon University, Scotland. Available at: <http://www.scotland.gov.uk/library/ict/append-title.htm> [Accessed on 30 May 2007].

Williamson, M. (1993). *Training needs analysis*. London: Library Association.

Winter, S.J., Chudoba, K., & Gutek, B.A. (1998). Attitudes toward computers: When do they predict computer use? *Information and Management*, 34:5, pp. 275- 84.

Woodhouse, S., & Baigent, H. (2002). People's network. *Library Association Record* 104:1, pp. 18.

Yaacob, R.A. (1990). Attitudes concerning information technology of librarians employed in government-supported special libraries in Malaysia. PhD. dissertation. University of Michigan.