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Information and communication technologies and knowledge sharing among academic librarians in south-west Nigeria
Implications for professional development

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Abstract

Purpose – This study aims to investigate the degree and frequency of utilisation of information and communication technology (ICT)-enabled platforms for knowledge-sharing by academic librarians in south-west Nigeria. It also seeks to identify possible barriers as well as strategies that will promote efficient utilisation of these platforms.

Design/methodology/approach – This study adopted a descriptive survey design, using a researcher-developed questionnaire for data collection. Fifty-two professional librarians from selected academic libraries in south-west Nigeria were surveyed. Descriptive statistics were used for data analysis.

Findings – Finding from the investigation revealed that academic librarians in south-west Nigeria are increasingly utilising ICT platforms for knowledge-sharing in preference to the traditional platforms. However, ignorance of existing ICT knowledge-sharing platforms, limited ICT skills and an unhealthy technology environment remain major challenges.

Originality/value – The findings of this study have far-reaching implications for Nigerian academic librarians' professional development. It advocates maximum utilisation of ICT platforms to enhance knowledge-sharing and collaboration for professional development, scholarly communication and efficient service delivery.

Keywords Knowledge-sharing, Information and communication technologies, Academic librarians, Professional development, Nigeria

Paper type Research paper

Introduction

Knowledge exchange among librarians and other professionals have been greatly enhanced in recent times by information and communication technologies (ICTs) (Anna and Puspitasari, 2013; Ezeani, 2011). ICT tools such as intranets, electronic mails (emails), online professional blogs as well as other emerging social networking platforms are enjoying increasing utilisation by librarians for collaboration and knowledge exchange (Natarajan, 2008; Tella *et al.*, 2012; Anna and Puspitasari, 2013). ICT has become a key facilitator of knowledge exchange among professionals with multi-dimensional benefits. Contemporary ICT-enabled platforms are great motivators for knowledge-sharing when compared to the traditional methods; ICT can enhance knowledge-sharing by lowering temporal and spatial barriers between knowledge workers and improving access to information about knowledge (Hendriks, 1999). Besides overcoming the barriers of time and space, ICT can make knowledge-sharing

simple and cost-effective. A recent study by Zaffur and Ghuzawneh (2012) revealed that emergent social software platforms (ESSPs) can be used to support knowledge-sharing practices and to help convert knowledge into different forms.

Paroutis and Saleh (2009) summarised key factors that influence knowledge-sharing behaviour into three broad categories, namely:

(1) technological factors;

(2) organisational/environmental factors; and

(3) individual or personal factors.

In many Nigerian academic libraries, the initial apprehension and technophobia caused by environmental limitations (technological environments), limited ICT infrastructures, low ICT skills and so on are gradually fading, giving rise to new waves of interest and utilisation of ICT for performing many professional functions (Edem, 2007; Emojorho and Nwalo, 2009). With moderate government funding and interventions by concerned private individuals, corporate bodies and non-governmental organisations, the technological environment in many academic institutions are changing (Agyeman, 2007; Ofulue, 2011). ICT infrastructures are becoming increasingly available and accessible (Ajayi, 2003; Agyeman, 2007; Emojorho and Nwalo, 2009; Ofulue, 2011). Availability and accessibility to organisational intranet and the World Wide Web are also on the increase. Bandwidth and connectivity challenges identified by Ibinaiye (2010) are currently being tackled by many academic libraries through the support of the enlarged institutions ICT units. These developments portend an enhanced ICT environment for professionals in academic libraries when compared to the situations in the past decade.

However, in spite of these positive developments and the current global trends, many professionals in Nigerian academic libraries are yet to maximise the opportunities brought about by ICT for enhancing information exchange both for improved service delivery and professional development. With this in mind, this study was undertaken to ascertain the use of knowledge-sharing platforms among academic librarians in south-west Nigeria. The specific objectives were to determine the ICT platforms academic librarians use, the perceived benefits and the barriers to knowledge-sharing as well as the strategies for promoting maximum and efficient utilisation of these platforms by academic librarians for knowledge-sharing with peers locally and globally. The research questions that guided the study were:

RQ1. What platforms do academic librarians in south-west Nigeria use for knowledge-sharing?

RQ2. What is the degree of utilisation of ICT-enabled platforms for knowledge-sharing among academic librarians in south-west Nigeria?

RQ3. How often do academic librarians in south-west Nigeria engage in knowledge-sharing?

RQ4. What are the benefits of knowledge-sharing as perceived by academic librarians in south-west Nigeria?

RQ5. What are the barriers to knowledge-sharing among academic librarians in South-West Nigeria?

RQ6. What strategies should be adopted to promote knowledge-sharing among academic librarians in south-west Nigeria?

Review of related literature

Literature on knowledge-sharing and knowledge management has attempted different perspectives on taxonomies of knowledge, as well as making a distinction between data, information and knowledge. Differences between individual and organisational knowledge have also been discussed. After conceptualising knowledge, attempts at conceptualising knowledge-sharing have also been made (Boer 2005). The process as well as the scope of knowledge-sharing is addressed. Models, motivations and platforms for knowledge-sharing at individual and organisational levels have also been studied (Kim, 1999; Talja, 2002; Bock *et al.*, 2005; Boer, 2005; Cheng *et al.*, 2009; Talja, 2002).

The concept of knowledge-sharing

In this study, the terms knowledge-sharing, knowledge exchange and information-sharing are used interchangeably in reference to the same concept. Kim (1999) classified knowledge into two categories, namely, tacit knowledge and explicit knowledge.

Tacit knowledge consists of hands-on skills, best practices, special know-how, intuitions and so on. Tacit knowledge is often context-dependent and personal in nature. It is hard to communicate and deeply rooted in action, commitment and involvement (Nonaka, 1994). Tacit knowledge is implicit. Explicit knowledge is rule-based knowledge that is used to match actions to situation by involving appropriate rules. This knowledge resides in many different places such as: databases, knowledge bases, filing cabinets and people's heads and is distributed right across the organisation (Kim, 1999). The need for knowledge-sharing and knowledge exchange is, therefore, predicated on the need to maximise consumption and utilisation.

Boer (2005) observed that conceptualising knowledge-sharing is a challenging endeavour for two reasons. First, because the relevant theories and concepts are not to be found within one single research discipline, but can be distributed over several social science disciplines and sub-disciplines. Second, it is noted that a substantial part of the literature is engaged in epistemological discourse about knowledge-sharing without a clear consensus. Consequently, there are many definitions and approaches to knowledge-sharing. These approaches tend to be influenced by the professional background of the authors as well as the purpose for which knowledge is shared. The scope of knowledge-sharing is also a factor in conceptualising it. That is, whether knowledge is shared internally within an organisation (limited scope) or externally outside an organisation or among individuals or professionals located in remote parts of the world (unlimited scope). Wilem (2003) defined knowledge-sharing as the exchange of knowledge between at least two parties in a reciprocal process, allowing the reshaping and sense-making of the knowledge. In similar vein, Bock *et al.* (2003) define knowledge-sharing as voluntary activities of transferring or disseminating knowledge between people or groups in an organisation.

Knowledge-sharing is an information management strategy that promotes knowledge transfer in relation to need and minimises awareness and access barriers. Boer (2005) views knowledge-sharing as a social-relational process through which individuals try to establish a shared understanding about reality and to established the potential ability to transform this understanding into collaborative action to yield performance.

However, Hendriks' (1999) approach remains one of the most widely accepted by scholars and professionals as a balanced approach to the concept of knowledge-sharing. This is because of the two pronged approach of associating, as well as comparing and contrasting knowledge-sharing with communication and information distribution. He attempts to differentiate knowledge-sharing from the general communication concept. He also differentiates knowledge-sharing from information distribution which may not necessarily connote knowledge exchange. This is because knowledge-sharing implies collaboration for mutual benefits. This approach to knowledge-sharing aligned with the librarianship view point of knowledge-sharing captured by Guzman (2007) which associates knowledge-sharing with collaboration and communication. The professional concept of knowledge-sharing is a collaborative communication for professional gains different from information distribution and selective dissemination of information (SDI) which are information services. It is mainly for professional gains geared towards enhanced knowledge, skill and competencies, professional self-improvement and may result in enhanced services (Boer, 2005).

Among academics, knowledge-sharing is associated with research and scholarly communication. While among professionals, in general, it is associated with professional development, up-to-datedness and innovative practice. In the organisational context, it implies colleagues sharing what they know with others within the organisation. This is synonymous with knowledge management, which in the organisational concept implies– creation, sharing, utilisation and accumulation of knowledge (Murray 1999). Sharing is what differentiates organisation knowledge management from individual learning or knowledge acquisition.

Previous studies on knowledge-sharing
Many initial literatures on knowledge-sharing treat the subject from the organisational perspectives and as a subset and function of knowledge management. However, some recent works on knowledge-sharing in the professional and academic environments have attempted to approach the subject from both the organisational and individual as well as from the formal and informal perspectives. Hendriks (1999) examined the factors that influence knowledge workers to share their knowledge and how ICT relates to these factors. The study concluded that the role of ICT for knowledge-sharing can only be fully understood if it is related to the motivation for knowledge-sharing and not just to maintenance factors. Bock *et al.* (2005) studied the influence of extrinsic rewards in knowledge-sharing. They stressed that when the management of an organisation is motivated to embrace knowledge-sharing and its employees are not, using incentives to influence knowledge exchange would only result in the employees placing emphasis on incentives and this could result in sharing of low-quality knowledge and undermine the whole knowledge-sharing effort. Maponya (2004) conducted a study to establish the ways in which the academic librarians of the University of Natal, Pietermaritzburg, libraries could add value to their service by engaging in knowledge management. He identified knowledge-sharing as a crucial aspect of knowledge management. Cheng *et al.* (2009), Jain *et al.* (2007) and Ramayah *et al.* (2009) separately studied levels of knowledge-sharing among academics in some higher institutions in Malaysia. The findings revealed that the key factors that motivate academics to engage in knowledge exchange include personal expectations and incentives. ·

Osunade *et al.* (2007) examined the limitations to knowledge-sharing among the Nigerian academic community. The study attempted an evaluation of the Internet

information sourcing skills of Nigerian academics. The study was limited as far as knowledge-sharing is concerned, in that it examined only academics' skills in conventional webpage searches, which are elementary in research information sourcing. Key elements of contemporary knowledge-sharing (especially, as it affects the academia) were conspicuously absent in that study.

Paroutis and Saleh (2009) investigated the key determinants of knowledge-sharing and collaboration using Web 2.0 technologies by exploring the reason for and barriers to employees' active participation in the various platforms within a large multinational firm. The findings revealed four key determinants of knowledge-sharing using Web 2.0. These include: history, outcome expectation, perceived organisation or management support and trust. Talja (2002) developed a conceptual framework for the description of the types and levels of knowledge-sharing in academic communities.

Another study conducted by Wiorogorska and Rehmin (2012) on the purpose, types, preferred communication channels, motivation and barriers to knowledge-sharing among GERiiCO master's and doctorate students revealed that, generally, the students were willing to collaborate and share their knowledge. The preferred communication channels used for knowledge-sharing were face-to-face, email and Web 2.0 tools, while the preferred sources were Internet, university library meetings, seminars, conferences and workshops.

Isika et al. (2013) also examined the knowledge-sharing behaviour of postgraduate students of the University of Malaysia. The study identified the difference in knowledge-sharing behaviour and factors affecting knowledge-sharing among postgraduate students. The findings revealed that knowledge-sharing among students differs from knowledge-sharing in the corporate world due to differences in the goals of students.

In a study of knowledge-sharing and collaboration through social media, Zaffur and Ghuzawneh (2012) investigated how Web 2.0 technologies are being used to overcome knowledge exchange and collaboration issues. The findings indicated that ESSPs can be used to support knowledge-sharing practices and to help convert knowledge into different forms. Kim (2012) explored the acceptance and use of social software tools in knowledge-sharing. The findings show that both communication and knowledge-sharing have positive effect on the perceived usefulness of social software. The study also indicated that intrinsic motivation and communications are factors crucial in the case and use of social software.

This study is, therefore, an attempt to respond to fundamental issues that affect knowledge-sharing in Nigerian academic environments. Librarians in Nigerian academic libraries were targeted because of their position and role as knowledge managers and providers. It is believed that their knowledge, skills and competencies in modern information management and usage could influence the entire academic community with best practice in knowledge access and acquisition.

Theories and models of knowledge-sharing

Different perspectives on knowledge-sharing are described within the social sciences, in general, and within management theory, in particular. Between and even within these disciplines the level of sophistication of knowledge-related theories differ and the assumptions about and perspectives on knowledge-sharing can differ (Schultz and Leidner 2002). Boer (2005) maintains that because knowledge-sharing is a social

phenomenon, knowledge-sharing research should be classified as social research predicated on social science theories, although even within the social sciences many different approaches to knowledge-sharing exist.

Cheng *et al.* (2009) identified two approaches to knowledge-sharing, namely:

(1) the closed network sharing model (person-to-person knowledge-sharing) and

(2) the open network sharing model (sharing through an open repository).

- Closed network model – in this type of model, individuals have the freedom to choose what to share, what mode or platform to use as well as the choice of partners to collaborate with in sharing knowledge. This type of collaboration allows for sharing knowledge more directly as well as personal and long-term professional relationships.

- Open network model – This type of model refers to the sharing of knowledge among members of a group through knowledge management systems, typically a central database system. It always involves multiple individuals sharing multiple knowledge resources in the system. The individuals involved could be at organisation level, professional level or individuals with similar objectives forming a knowledge system.

Talja (2002) postulates four approaches to knowledge-sharing. This categorisation is based on goals and purposes of knowledge-sharing in different groups and contexts of interaction. These include:

(1) strategic information sharing;

(2) paradigmatic information sharing;

(3) directive information sharing; and

(4) social information sharing

In the academic research community, knowledge- and information-sharing can take the following forms:

- sharing information about relevant documents;

- sharing relevant documents; sharing information about the content of relevant documents;

- sharing information about novel and effective ways of finding relevant documents; and

- information sources.

ICT-enabled platforms and the attendant benefits

The preference of ICT platforms by modern day professionals for knowledge exchange is prompted by the limitations of traditional methods, the efficiency of the ICT-enabled platforms and also by the emerging formats of information packaging. The change in information media from print to electronic has shown a new dawn to the life of librarians (Kaur and Sharda, 2010). The availability of e-resources and networks that enhances their transfer with ease and speed has greatly influenced information taste and preference. Increase in the demand for e-resources by users as well as librarians has been observed, with the growth of knowledge to use these resources (Kaur and Sharda, 2010).

One outstanding feature of e-resources is ease of transfer with little or no cost: e-resources such as e-books, e-journals, various open sources, gateways, databases, etc. are increasingly widespread.

Presently, these knowledge-bearing resources may be communicated as online text, attachments via email or by simply providing links to the knowledge-bearing sources in form of uniform resource locator (URL) using any of ICT-enabled platform. The most common platforms include email, electronic conferencing, webforums, wikis, mobile phones, intercom, Skype, web blogs, professional listserves, web chat rooms, social networking sites (including Flicker, LinkedIn, Facebook and Twitter) and so on. Several studies have been carried out in recent times on the role of Web 2.0, social media and emerging social software platforms in knowledge-sharing (Paroutis and Saleh, 2009; Kim, 2012; Zaffur and Ghuzawneh, 2012).

Research method

The study adopted a descriptive survey design using a researcher-developed questionnaire for data collection. This design was considered appropriate because the variables were not manipulated. The platforms for knowledge-sharing in the questionnaire are those currently in use in academic libraries in Nigeria. However, they are not exhaustive. In south-west Nigeria, there are 5 federal universities, 10 state universities and 15 private universities. Five out of the 30 universities in south-west Nigeria were sampled using a stratified sampling technique. One federal university, two state universities and two private universities were selected.

The respondents were professional librarians from the selected university libraries totalling 68. The study, therefore, adopted a total enumeration technique in the choice of its population. This was because of the small number of professional librarians in the selected libraries. The selected university libraries from the area of study and the number of questionnaires administered and returned, respectively, were:

- University of Lagos library, Akoka (20, 17);
- Lagos State University Library, Ojo (10, 10);
- Ladoke Akintola University of Technology Library, Ogbomoso (8, 4);
- Redeemer's University Library, Mowe (10, 7); and
- Covenant University Centre for Learning Resources, Ota (20, 14).

The researchers and research assistants visited the libraries and directly administered the questionnaire to the respondents. Of the 68 copies of the questionnaire distributed, 52 useable copies were returned, given a 76.5 per cent response rate. Descriptive statistics such as frequency counts, percentages and means were used for data analysis.

The responses to the items on the degree of use of ICT platforms for knowledge-sharing were based on 3-point scale of 1 – poorly used, 2 – moderately used and 3 – highly used. To effectively analyse responses, nominal values were assigned to the response categories in the scale. The cut-off point was obtained by adding the values in the scale ($1 + 2 + 3 = 6$) and dividing by 3 to obtain a mean of 2.00. A criterion (mid-point) mean score of 2.00 was adopted to weigh the degree of use of ICT in knowledge-sharing. Any mean ranking ≥ 2.00 was regarded as positive, while any score <2.00 was treated as negative.

The responses to the items about barriers to knowledge-sharing in the questionnaire were based on a 4-point scale of 1 – to a very small extent, 2 – to a small extent, 3 – to a great extent and 4 – to a very great extent. To effectively analyse responses, nominal values were assigned to the response categories in the scale. The cut-off point was obtained by adding the values in the scale $(1 + 2 + 3 + 4 = 10)$ and dividing by 4 to obtain a mean of 2.50. A criterion (mid-point) mean score of 2.50 was adopted to weigh the extent the items impede knowledge-sharing. Any item ranked below 2.50 was regarded as positive, while any one below 2.50 was regarded as negative.

Results and discussion of findings

Thirty (57.7 per cent) of the respondents were female and 22 (42.3 per cent) were male. Out of the 52 respondents, 34 (65.4 per cent) had a master's degree in Library and Information Studies, 10 (19.2 per cent) had a Bachelor in Library Studies, 6 (11.5 per cent) had a Master's in Information Science and 2 (3.9 per cent) had a doctorate in Library and Information Studies. The study showed that in years of librarianship practice, 24 (46.2 per cent) had spent 1-5 years in practice; 14 (26.9 per cent), 6-10 years; 6 (11.5 per cent) 11-15 years; 5 (9.6 per cent), 21 years and above; and 3 (5.8 per cent) had spent 16-20 years. The majority of the respondents were well-educated but new in the profession.

Platforms used for knowledge-sharing

RQ1. What platforms do academic librarians in south-west Nigeria use for knowledge-sharing?

The five leading platforms that the respondents used for knowledge-sharing were:

(1) mobile phones – 43 (82.7 per cent);
(2) email – 42 (80.8 per cent);
(3) Facebook – 38 (73.1 per cent);
(4) intercom – 37 (71.2 per cent); and
(5) personal interaction – 37 (71.2 per cent).

Figure 1 indicates a shift in the platforms academic librarians used for knowledge-sharing. This implies that the closed network model is the predominant model used by the respondents for knowledge-sharing.

The degree of use of ICT platforms for knowledge-sharing

RQ2. What is the degree of utilisation of ICT-enabled platforms for knowledge-sharing among academic librarians in south-west Nigeria?

The findings in Table I showed the degree of utilisation of ICT platforms for knowledge-sharing among the respondents. From Table I, it can be seen that mobile phones had the highest mean score of 2.71, email had a mean score of 2.53, while intercom and Facebook had mean scores of 2.13 and 2.09, respectively. This study indicated that there is a new wave of interest in the use of ICTs for knowledge-sharing. The high rate of the use of mobile phones for knowledge-sharing may be due to their capabilities. According to Fatoki (2005), most sophisticated phones have computer-like features which allow their users to send email and browse the Internet and which also consume a hundred times less electricity than personal computers. For a country like
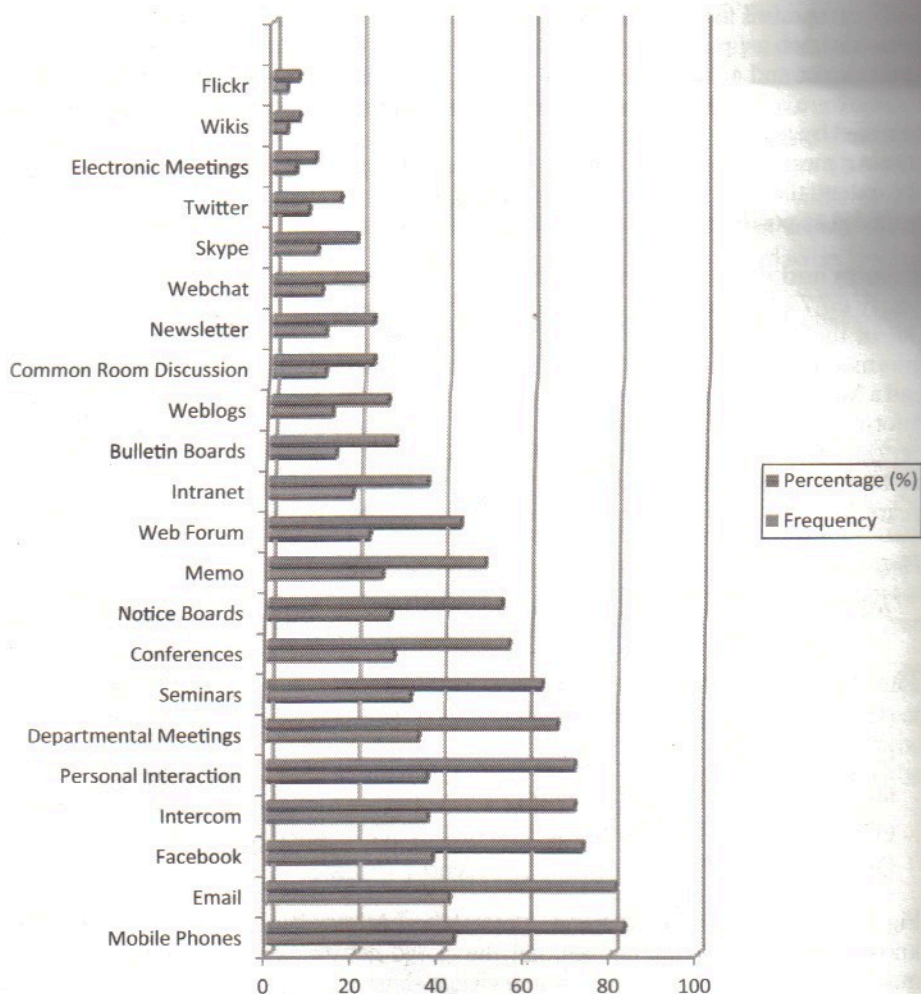
Figure 1.
A bar chart showing platforms librarians' use for knowledge-sharing

Nigeria where the power supply is erratic, the use of mobile phone for the exchange of information is a good alternative.

Frequency of knowledge-sharing among the respondents

   RQ3. How often do academic librarians in south-west Nigeria engage in knowledge-sharing?

The findings revealed that among the respondents, 28 (55 per cent) shared their knowledge daily, 14 (27 per cent) shared their knowledge weekly, 3 (6 per cent) shared their knowledge monthly, while 3 (6 per cent) respondents admitted that they had never shared their knowledge with others. This finding indicates that more than half of the respondents engaged in knowledge-sharing. This is in agreement with White's (2004)

ICT platforms	Mean	Ranking mean
Mobile phones	2.71	1
Email	2.53	2
Intercom	2.13	3
Facebook	2.09	4
Web forum	1.23	5
Intranet	1.15	6
Web chat	1.15	7
Web blogs	0.94	8
Skype	0.86	9
Electronic meeting	0.73	10
Wikis	0.65	11
Twitter	0.65	12
Flickr	0.46	13

Notes: 3 – Highly used, 2 – moderately used, 1 – poorly used, criterion mean = 2.00

assertion that librarians are willing to share their knowledge. Library managers should, therefore, motivate reluctant librarians to embrace knowledge-sharing (Figure 2).

Benefits of knowledge-sharing

RQ4. What are the benefits of knowledge-sharing as perceived by academic librarians in south-West Nigeria?

The result in Table II indicates that the benefits academic librarians derived from knowledge-sharing were keeping up-to-date with developments in the profession and promoting professional growth and development which had 47 (90.4 per cent) each. Creating room for cross-fertilisation of ideas for improved performance had 46 (88.5 per cent). Ensuring best practices in the profession, effective means of developing potentials/capacity building, and creating opportunity to address complex issues and problems had 44 (84.6 per cent) each. All the items had high percentages and can, therefore, be regarded as benefits of knowledge-sharing.
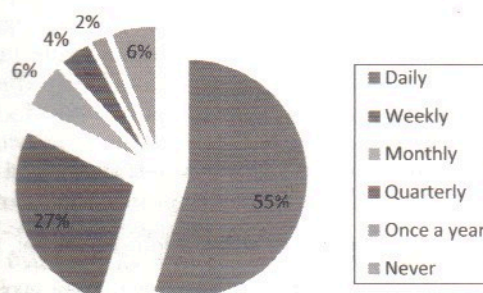
Frequency of Knowledge Sharing

2%
4%
6%
6%
55%
27%

- Daily
- Weekly
- Monthly
- Quarterly
- Once a year
- Never

Figure 2.
A pie chart showing
frequency of
knowledge-sharing among
librarians

Benefits	Frequency	(%)
Keep up-to-date with developments in the profession	47	90.4
Promotes professional growth and development	47	90.4
Creates room for cross-fertilisation of ideas for improved performance	46	88.5
Ensures best practices in the profession	44	84.6
Effective means of developing potentials/capacity building	44	84.6
Creates opportunity to address complex issues and problems	44	84.6
Facilitates collaborative learning and innovativeness	42	80.8
Improves self-confidence and self-esteem	41	78.9
Helps advance professional practice	38	73.1
Gives sense of personal fulfilment and satisfaction	31	59.6

Table II.
Benefits of knowledge-sharing

Barriers to knowledge-sharing

> RQ5. What are the barriers to knowledge-sharing among academic librarians in south-west Nigeria?

The results regarding barriers to knowledge-sharing are presented in Table III. Inadequate ICT skills had the highest mean score of 2.78, lack of awareness of the existence of knowledge-sharing platforms had mean score of 2.71 and lack of formal fora that encourage knowledge-sharing had mean score of 2.69. Inadequate ICT facilities and office environments that discourage knowledge-sharing had mean scores of 2.63 and 2.53, respectively. The lowest barrier is a hostile work relationship which had a mean score of 2.38.

Strategies for improvement in knowledge-sharing

> RQ6. What strategies should be adopted to promote knowledge-sharing among academic librarians in south-west Nigeria?

The major strategies for promoting knowledge-sharing among academic librarians in Nigeria are presented in Table IV. These include supporting and encouraging knowledge-sharing at all levels and units, 50 (96.1 per cent); capacity building in ICT and encouraging openness in communication among librarians, 49 (94.2 per cent); seeing one

Barriers	Mean	Ranking mean
Inadequate ICT skills	2.78	1
Lack of awareness of the existence of knowledge-sharing platforms	2.71	2
Lack of formal fora that encourage knowledge-sharing	2.69	3
Inadequate ICT facilities	2.63	4
Office environment that discourage knowledge-sharing	2.53	5
Absence of knowledge repository in libraries	2.46	6
Reluctance to share knowledge due to prejudice	2.46	7
Absence of reward systems that motivate people to share their knowledge	2.44	8
Hostile work relationship	2.38	9

Table III.
Barriers to knowledge sharing

Notes: 4–to a very great extent, 3–to a great extent, 2–to a small extent, 1–to a very small extent; criterion mean = 2.50

Strategies	Frequency	(%)
Supporting and encouraging knowledge-sharing at all levels and units	50	96.1
Capacity building in ICT	49	94.2
Encouraging openness in communication among librarians	49	94.2
Seeing one another as partners in progress and not competitors	47	90.4
Provision of adequate ICT infrastructure	46	88.5
Creating awareness of the existence of knowledge-sharing platforms	46	88.5
Cultivating right attitude and willingness to learn	44	84.6
Creating virtual knowledge teams	43	82.7
Creating opportunity to work on interesting ideas and build cordial relationships with colleagues	43	82.7
Creating knowledge repository in libraries	40	76.9
Allocating weights to knowledge sharing òurs of librarians as part of performance appraisal	37	71.2
Establishing appropriate reward systems which encourage knowledge-sharing	36	69.2
Establishing community of practice which encourage communication in a non-routine, personal and unstructured system	35	67.3

Table IV.
Strategies for
improvement in
knowledge-sharing

another as partners in progress and not competitors, 47 (90.4 per cent); and provision of adequate an ICT infrastructure and creating an awareness of the existence of knowledge-sharing platforms had 46 (88.5 per cent) each. A close observation of the results in Table IV indicates that all the strategies listed had high percentages. This implies that these strategies should be adopted in academic libraries to promote knowledge-sharing among librarians.

Discussion of findings
A look at the responses revealed that there is a shift in the platforms academic librarians use for knowledge-sharing. Academic librarians in south-west Nigeria seem to prefer ICT platforms for knowledge-sharing over the conventional platforms. The finding is not surprising because the majority of them were young professionals who were also highly educated. This finding is consistent with earlier research done by McAfee (2006), which found that when companies made Web 2.0 technologies widely available, the only two groups that quickly started using them were "newbies" and "techies". "Newbies" according to him, are new entrants to the workforce such as fresh graduates who find it natural to socialise, collaborate and find what they are looking for through the various technological platforms available. "Techies", on the other hand, are referred to as information technology staff and other technically astute employees across the company who are the natural early-adopters and advanced users of new technologies (McAfee, 2006). Similarly, Brancheau and Wetherbe (1990), in their study, found that early adopters of spreadsheet software are likely to be highly educated rather than late adopters. Although interest in the use of Web 2.0 for knowledge-sharing is building, many older librarians are watching and waiting before getting involved, partly because of concerns over the risks and consequences of using a new set of tools which are open to misuse and partly because they may not feel sufficiently motivated or empowered to get involved.

This study reveals that apart from Facebook, the degree of utilisation of other Web 2.0 platforms such as weblogs, wikis, Twitters, Flickr and so on for knowledge-sharing was very

poor. This implies that the use of Web 2.0 for knowledge-sharing among academic librarians in south-west Nigeria is still in it's infancy. The result supports the study by Adeleke and Habila (2012) which indicated low utilisation of weblogs among librarians in Nigeria.

However, a significant number of the respondents used mobile phones and email for knowledge-sharing. This is in agreement with Jetty and Anbu (2013) who observed that there is an increasing interest among academic institutions in the use of mobile devices due to an array of applications available for mobile telephones. As regards high utilisation of emails, this finding is also similar to that of previous research conducted by Burger and Rensleigh (2007) in the Standard Bank of South Africa. The study found that email is one of the most-used computer-mediated applications and is used more than the World Wide Web, instant messaging or peer-to-peer file sharing. The result of the study also indicated that the close network model is the predominant model used by the respondents for knowledge-sharing. The level of ICT development in Nigerian libraries may have influenced the respondents' model of knowledge-sharing. In fact, most academic libraries in Nigeria are yet to build knowledge repositories (Ogbomo and Muokebe, 2013).

In line with earlier research by Anna and Puspitasari (2013), this study affirms that in the library profession knowledge-sharing is of great benefit. On average, >80 per cent of the respondents agreed that in their opinion the benefits derivable from knowledge-sharing were:

- keeping up-to-date with developments in the profession;
- promotion of professional growth and development;
- create room for cross-fertilisation of ideas for improved performance;
- ensures best practices in the profession;
- development of potentials and capacity building;
- creates the opportunity to address complex issues and problems;
- facilitates collaborative learning and innovation;
- improvement of self-confidence and self-esteem;
- advances professional practice; and
- gives a sense of personal fulfilment and satisfaction.

The findings suggest that academic librarians may continue to use ICTs for knowledge-sharing if they perceive knowledge-sharing to be beneficial to their professional development. This view is also supported by McAfee (2006) who observed that employees who gained positive outcomes from using Web 2.0 technologies were the ones actively participating, while those who were unaware of the benefits and perceived the costs of using these tools to be higher than the benefits were the ones refraining from using them.

The top five barriers which to a great extent impede knowledge-sharing among academic librarians in south-west Nigeria were:

- inadequate ICT skills;
- lack of awareness of the existence of knowledge-sharing platforms;
- lack of formal fora that encourage knowledge-sharing;
- inadequate ICT facilities; and
- office environments that discourage knowledge-sharing

In the digital age ICT skills are important to support knowledge-sharing. The fast pace of technological change demands that academic librarians should constantly renew their skills to collaborate and share knowledge for professional development. Because the profession itself exists in a state of flux alongside these emerging technologies, information professionals are now expected to not only be aware of emerging ICTs but also possess the capacity to use them (Nwakanma, 2003). It is pertinent to note that how a particular ICT application influences the knowledge-sharing behaviour of individuals is likely to differ from one individual to another (Hendriks, 1999). Therefore, the acquisition of ICT skills does not automatically translate into knowledge-sharing; a conducive environment for knowledge-sharing and the cultivation of a knowledge-sharing culture is still important.

On strategies that should be adopted to promote knowledge-sharing among academic librarians, >80 per cent endorsed 13 items listed in Table IV. However, Anna and Puspitasari (2013) stress that there is no one particular strategy for successful knowledge-sharing, rather a knowledge-sharing strategy should be adapted to the conditions and the context in which the organisation is located. Because the success of knowledge-sharing depends on the role and contribution of the participants, they suggest that it is better to choose a knowledge-sharing strategy by involving the members of the organisation (Anna and Puspitasari, 2013).

Implications for professional development for librarians in Nigerian academic libraries
The findings of this study have far-reaching implications for librarians' professional development in Nigeria. This study revealed that there is a new wave of interest in the use of new ICTs for knowledge-sharing; the main implication of this is the emergence of professional learning communities who continuously engage in building and sharing knowledge. Academic librarians could benefit from training in emerging technologies for knowledge-sharing, and increased familiarity with knowledge-sharing platforms might increase their ability to use them for knowledge transfer. The purpose of the training should be not to compel them to use these ICT platforms but to expose them to the benefits associated with the use of contemporary techniques in knowledge-sharing. It is also expected that exposure to current trends in knowledge-sharing might encourage academic librarians who are at a crossroads to embrace knowledge-sharing as an integral part of professional development.

Again, a community of practice may emerge from sustained knowledge-sharing practice which will contribute towards the development of the profession in Nigeria. The emergence of communities of practice will bring about informal exchange of knowledge between peers. This also will provide the opportunity for academic librarians to increase their repertoire of knowledge of professional practice, thereby building their capacity to perform effectively in knowledge management. Sharing insights into current trends in the profession can help bridge the gap between theory and practice. This could result in higher professional standards and the growth of library and information science (LIS) as a profession.

The use of ICTs for knowledge-sharing opens a window of opportunity for collaborative research among professionals operating in different geographical locations. Sharing vital research data among colleagues enhances professional advancement. Indeed, all professions thrive on collaboration which promotes knowledge creation and knowledge dissemination. According to Omekwu (2003), a

professional of whatever discipline does not exist in isolation but in a relationship with others who he keeps in constant touch with, and his own professional development is achieved through peer-group relationships and interaction.

Conclusion and recommendations

From the research results, it is clear that knowledge-sharing is an important factor in the professional development of academic librarians. The findings clearly indicate that a great proportion of librarians in Nigerian academic libraries prefer ICT platforms for knowledge-sharing. A high percentage also appreciates the enormous benefits of knowledge-sharing.

However, the degree of utilisation of ICT platforms for knowledge-sharing and the frequency of knowledge-sharing does not match with global contemporary trends among academics and other professionals in the information industry. This result implies that academic librarians in Nigeria are yet to maximise the opportunities offered by ICTs for knowledge-sharing. This may be due to the barriers identified in the study. In spite of the prevailing situation, academic librarians need to reposition themselves to take full advantage of emerging technologies to respond appropriately to their professional needs. Academic librarians should, therefore, adopt measures to surmount perceived and existing barriers to ICT utilisation for knowledge-sharing. This will not only enhance professional development but will also facilitate efficient information service delivery to academic communities.

The following recommendations are made based on the findings of this study:

- library management should encourage collaboration, networking and knowledge-sharing among librarians by providing an enabling environment;
- equipping the library workplace with appropriate and up-to-date ICT infrastructures could encourage increased use of ICTs for knowledge-sharing among academic librarians;
- library top management should encourage academic librarians to disseminate knowledge and also associate knowledge-sharing with incentives and rewards;
- library and allied professional associations should promote the proliferation of weblogs for knowledge-sharing and collaboration;
- an open network model of knowledge-sharing should be encouraged at institutional and professional levels by libraries and library associations;
- awareness must be created during library workshops and conferences to ensure that people understand emerging ICT-enabled platforms and the benefits of knowledge-sharing; and
- academic librarians should cultivate the culture of knowledge-sharing and avoid the tendency to hoard knowledge.

In the ever-evolving digital environment in which new technologies, techniques and associated best practice are emerging daily, academic librarians should engage in continuing professional development and skill acquisition to enable them operate effectively in the ICT era.

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