Workplace Information Literacy Skills: Library Professionals' Competency at University Libraries in Karachi, Pakistan

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Abstract

Purpose – The purpose of this study is to investigate the level of information literacy (IL) skills competency among university library professionals in Karachi, Pakistan, and to address areas of concern.

Design/methodology/approach – An online survey was designed, using Google Forms, to collect data from 77 academic librarians working in 25 universities in Karachi, Pakistan. Questions covered 6 generic attributes: library systems, information resources, searching techniques, research support, information literacy, and generic / personal.

Findings – The results indicate that the librarians who were surveyed had good IL skills in information searching and locating information resources. However, the average of all survey responses was 54.17 per cent, with 12 of the 24 competencies receiving scores of less than 50 per cent, thus indicating a generally overall low level of IL competency in the workplace.

Research limitations/implications – As the study was limited to universities in Karachi, it would be useful to apply the same methodology to other administrative units within the country. Further research is indicated on the potential impact of gender on aspects such as level of IL skills and motivation to enhance workplace competencies.

Practical implications – The authors have suggested a number of strategies, which would be applicable globally to any university library wishing to improve the IL skills competencies of its staff.

Originality/value – There have been no previous published, non-discipline-specific, research studies on the IL skills competencies of academic librarians in Pakistan.

Keywords Job skills, Academic librarians, Academic librarian competencies, Information literacy competencies, Library education and training

Paper Type Research paper

1. Introduction

The traditional tasks of librarianship, e.g. collection development, reference, classification, cataloguing, and instruction, have evolved to include a heavy reliance on technology and Web 2.0 tools. For example, librarians now support online acquisition, digital reference services, web page design, online tutorial development, citation management, data management, and institutional repository management. In this context, information literacy (IL) skills have become an integral part of the librarian's workplace.

“Information literacy” was first introduced by Zurkowski (1974), who used the term in the private service sector to highlight the need for a set of aptitudes to address the emerging complication caused by information and information-related challenges in the workplace environment. According to the American Library Association (ALA), “Information literacy is a set of abilities requiring individuals to recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information” (ALA, Presidential Committee on Information Literacy, 1989). For her part, Andretta (2007, p. 12) further expanded the definition: “[...] information literacy is an all-encompassing process by which one interacts with information in diverse format and is complemented by the transformative effect of this experience”. By this definition, IL is the foundation of lifelong learning.

Within the higher education context specifically, the Association of College and Research Libraries (2015) has, according to Cyphert and Lyle (2016, p. 53), considerably broadened the concept of IL:

[...] from functionally defined IL skills toward an appreciation for the context in which information will be used and a capacity for contextualized interpretation of information that leads to reasonable conclusions. The domain of IL still encompasses the functional literacy of where and how to get information as well as the critical literacy of assessing the nature and use of information, but it is the rhetorical literacy of constructing meaning from contextualized data that seems to matter most in the workplace.

Given that information literacy is a lifelong learning process, those library professionals who have joined librarianship as a career need to not only maintain but also enhance their IL skills in order to progress their career. At the same time, the rapid growth of information and the instant dissemination of information present challenges in achieving these goals. This paper reports on a survey of the level of IL skills competency among university library professionals in Karachi, Pakistan. Its primary purpose is to increase an understanding of the potential remedial strategies that could be used to address areas of concern.

2. Related Work

Researchers have written widely about the importance of information literacy in the workplace, regardless of profession. According to Lloyd (2013, p. 10), “Information literate workers draw from a wide range of information sources and engage with information related activities that enable them to know the information landscape of the workplace; to understand how information is situated within it; and, to connect with the performances of work as it happens”. In the context specifically of police officers, Kilic (2010) has reported that information literacy in the workplace is a combination of information literacy, computer literacy skills, and the use of information resources.

For her part, Virkus has looked specifically at IL in Europe. Initially (2003), she reported that while there was high interest, the majority of IL initiatives came from formal education settings; examples in the workplace were uncommon. References in the literature to information literacy initiatives in Europe were quite “rare and fragmented”; the majority of publications came from the UK (p. 4). However, ten years later (Virkus, 2013, p. 255), she reported: “During the last decade [2003-2013], our understanding of IL has shifted from skills-based approaches towards a broader and more social understanding of information practice”. She concluded that developing approaches to addressing IL skills should be context-sensitive; that is, factors such as geographical location, cultural setting, and educational level may affect the desired outcomes. Therefore, multiple approaches need to be used.

Whitworth (2014) offers a very different perspective on the topic. In an effort to develop a theory of IL, he reviews and critically appraises four decades of writings. The aim of the book is to describe “how information literacy can help social actors discover in practice, and not just in theory, their own potential to democratically transform structures of authority over information exchange, and then maintain scrutiny over this authority” (p. 2). This “radical” view of IL leads to “empowerment and emancipation” (p. 198). A key tenet is that information literacy must necessarily be understood and treated as situated in local practice, which echoes the message of Virkus (2013).

According to Weiner (2011), while information literacy and related competencies, critical thinking, and lifelong learning are necessary in the workplace, staff and administration face barriers to their implementation. A later literature review study of IL for lifelong learning has reinforced this finding by highlighting, for example, the difficulty of transitioning IL from the higher education environment to the workplace (Inskip, 2014). Head *et al.* (2013) have contrasted the differing needs of employers related to workplace information work with tertiary graduates’ perception of their information skills—including information literacy—in the workplace. Similarly to Inskip (2014), the 2013 study found a disconnect between what new graduates had experienced when developing their IL skills as undergraduates and their attempt to use these same skills in a very different, more ambiguous environment (p. 98).

Several key researchers have contextualized IL in terms of recent developments in both the library and information science (LIS) profession and the environment in which these professionals work. New phenomena are shaping literacy in the context of social media. The use of social media, for example, to interact with the customer has affirmed institutional social media as an essential component in the workplace (Bucher *et al.*, 2013).

At the same time, a number of studies have focused on the application by LIS staff of the full range of information literacy skills in the workplace. Choi and Rasmussen (2009), for example, have debated the main skills relevant in the workplace for digital librarian positions in academic libraries, within the special context of university job placement. In discussing the IL levels within US vocational and college libraries, Bird *et al.* (2012) note that working professionals are not given the same attention to improving their IL skills as in university libraries.

An important, related topic is the changing role of the library and information personnel and employers’ expectations of employees (Kennan *et al.*, 2016). Cyphert and Lyle (2016) have discussed employer expectations, particularly in terms of the gap between the skills of employee librarians and employer demand in the workplace. Salehudin (2016), in his study, has noted that IL skills preferences were important in the recruitment of new staff and the promotion of existing staff in the workplace. In contrast, Hall (2013) has reported on the differences between the skills expected of library employees, as mentioned in the job advertisement, versus the actual tasks undertaken upon being hired. Jinadu and Kaur (2014) have suggested an IL model for the workplace in developing countries.

Nearly twenty years ago, Bruce (1999, p.43) advised that “information literacy can be considered at both an individual or work-team, and an organizational level”. Echoing this theme, Forster (2017, p. 29) more recently has written: “[The] workplace is often a very complex social environment which is focused on the use of information for specific knowledge goals, often with and for the benefit of patients and clients, and often through teams and networks undertaking complex knowledge-generating tasks”. Because librarians often work in teams, he highlights the importance of the cooperative and team-based nature of workplace IL. This understanding, he suggests, should help to inform pedagogical practice,

since what is taught in academia will not reflect what happens in a workplace setting. This latter observation reinforces the findings by Head *et al.* (2013) regarding the perceived disconnect between students' experience in academia and subsequent real-life experience in the workplace.

In exploring the use of information in the academic library workplace, Triumph and Beile (2015) assert that researchers now recognize the importance of contributing to both the work environment and academia, by providing new directions to library employers and assisting in information literacy education. For their part, library schools are trying to produce skilled graduates as per market needs (Inskip, 2017). Studies of recent graduates in librarianship and information science have shown that while they have continually faced challenges in employment opportunities, possessing competency in areas such as information literacy is an advantage (Kaba, 2017; Reeves and Hahn, 2010; Fisher, 2003).

2.1 Information Literacy in the Pakistani Context

In a 2003 study of the ability of Pakistani library education programs to address the competency needs of entry-level academic librarians, Mahmood reported that the curriculum tended to reflect the environment of the early 1970s, and that “most of the reference and information competencies have weak coverage” (p. 105). Ten years later, based on focus group interviews with Pakistan LIS employers, he (Mahmood, 2012) recommended that LIS programs introduce information literacy—along with indexing and abstracting, and digital libraries—into the LIS curriculum as a core subject.

Additional Pakistani researchers have focused on the digital competencies required by academic librarians. Given the beginning of the transition from print-based to digital collections in Pakistan at that time, a study by Ameen (2009) examined the competencies required of university collection development librarians; her results highlighted the challenges associated with the use of new electronic resources. In the same year, Ameen and Gorman (2009) explored the state of information and digital literacy (IDL) at the University of the Punjab, Lahore, Pakistan. They concluded that “the inadequacy of staff training may well be reflected in inadequate services related to digital information” (p.108). A later study at the same university (Anwar and Warraich, 2013) revealed that entry-level librarians were interested in expanding their “digital literacy” by undertaking a range of options through continuing professional development.

Farooq & *et al.* (2016) have recently discussed the competencies required of university librarians in Pakistan in general; however, IL is not discussed specifically in any detail. Ahmed and Rehman (2016) have reported on ICT competencies among public sector university librarians in Khyber Pakhtunkhwa (heavy focus on IT). Iqbal and Khan (2017) have focused on the University of the Punjab (IT focus); Ansari (2013) has reported on ICT skills in university libraries in Karachi. Whereas Khan *et al.* (2015a) have examined job satisfaction among Pakistani university librarians as related to technological competencies, Khan *et al.* (2015b) have reported on the correlation between levels of competency and organizational commitment among the same cohort.

Bhatti and Nadeem (2014) have highlighted the impact of the development and application of ICTs in Pakistan librarians, with particular regard to training needs. While IL is not mentioned per se, some aspects are mentioned, e.g. database searching. In the same year, Jabeen and Khan (2014) have assessed the correlation between the lack of IT expertise among library staff and the relatively poor implementation of IT within their workplace.

In the aforementioned publications, researchers have tended to emphasize information *technology* skills rather than information *literacy* skills. However, there have been a number of recent Pakistani research studies that have focused on IL. For example, based on his survey of Pakistani academic libraries, Ramzan (2010) found that whereas librarians in developed countries were expected to have the requisite IL skills to conduct user education and training, librarians in Pakistani academic libraries were struggling with low levels of automation, coupled with the lack of relevant IT training. Khan and Rafiq (2013) have advocated the need to train librarians in information literacy to equip them with the skills to conduct information literacy classes within their workplace.

Ullah and Anwar (2013) surveyed the competencies expected of Pakistani medical librarians and noted that interest in information literacy was low. They concluded that “This is not surprising because information literacy so far has not received much emphasis in formal education, both general and professional, in Pakistan” (p. 69). In a subsequent study (Anwar and Ullah, 2017), their survey results included a knowledge of information literacy standards as an important element in a proposed instrument for the identification and validation of competencies required for medical librarians.

In summary, the above literature review has revealed that no study has been undertaken thus far on the workplace information literacy skills of Pakistani university library professionals in general. This paper is intended to partially fill that gap by reporting on a study undertaken in Karachi.

3. Objective

Information literacy is an essential tool for librarians. The purpose of this paper is to identify the basic workplace information literacy requirements related to professional library positions in universities in Karachi, Pakistan. A secondary aim is to support the course development process by identifying the specific knowledge and skills that are presently in demand in the workplace, with particular regard to information literacy. Another secondary objective is to determine whether relevant professionals have undertaken any professional training as per the skills requirements of their jobs.

3.1 Research Questions

Based on the literature review, the following research questions have been designed for this study:

RQ. No. 1 What is the level of workplace IL skills competency among university library professionals in Karachi, Pakistan?

RQ. No. 2 What are the workplace motivations to enhance IL workplace competencies among this cohort?

4. Methodology

This is an exploratory research project. Survey methodology has been used for this study, with a questionnaire as the research tool. Data was collected through an online Google Doc form. The reliability and validity of the questionnaire was pre-tested; library experts were interviewed for their feedback. Respondents were asked to rate 18 subject-specific and 6 generic competencies in terms of their importance to the profession; they were also asked to indicate the levels of competency they had personally achieved during their respective service tenure. Responses were collected from different public and private sector universities within Karachi. N=77 were received from a total of 115 distributed questionnaires, which represents a response rate of 66.95 per cent; respondents represented a range of

levels, i.e. library head to semiprofessional library staff. Staff members participated in this survey from 9 public sector universities (41 participants) and from 16 private sector universities (36 participants). Participants were from 25 universities as listed in Appendix A; there are a total of 36 universities in Karachi.

The questionnaire was designed in 6 sections which are related to workplace information literacy. This study is limited to the IL skills and competencies of university library professionals within the area of Karachi.

5. Results

24 IL workplace and generic questions were divided into six different segments (Workplace Library System, Workplace information Resources, Searching Techniques, Research Support, and Workplace Personal Attributes) as shown in Table I.

Table I. Frequency distribution by competency

S.#	Variables	Frequency	%	Workplace Theme
	Library System			
1	Basic Operational Knowledge of Library Systems data entries	54	70.13%	Library System
2	Library module services, i.e. Cataloging, Circulation, Patron, Reporting etc.	43	55.84%	Library System
3	Maintenance of your Information Resources System i.e. (Edit, Delete, Backup, etc.)	32	41.55%	Library System
	Information Resources			
4	Information resources update from respective database, i.e. HEC database or other subscribed database	51	71.42%	Information Resources
5	Awareness about Copyright Law (Open Access, Partially Access, Closed Access)	43	55.84%	Information Resources
6	Supply information to Patron i.e. Full-text, metadata, abstract, References etc.	63	81.82%	Information Resources
	Searching Techniques			
7	Information Searching from Search Engines	63	81.82%	Searching Techniques
8	Apply Boolean search techniques	48	62.34%	Searching Techniques
9	Information searching skills from Subject Database	34	44.15%	Searching Techniques
10	Information Searching from other library websites	45	58.44%	Searching Techniques
	Research Support			
11	Plagiarism Software Usage	32	41.55%	Research support

12	Citation Management, e.g. APA, MLA, Chicago, etc.	31	40.26%	Research support
13	Reference Management software, e.g. EndNote, Zotero, etc.	13	16.88%	Research support
	IL Competency			
14	Conduct IL Sessions to respective users	21	27.27%	IL Competency
15	IL updates (Online Course, Workshops)	24	31.17%	IL Competency
16	IL Skills help Job Promotion	34	44.15%	IL Competency
17	Switch for New Job	39	50.65%	IL Competency
18	IL Organization support (Funding, Training, workshops etc.)	32	41.55%	IL Competency
	Personal Attributes for Workplace			
19	Communication Skill	27	35.06%	Personal Attributes
20	Language Skill	32	41.55%	Personal Attributes
21	Teaching Training and Instruction Skills	32	41.55%	Personal Attributes
22	Administrative Skills	46	59.74%	Personal Attributes
23	Leadership Skills	46	59.74%	Personal Attributes
24	Marketing skills	58	75.32%	Personal Attributes

5.1 Workplace System Information

Workplace system information questions focused on the respondent's knowledge about the usage of library software by the respective university's library staff members. There were 3 questions. 54 (70.13 per cent) respondents had basic operational knowledge of the data within the library system. In terms of using the different modules within the library system, 43 (55.84 per cent) respondents could work with different library system modules. 32 (41.55 per cent) library staff could maintain library information systems.

5.2 Workplace Online Information Resources

In terms of workplace online information resources, the Higher Education Commission of Pakistan provides access to various databases through its National Digital Library (NDL) Program. Respondents were asked three related questions. 51 (71.42 per cent) responded that they could access respective databases and search respective information. Respondents were also asked about their awareness of copyright law (open access, partial access and closed access information resources); 43 (55.84 per cent) were aware of copyright law. In the case of search information, 63 (81.82 per cent) library staff could supply this information to their respective library patrons.

5.3 Workplace Information Searching Techniques

Workplace information searching techniques were addressed through four questions. 63 (81.82 per cent) could search information from search engines; 48 (62.34 per cent) could apply Boolean techniques effectively; 34 (44.15 per cent) could extract information from relevant subject databases; and 45 (58.44 per cent) were able to search information from other libraries' websites.

5.4 Workplace Information Research Support

Workplace information research support questions covered three topics: 32 (41.55 per cent) indicated usage and awareness of plagiarism software; 31 (40.26 per cent) were aware of citation management; and 13 (16.88 per cent) were aware of and used reference management software, e.g. EndNote, Zotero and Mendeley, etc.

5.5 Workplace IL Competencies

Respondent were asked five questions about information literacy sessions and research support in their respective universities. Only 21 (27.27 per cent) library professionals conducted information literacy sessions. 24 (31.17 per cent) were receiving updates about new IL trends from various websites and online courses, etc. While 34 (44.15 per cent) library professionals believed that information literacy skills could help them with their job promotion, 39 (50.65 per cent) believed these would help them when changing jobs. In regard to funding for information literacy training, 32 (41.55 per cent) had received support and financial funding from their respective institution to improve their information literacy skills.

5.6 Workplace Generic Competencies/Personal Attributes

Workplace general managerial skills were covered by six questions. In addition to IL skills, managerial skills are also required of a librarian to become a successful professional. Respondents were asked about different types of personal skills. 27 (35.06 per cent) believed that they had good command over their communications skills; 32 (41.55 per cent) similarly responded that language and teaching and training skills were important for their workplace. 46 (59.74 per cent) respondents believed that administrative and leadership skills were essential for their workplace. 58 (75.32 per cent) library professionals indicated that library marketing skills were also required for their workplace.

Figure 1. Frequency distribution by competency scores

6. Discussion

RQ1 What is the level of workplace IL skills competency among university library professionals in Karachi, Pakistan?

Information literacy in the workplace is a very important and topical issue for university level librarians. Analysis of the 6 sets of collected data shows that university library professionals have, in general, a low level of awareness regarding: a) library system information, b) information resources, c) information searching skills, d) research support, e) IL competencies, and f) personal attributes.

In the area of research support, the authors found a minimum level of IL competency. 13 (16.88 per cent) respondents were aware of and used reference and citation management software, e.g. EndNote, Mendeley, and Zotero. Only 21 (27.27 per cent) library professionals were able to conduct IL sessions for library patrons in their respective institutions. Furthermore, only 32 (41.55 per cent) respondents were able to provide support in regard to maintenance of the library system (e.g. modification, delete or record backup), which corroborates Khan *et al.*'s (2015b) findings that "library content management systems" scored the lowest in their research on technology competencies among Pakistan university librarians.

In regard to personal attributes, responses were similar for communication skills (27 responses, or 35.06 per cent) and language teaching training and instructional skills (32 responses, or 41.55 per cent). Willingness to update IL knowledge through training and the like scored even lower, with only 24 (31.17 per cent) responses. The latter result corroborates the findings of Ameen (2009), i.e. that the level of professional self-development was quite low among Pakistani university library staff.

On a positive note, the librarians in the survey have a good command over searching techniques for locating resources; this corroborates the results of a study by Ansari (2013). However, overall, across the

24 competencies, 13 (54.17 per cent) responses had below average scores. The general low level of awareness may stem from a fear of using technology, especially newer ones. Following on from Virkus' (2013) work, a contributor may be the cultural setting in which staff work. For example, library staff in Karachi may not be motivated to engage with technology because of either working in a traditional job culture or the lack of appropriate on-the-job training. These three factors would be worthy of further investigation.

In summary, the current survey reflects results similar to those of other Pakistani studies in the past five years that have shown relatively low levels of library staff confidence in their overall use of technology. This logically leads to the key question as to what remedial strategies could be implemented in the workplace to result in better outcomes. The authors have proposed a number of specific approaches in the following section.

RQ2 *What are the workplace motivations to enhance IL workplace competencies among this cohort?*

Library professionals need to consider the motives for enhancing their IL skills, especially because as Khan *et al.* (2015b, p. 40) have observed, job performance dictates that employees should be competent and keep skills up to date. In the current study, 39 (50.65 per cent) respondents replied that improved IL skills would help them with employment opportunities, such as changing jobs. 34 (44.15 per cent) replied that IL competencies would help them to achieve promotion in their current workplace. This finding adds to the research undertaken by Khan *et al.* (2015b) of Pakistani university librarians by identifying specific ways in which IL skills competency could lead to enhanced job satisfaction, e.g. improved opportunities for promotion.

According to Ramzan (2010), having a career path increases the positiveness of attitudes toward IT, which is a good sign for library development in Pakistan. Its significant role has never been underestimated in terms of effective performance and successful productivity in the workplace, which benefits not only the individual but also academic libraries as a whole in Pakistan.

The results of this study clearly raise questions as to what steps could be taken to address low levels of competency. As Bruce (1999) has mentioned, improving the situation at the organizational or team level can change the current scenario of competencies among librarians in Karachi. More recently, in his curriculum review, Mahmood (2012) has suggested that ICT usage be included in library education. Both suggestions highlight the role of several key stakeholders, i.e. LIS faculties and university library management. A discussion of LIS faculty curricula is outside the scope of this paper.

Library management, for its part, needs to lead by example. Unlike the majority of the research examples mentioned above, the current study has categorized the principal library IL skills according to six major areas rather than presenting them as a single, undifferentiated list. This has resulted in a more granular level of data. This approach would assist managers, who applied the questionnaire (as listed in Table 1) within their own organization, to identify quickly specific areas of concern.

Ideally, the library's strategic plan should identify staff as a key element and therefore include skills enhancement as a major goal; IL skills should be identified as an important competency. Such an approach exemplifies Forster's (2017) belief in applying strategies that bring IL to greater prominence in corporate thinking. Goals, however, are useful only if they are supported by relevant action plans. Therefore, for example, senior library management could administer to staff a self-assessment survey

similar to the one used in the authors' study. Having identified specific areas of concern, management could then identify potential options for training. This might involve working with the institution's LIS faculty (if applicable) to deliver a tailored training program. Another option would be to identify relevant online, self-help tools, e.g. webinars and videos. As suggested by Virkus (2013), multiple approaches should be offered staff since they will differ in their learning styles.

In addition, there is a potential role for national library bodies, e.g. the Pakistan Library Association (PLA). For example, it could collaborate with relevant LIS faculties to organize workshops throughout the country, designed to provide hands-on instruction in key IL technologies. These workshops could be offered on a standalone basis as well as in conjunction with national seminars and conferences. The PLA could also underwrite the costs of inviting one or more well regarded international experts to both advise the Association about potential strategic support initiatives and to offer actual instruction, where possible.

Based on Ameen's findings (2009) regarding the low level among Pakistani library staff in regard to proactive professional self-development, organizations / units offering the types of training outlined above may want to consider introducing micro-credentials in order to recognize knowledge acquisition and certify proficiency. These could function as an incentive to increase engagement by library staff.

These initiatives are not applicable just to Pakistan but additionally to any country in which studies have shown that library staff lack confidence in their use of technology.

7. Conclusion

Information literacy is a continuous part of life learning and is closely associated with technological development in the library profession. The authors undertook a survey of the level of IL skills competency among university library professionals in Karachi. From a positive perspective, results have shown that librarians have good IL skills in information searching and locating information resources. However, the average of all survey responses was 54.17 per cent, with 12 of the 24 competencies receiving scores of less than 50 per cent, thus indicating a generally overall low level of IL competency in the workplace.

In addition to the remedial strategies outlined above, it would be beneficial to conduct research regarding the existing barriers to information literacy skills in the context of librarianship, along with determining LIS students' information literacy competencies. As indicated by Ameen (2009), these may include lack of on-the-job training opportunities. Additional valuable insights could be gained from investigating the importance of the traditional library work culture, especially in developing countries, and, as a result, the potential existence of technophobia among library professionals.

Finally, further research is indicated on the potential impact of gender on aspects such as level of IL skills and motivation to enhance workplace competencies. While Pakistani researchers have reported on several important studies on the impact of gender in libraries on aspects such as ICT and social media skills (Khan & Du, 2017; Khan *et al.*, 2017; Ansari, 2013), no study has yet been undertaken of what role—if any—gender may play in IL skills competency.

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Appendix -A

Demographical information

Male = 34

Female = 43

Public Sector Universities = 41

Private Sector Universities =36

Respondents' Universities = 25