Workplace Information Literacy: An Assessment of Academicians in QS-Ranked Universities of Lahore

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Abstract

The present paper identifies information literacy self-efficacy in workplace context among academicians working in all QS-ranked universities of Lahore. In addition, the current study aims to find a correlation of information literacy with different socio-cultural variables of academicians. This study opted for a quantitative approach, using a survey questionnaire for data collection. There were 356 responses collected from academicians working in all QS-ranked universities in Lahore. The data analysis was carried out through SPSS software. In order to achieve the study objectives, both descriptive and inferential statistics were used. The outcomes disclosed that the participants of the survey were highly skilled and self-possessed in information literacy as a whole and in all sub-dimensions too. Investigating the correlation between variables, it was found that the respondents' age, job and research experiences were positively correlative to information literacy. It indicates that the academicians' IL enhanced as they become older, research, and job experience upgraded. No statistical difference was found in respondents' IL with their gender, qualification and designation. No previous research studies have been published on information literacy self-efficacy of university academicians in workplace context in Pakistan. The present

study has two limitations: 1) Study results are established on self-reported views of participants' IL self-efficacy, and 2) the current study was commenced at the QS-ranked universities of Lahore. The understanding may include formulating advanced university information literacy programs to support research-based learning.

Keywords: Information literacy; Workplace information literacy; University academicians; QS-ranked universities of Lahore.

Introduction/ Background

Information Literacy

The ability to recognize, find, and use relevant information sources to achieve information needs is known as information literacy (Johnson & Rader, 2002). “Information literacy (IL) is a combination of skills to identify when information is needed and to find, assess, and utilize that knowledge competently" (ALA, 1989. p.1; Grassian & Kaplowitz., 2001; Hussain et al., 2022). According to ACRL, IL is assortment of collective skills including the ability to find information in an organized way, recognize the creation and value of information, and use information in creating new knowledge and engage ethically (Iannuzzi, 2000). IL is critical and beneficial in different fields of daily life (Wu, 2019). The capability to locate, obtain, assess, utilize, and deliver information in any format is IL (Abram, 2013, p.4).

Information Literacy in Different Contexts

To study information literacy (IL) deeply, the following contexts have been described by CILIP, i.e. IL and Everyday Life, IL and Workplace, IL and Education, IL and Citizenship, IL and Health (CILIP, 2018). Information literacy is related to problem-solving abilities in any specific context (e.g., daily life, workplace and academics) or of any particular background (Martin, 2011). The present study however, deals with context of workplace IL.

Workplace Information Literacy

The theory of workplace information literacy (WIL) is well-known and already been discussed in many prior studies (Bruce, 1999; Hewitson, 2002; Sadioğlu et al., 2009). In many studies, it has been accepted that information literacy competency is a dynamic skill. It is also supportive to build corporate value of any sector (Ahmad et al., 2020). Cheuk (2008) described that past research studies in the academic environment. WIL supports information exploration and effective management. Similarly, IL encourages creation of knowledge, improves the learning

environment. Organizations survive because of innovation. It confirms their continuing existence by providing continuous development and progress of reasonable benefits. Continuous innovation is forced by unique approaches and appropriate conclusions derived from conservational analysis and sharp information exploration (Tyagi & Chawla, 2017). Even though information extracts several advantages for organizations, it's enlarging capacity, complication and variety have developed as some of the ultimate challenges to improving progress (Damanpour, 2017).

Statement of the Problem

Universities and other higher educational institutes are hubs for accomplishing academic tasks. Information literacy is one of the vital skills to be achieved and is equally crucial for all stakeholders related to any educational institution (Fourie & Molopyane, 2015; Xu & Chen, 2016). IL skills are critical competencies for academicians in achieving their goals, escalating their knowledge, and enhancing teaching effectiveness. University academicians with high levels of IL can collect and communicate the required information more appropriately, effectively and timely. They may also assess information resources proficiently and use information effectively and efficiently (Rafique, 2014). According to an in-depth review of the literature, university academicians need to be skilled in information literacy, so that they efficiently handle the massive amount of data that is available in the modern digital era. Information literacy empowers academicians, researchers, and scholars to calculate, approach, and utilize sources of information with an acute eye in academia (Webber & Johnston, 2017). Academicians at universities need to be skilled at not just locating pertinent scholarly materials but also critically evaluating their reliability and applicability to their research goals and familiar with use of electronic information resources in their research (Amjad et al., 2013). Academicians who are information literate are better able to participate ethically in scholarly discourse while appropriately citing sources and avoiding plagiarism. According to Naveed (2021), Pakistan's university-level IL programs lag in catching up to the developed world. He also concluded that academicians' performance suffered significantly from their lack of proper IL training. The information literacy of university academicians has explored in Pakistan but the workplace context of IL in academia has yet to be studied. Academicians' are generally involved in teaching and research activities. So, the present study intended to examine IL of all QS-ranked university academicians of Lahore. This study filled

the deficiency in literature by focusing university academicians' workplace IL. The subsequent research queries were furnished to encounter the study problem.

Research Questions

1. What is university academicians' information literacy self-efficacy level in workplace context?
2. What is the variance in the academicians' information literacy self-efficacy in the workplace context based on gender, age group, qualifications, designations, job experience and research experience?

The below mentioned hypotheses were articulated to answer the second query of the study:

Research Hypotheses

Ho1 *There isn't any statistically significant difference in academicians' information literacy self-efficacy in workplace context with respect to their gender*

Ho2 *There isn't any statistically significant difference in academicians' information literacy self-efficacy in workplace context with respect to their age*

Ho3 *There isn't any statistically significant difference in academicians' information literacy self-efficacy in workplace context with respect to their qualification*

Ho4 *There isn't any statistically significant difference in academicians' information literacy self-efficacy in workplace context with respect to their designation*

Ho5 *There isn't any statistically significant difference in academicians' information literacy self-efficacy in workplace context with respect to their job experience*

Ho6 *There isn't any statistically significant difference in academicians' information literacy self-efficacy in workplace context with respect to their research experience.*

Related Studies

Workplace Information Literacy

Ahmad et al., (2020) explored the influence of information literacy at workplace and prepared a scale for measuring workplace IL skills. Ahmad and Widén (2018) discussed the effect of management on workplace IL and described the outline of the influence of administrative leadership on workers' IL. In the literature on workplace information literacy, it has been stated that administrative management is responsible for improving workers' information literacy.

However, any serious effort has not been viewed for this purpose. It has been clarified in this paper how assigning, logically motivating and loyal leadership behaviors can improve workplace information literacy. Such management behaviors are encouraged, though organizations' practical situations differ (Islam, et al., 2022). Therefore, it was suggested that upcoming research studies relating to workplace information literacy should focus on prevailing management standards and conduct in the workplace. The studies about the relationship between information literacy and organizational leadership behavior will permit us to realize how information literacy competencies are established and experienced in workplace frameworks (Lloyd, 2014). The possible affiliation suggested in this paper will be empirically explored in ongoing studies. The appropriate idea of workplace information literacy has been created via prior IL studies. Moreover, the studies expand this concept by indicating the influence of IL on identifying opportunities and creativity in organizations (Forster, 2017). It reveals the vast benefits of workplace information literacy and its effective utilization for organizational learning system and creativity (Malafi et. al, 2017).

To explore the correlation of workplace information literacy with other organizational aspects, present study opened new research areas' i.e. social issues, innovation in organizations and management behavior. The present investigation has contributed into workplace IL research by investigating the university academicians IL-efficacy. This study presented realistic facts highlighting the value of understanding IL skills and capabilities in universities by including academicians. Future research studies will definitely progress IL inclusion in curriculum.

Information Literacy and Education

Li et al. (2023) investigate information literacy skills of teachers based on six indicators, the high-performance group showed better than the low-performance group. Furthermore, the best indicators of IL are data from behavioral research and information-based education. Appiah et al., (2023) found that teacher trainee students were weaker in advance searching techniques. Rafi et al., (2023) assessed digital resources integration and performance evaluation under the knowledge management model in academic libraries. Ahmad et al., (2023) calculated the impact of knowledge management factors on digital resources acceptance among postgraduate students of public sector universities of Punjab. Bhatti et al., (2023) studied research scholars' perception about information resources available in university libraries of Punjab. Rafi et al., (2019) considered technology integration for students' information and digital literacy education in

academic libraries. Carry (2019) stated that teachers who work independently or jointly with a librarian and possess IL skills are more versatile. Continuous professional growth in IL and teamwork is vital for educational institutions (Kashif et al., 2020).

Information literacy capabilities are very significant in education. There was a correlation found between IL self-efficacy of educators and experience, digital literacy and digital programs as well (Shonfeld et al., 2022). IL abilities are vital for students and faculty to achieve their educational goals and perform their responsibilities (Webber & Johnston, 2017). Shafique and Bhatti (2017) assessed the IL skills of students of the Islamia University Bahawalpur. .Paolini (2015) found that effective teachers include establishing interactive teaching methods, interacting with students, being approachable and available, using different educational instruction, taking relevant material, being aware of weaknesses, providing concepts, and establishing organized courses that encourage them to accommodate information and enhance students' learnings.

Hepworth and Smith (2008) found a distance between library and information science academic staff and librarians' developments regarding abilities linked with information literacy. Further, described that the obtaining of IL process stops from the school and higher education environment. The involvement of IL again resumes in workplaces. Williams and Coles (2007) explored IL of teachers and found that majority of the teachers were information literate and expressed motivation to employ research evidence. Kirton and Barham (2005) studied workplace IL from a library perspective. They stated that IL has been widely studied, but its importance in the workplace has little intention. The progress and significance of information and communications technologies (ICT) and resources, attached to the need for the workforce to be informed, granted an exclusive chance for special librarians to establish their importance by performing a more significant responsibility in their libraries and institutions.

Workplace Information Literacy in Pakistani Context

Rafique et al., (2023) explored ICT applications in public sector university libraries of interior Sindh. Ali (2022) measured digital information literacy skills of LIS professionals in university libraries of Sindh. Khan and Bhatti (2020) measured digital skills of university librarians. Naveed and Rafiq (2018) explored workplace information literacy of Pakistani scientists and described that any proper IL training program has yet to be implemented during their service. Most of these scientists thought IL instructions were essential, and they would prefer such

training programs if they had any opportunity to get training. Ali and Richardson (2018) surveyed library professionals at Karachi University to explore the IL competencies in workplace environment. Results showed that librarians were good at searching for information and finding related information resources. Conversely, the overall survey result was 54.17%, showing lesser competent in IL skills.

Iqbal and Khan (2017) explored IT literacy in Punjab University. Anwar and Ullah (2017) proposed a tool for recognizing and confirming competencies required for medical librarians**.** Competency in information literacy is essential along with other skills among Pakistani university librarians (Farooq et al., 2016). Ahmed and Rehman (2016) reported ICT literacy competencies in the KPK province; their respondents were librarians of public sector universities. Khan et al. (2015a) compared job satisfaction with expertise in use of technology among university librarians, and Khan et al. (2015b) examined the relationship between organizational commitment and competencies at job. Bhatti and Nadeem (2014) have emphasized the influence of applying ICTs on Pakistan librarians and stated the training needs. Jabeen and Khan (2014) have evaluated workplace IL from a library perspective and evaluated the library staffs' deficiency of information technology proficiency and the somewhat reduced application of information technology in their libraries. Khan and Rafiq (2013) highlighted the necessity of training in IL instructions for library staff. Ullah and Anwar (2013) measured the capabilities of librarians of medical colleges and reported a low level of concern in IL. Ansari (2013) examined ICT expertise of library staff in universities of Karachi. Ramzan and Singh (2010) surveyed Pakistani academic libraries and reported that Pakistani academic library staff is facing problems in execution of automation and IT training issues compared to librarians in developed states who have the essential IL skills to carry out user education and training (Bhatti, 2009).

Workplace Information Literacy in other South Asian Countries

Shukla and Verma (2020) highlighted the importance of libraries and library staff in the present century. They described that a vital role in the effective and efficient implementation of the information literacy program at working institutions has been performed by this community. Aftab and Singh (2018) conducted a study among assessed IL skills among research scholars and postgraduate students of social science faculty at Aligarh Muslim University Aligarh and, found that most respondents visit the library for books and thus become information literate at the initial

level. Anandhalli (2018) discovered the impact of IL abilities on educational presentation of scholars. IL skills among students have appeared as an essential element in their educational success. Therefore, IL skills among students should be enhanced. Jinadu and Kaur (2014) directed that library and information science research should not only be restricted to academic perspectives; it must cover all life behaviors. LIS research should include workplace practices on a preferred basis. Shoeb and Chowdhury (2016) recommended the progress and application of IL instructions in workplaces. A well-planned IL instructions program supports the education community, especially researchers. Ranaweera (2010) discussed the scope of IL programs arranged by Sri Lankan universities to achieve an advanced level of education.

Methodology

Research Design

The current study opted quantitative approach and survey method. Quantitative approaches are helpful in providing representation of large population, cause-and-effect relationships among variables as well as confirm or discard research hypotheses" (Soroya & Ameen, 2017, p.3). The survey research method, generally used to examine the practices, preferences, concerns and attitudes of large population (Mills & Gay, 2019).

Instrument

Questionnaires was used to collect responses from the respondents. Adapted scale related to variables (reliability and validity tested) was used for instrument development. A 20-item scale of information literacy developed by Ahmad et al., (2020) in the workplace context was used to measure information literacy of university academicians.

Reliability of the Instrument

Cronbach's alpha was applied to confirm the reliability of the survey instrument and found (0.866), which is within the acceptable value from 0.70 to 0.95 (Bland & Altman, 1997; Tavakol & Dennick, 2011).

Table I. *Reliability Figures*

Cronbach's Alpha (α)	No. of statements
0.866	20

Population

The academicians working in all Qs-ranked universities of Lahore were selected as the study population. Four universities of Lahore fall under QS-ranking 2023: University of Punjab (PU); University of Engineering & Technology (UET); Lahore University of Management Sciences (LUMS) and, The University of Lahore (UOL).

Sampling

The responses were collected from university academicians using stratified convenient sampling technique.

Data Collection and Analysis

Questionnaire comprising adapted scales related to variables was distributed among university academicians for data collection. There were 356 responses collected from all of these universities.

The statistical package for social sciences (SPSS) was used for the examination of gathered data from survey participants. According the requirements of the study, Descriptive statistics (frequencies, percentages, mean scores, standard deviations) and inferential statistics (t-test, one-way ANOVA and Pearson correlation coefficient) were applied.

Limitations

There are some limitations of the study, firstly, the study findings are established on survey participants' self-reported views about their information literacy. Secondly, the present research has been limited to only QS-ranked universities of Lahore.

Results

Demographical Profile of the Participants

The questions regarding participants' demographic information i.e. affiliated university, age group, gender, qualification, designation, discipline, job experience and research experience were inquired. The respondents' institution-wise distribution describes that 144 (40.4%) out of 356 respondents were affiliated with Punjab University, 138 (38.8%) respondents were affiliated with the University of Engineering & Technology, 16 (4.5%) respondents were associated with Lahore

University of Management & Sciences. In comparison, 58 (16.3%) respondents belonged to the University of Lahore. The gender-wise distribution demonstrated that 254 (71.4%) respondents were male and 102 (28.7%) females became part of the current study. According to age group responses, 96 (27.0%) respondents marked themselves in the age group up to 35 years, 194 (54.5%) showed them in the age group between 36-45 years, and 66 (18.5%) responded were in the age group 46 years and above. Qualification results of the respondents showed that 18 (5.1%) were PhD with a postdoc, 155 (43.5%) respondents were PhD degree holders, MS/ M. Phil qualification respondents were 136 (38.2%) while 47 (13.2%) respondents were BS/ Masters. Designation-wise respondents' distribution revealed that 28 (7.9%) were Professors, 64 (18.0%) respondents were Associate Professors, 152 (42.7%) were marked as Assistant Professors, and Lecturer respondents of the study were 112 (31.5%). In answering to mention their teaching experience, 63 (17.7%) respondents declared up to 5 years of experience, 100 (28.1%) respondents stated that in the 6 to 10 years teaching experience group, 137 (38.5%) respondents had 11 to 15 years teaching experience, 16 to 20 years teaching experience respondents were 41 (11.5%) while more than 20 years teaching experience university academicians were 15 (4.2%). In responding to convey their research experience, 83 (23.3%) respondents declared up to 5 years research experience, 122 (34.3%) respondents stated them in 6 to 10 years research experience group, 109 (30.6%) respondents had 11 to 15 years research experience, 16 to 20 years research experience respondents were 35 (9.8%) while more than 20 years research experience university academicians were 7 (2.0%).

Table 2. *Demographics Information of the Survey Participants*

Demographic Variables	*Labels*	*Frequency*	*Percentage*
Name of University			
	Punjab University	144	40.4
	University of Engineering & Technology	138	38.8
	LUMS	16	4.5
	UOL	58	16.3
Age Cluster			
	Up to 35 years	96	27.0

	36 to 45 years	194	54.5
	46 years & above	66	18.5
Gender			
	Male	254	71.3
	Female	102	28.7
Qualification			
	Ph.D. with Post Doc	18	5.1
	Ph.D.	155	43.5
	MS/ M. Phil	136	38.2
	BS/ Master (16 years)	47	13.2
Designation			
	Professor	28	7.9
	Associate Professor	64	18.0
	Assistant Professor	152	42.7
	Lecturer	112	31.5
Job Experience			
	Up to 5 years	63	17.7
	6 to 10 years	100	28.1
	11 to 15 years	137	38.5
	16 to 20 years	41	11.5
	More than 20 years	15	4.2
Research Experience			
	Up to 5 years	83	23.3
	6 to 10 years	122	34.3
	11 to 15 years	109	30.6
	16 to 20 years	35	9.8
	More than 20 years	7	2.0

RQ1: Academicians' Self-Efficacy in Information Literacy

The academicians were enquired to respond about their self-efficacy in information literacy through a five-point Likert scale. Table 3 outlines the mean and standard deviation of the

academicians' views for each statement. University academicians rated themselves highly competent and confident in IL as they responded regarding their information-related skills as 'agree and strongly agree, with an overall mean score of 4.33 and above. The mean analysis of data about university academicians' IL revealed that respondents feel highly competent in sub-dimensions of IL i.e. Information acquisition (M = 4.38, SD = 0.561); Information evaluation (M = 4.27, SD = 0.593); Information use (M = 4.36, SD = 0.505); Awareness of information environment (M = 4.28, SD = 0.564); Learning from information experience (M = 4.36, SD = 0.474); and Information ethics (M = 4.36, SD = 0.557).

Table 3. *Perceived Level of Information Literacy Self-efficacy*

Descriptive Statistics			
	N	M	SD
Factor 1. Information acquisition (IA)	356	4.38	0.561
"IL1: To get the right information easily	356	4.39	.668
IL2: To identify the right information sources	356	4.36	.751
IL3: To discuss with coworkers to acquire information	356	4.39	.736
Factor 2. Information evaluation (IE)	356	4.27	0.593
IL4: To Highlight inaccuracy and errors in information acquired	356	4.23	.809
IL5: To determine the reliability of the information	356	4.24	.788
IL6: To identify points of agreement and disagreement among information sources	356	4.35	.693
Factor 3. Information use (IU)	356	4.37	0.505
IL7: To put information into action	356	4.36	.650
IL8: To use information for positive changes in work practice	356	4.42	.648
IL9: To use information in different ways	356	4.31	.737
Factor 4. Awareness of information environment (AIE)	356	4.28	0.564
IL10: To understand institutional procedures for receiving and sharing information	356	4.31	.784
IL11: To know how institutions enable employees to get needed information	356	4.25	.791
IL12: To understand institutionally acceptable ways of information sharing	356	4.29	.741

IL13: Aware of the organization of information in the institution	356	4.25	.744
Factor 5. Learning from information experience (LIE)	356	4.36	0.474
IL14: To identify what sources and processes will help find and use information for future	356	4.30	.703
IL15: Try to find out how information could be used in new ways	356	4.30	.738
IL16: To revise thinking as a result of group discussions or information collected	356	4.41	.667
IL17: Information makes to think or act beyond the boundary of the job	356	4.43	.682
Factor 6. Information ethics (IEt)	356	4.36	0.557
IL18: To pay attention to information security in institutional print and electronic environments	356	4.36	.750
IL19: To obtain, store and disseminate information according to laws and regulations	356	4.33	.763
IL20: To understand when to give credit or hide information sources"	356	4.39	.709
Overall	356	4.33	.388

Note*: Item source (Ahmad et al., 2020); Scale: 1=strongly disagree to 5=strongly agree*

RQ2: Correlation between Academicians' IL Self-Efficacy and Socio-cultural Variables

Ho1: Difference in Information Literacy Self-efficacy by Gender (N = 356)

The difference in information literacy competency among male and female respondents was examined through independent sample t-test. The outcomes disclosed that the IL was almost equal between both male and female respondents. Hence, hypothesis Ho1 (*There isn't any statistically significant difference in academicians' information literacy self-efficacy in workplace context with respect to their gender)* is accepted.

Table 4. *Difference in IL Self-efficacy based on Gender*

Sub-dimensions of IL Skills	Mean		t -value	p-value
	Male	Female		
"Information acquisition	4.4580	4.1830	4.281	.000
Information evaluation	4.2927	4.2157	1.108	.269
Information use	4.4134	4.2484	2.813	.005

Awareness of the information environment	4.3514	4.0809	4.183	.000
Learning from information experience	4.4075	4.2475	2.909	.004
Information ethics”	4.4003	4.2549	2.239	.026

Note*: Item source (Ahmad et al., 2020)*

Levene's test evaluates whether the variances of a variable, calculated across two or more groups, are equal. This test is employed to verify the assumption of uniform variances among different sample sets, for certain statistical techniques like one-way ANOVA). If the p-value is less than already determined value, the equal variances null hypothesis is rejected. The results showed that sig. value > .05, so no significant variance was found.

Table 5. *Independent Sample T Test*

			Levene's Test for Equality of Variances		t-test for Equality of Means						
			F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
										Lower	Upper
	M	SD									
Male	4.3864	.37271	2.679	.103	4.173	354	.000	.18544	.04444	.09804	.27284
Female	4.2010	.39470									

Ho2: Information Literacy and Age Clusters of the Respondents

The strength of the relationship among IL self-efficacy and the age clusters of the academicians was examined through Pearson correlation coefficient. The findings showed a positive relationship between IL self-efficacy and age clusters of the survey participants. Hence, hypothesis Ho2 (*There isn't any statistically significant difference in academicians' information literacy self-efficacy in workplace context with respect to their age)* is rejected.

Table 6. *Correlation between Information Literacy and Age Cluster*

		Age cluster of the respondent	IL
Age cluster of the respondent	Pearson Correlation	1	.169**
	Sig. (2-tailed)		.001
	N	356	356
IL	Pearson Correlation	.169**	1
	Sig. (2-tailed)	.001	
	N	356	356

Note: ** *Correlation is significant at the 0.01 level (2-tailed)*

Ho3: Information Literacy and Qualification of the Respondents:

To examine information literacy self-efficacy among university academicians according to their qualifications of the academicians, such as PhD with a postdoc, PhD, MPhil, and master's/ BS degrees, one-way ANOVA test was used. The findings based on qualification revealed no statistically significant difference in the overall IL. Hence, hypothesis Ho3 (*There isn't any statistically significant difference in academicians' information literacy self-efficacy in workplace context with respect to their qualification)* is accepted.

Table 7. *ANOVA*

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	1.458	3	.486	3.295	.021
Within Groups	51.925	352	.148		
Total	53.383	355			

Ho4: Information Literacy Self-efficacy and Designation of the Respondents

The differences in information literacy self-efficacy with respect to university academicians' designations was investigated through one-way ANOVA test. The comparison among academicians IL based on their designations showed statistically no significant difference of opinion on the overall IL. Hence, hypothesis Ho4 (*There isn't any statistically significant difference in academicians' information literacy self-efficacy in workplace context with respect to their designation)* is accepted.

Table 8. *ANOVA Results*

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	.267	3	.089	.590	.622
Within Groups	53.116	352	.151		
Total	53.383	355			

Discussions

The outcomes revealed that the study respondents remained highly competent and confident in information literacy as a whole and it's all sub-dimensions ("Information acquisition; Information evaluation; Information use; Awareness of the information environment; Learning from information experience; and Information ethics"). University academicians' IL self-efficacy positively correlated with their age, job experience and research experience. Based on the respondents' gender, qualifications, and designation, the results disclosed that there was no statistically significant difference among the groups. These results are aligned with (Mahmood, 2017; Mumtaz & Khan, 2020; Ode, 2017), who claimed that gender did not appear to have an impact on IL skills. It indicates academicians' self-efficacy in IL developed with age, job experience, and research experience. These were expected results, not surprising given that academicians' confidence, competences, and learning experiences all naturally improved with age, job experience, and research experience. Academicians' IL self-efficacy was significantly correlated with their gender, meaning that female academicians' IL self-efficacy was nearly equal to that of male academicians.

Furthermore, the findings displayed that educational qualification as a forecaster of academicians' information literacy self-efficacy. Academicians' IL self-efficacy growing with higher qualifications. This conclusion were understandable because academicians participated in present survey, teaching courses and, in extensive information-related tasks, which meant that they developed their skills and confidence with time. The study's findings align with (Aharony & Gazit, 2020; Aharony & Gur, 2019; Raza et al., 2021), as they determined that age and experience had a favorable impact on IL skill levels.

Conclusions

The current study examined the university academicians' information literacy self-efficacy. Established on the study's outcomes, the subsequent conclusions have been drawn. The university academicians were highly competent and confident in IL self-efficacy. The respondents rated themselves highly competent and confident in IL as a whole and it's all sub-dimensions ("Information acquisition; Information evaluation; Information use; Awareness of the information environment; Learning from information experience; and Information ethics"). The t-test, one-way ANOVA, and Pearson correlation coefficient were applied to examine the relationship between the total mean score for the overall IL self-efficacy and the socio-cultural variables of academicians (gender, age group, qualification, designation, job experience, and research experience). The findings showed that academicians' self-efficacy in IL was positively correlated with their Alpha values for age, job, and research experience. It described that academicians' age, job experience, and research experience increased, self-efficacy in IL also heightened. Additionally, based on gender, qualification, and designation, it was discovered that there was no statistically significant difference in academicians' self-efficacy in IL. Furthermore, academic qualifications were shown to be a predictor of academicians' IL self-efficacy by the one-way ANOVA results.

Study Recommendations

The present research endorses for a comprehensive and advanced level information literacy instructions program for academicians, ultimately producing an information literate educational workforce. These results created functional understandings for universities' and library authorities' policymakers to arrange advanced level IL instruction program for university academicians. Therefore, it suggested to arrange IL programs. The authorities should have short-term and long-duration IL sessions to advance academicians. In addition, these results are also crucial for other workplaces in Pakistan.

It is also recommended that such types of studies should be conducted with larger populations, and more universities or other workplaces also be included to gain more insight on workplace information literacy.

Implications

There was an acute shortage of research studies conducted on academic workplace information literacy, therefore this is an essential contribution to the knowledge regarding this particular field. It is predicted that study outcomes will assist as the guidelines for further studies on work information literacy.

References

Abram, S. (2013). Workplace information literacy: It's different. In *Developing People's Information Capabilities: Fostering Information Literacy in Educational, Workplace and Community Contexts* (205-222). Emerald Group Publishing Limited.
Available at: https://www.emerald.com/insight/content/doi/10.1108/S1876-0562(2013)0000008017/full/html

Aftab, M., & Singh, N. (2018). Information literacy among the postgraduate students and research scholars of social science faculty at Aligarh Muslim University, India. *International Journal of Information Dissemination and Technology*, *8*(2), 89-95.
Doi: 10.5958/2249-5576.2018.00019.5

Aharony, N., & Gazit, T. (2020). Students' information literacy self-efficacy: An exploratory study. *Journal of Librarianship and Information Science*, *52*(1), 224-236.
Available at: https://doi.org/10.1177/0961000618790312

Aharony, N., & Gur, H. (2019). The relationships between personality, perceptual, cognitive and technological variables and students' level of information literacy. *Journal of Librarianship and Information Science*, *51*(2), 527-544.
Available at: https://doi.org/10.1177/0961000617742450

Ahmad, F., & Widen, G. (2018). Information literacy at workplace: the organizational leadership perspective. *Information Research*, *23*(4).
Available at: https://www.informationr.net/ir/23-4/isic2018/isic1817.html

Ahmad, F., Widén, G., & Huvila, I. (2020). The impact of workplace information literacy on organizational innovation: An empirical study. *International Journal of Information Management*, *51*, 102041.
Available at: https://doi.org/10.1016/j.ijinfomgt.2019.102041

Ahmad, K., JianMing, Z., & Rafi, M. (2020). Librarian's perspective for the implementation of

big data analytics in libraries on the bases of lean-startup model. Digital Library Perspectives, 36(1), 21–37. https://doi.org/10.1108/DLP-04-2019-0016

Ahmad, M., Ahmad, K., & Bhatti, R. (2023). Assessing the impact of knowledge management factors on digital resources acceptance: a survey of postgraduate students of public sector universities of Punjab. Electronic Library, 41(5), 617–640. https://doi.org/10.1108/EL-01-2023-0013

Ahmed, S., & Rehman, A. U. (2016). Perceptions and level of ICT competencies: a survey of librarians at public sector universities in Khyber Pakhtunkhwa, Pakistan. *Pakistan Journal of Information Management and Libraries*, *18*(1), 1-11.
Available at: https://d1wqtxts1xzle7.cloudfront.net/47793117/ICT_competencies-libre.pdf?1470335349

Ali, K. (2022). Digital Information Literacy Skills among Library and Information Science Professionals in University Libraries of Sindh Pakistan. *Journal of Information Management and Practices*, *2*(1), 41-61.
DOI: https://doi.org/10.52461/jimp.v2i1.1035

Ali, M. Y., & Richardson, J. (2018). Workplace information literacy skills: Library professionals' competency at university libraries in Karachi, Pakistan. *Information and Learning Science*, *119*(7/8), 469-482.
Available at: https://doi.org/10.1108/ILS-10-2017-0107

Amjad, A., Ahmed, S., & Naeem, S. B. (2013). Use of electronic information resources among research scholars in the Islamia University of Bahawalpur, Pakistan. *New Review of Academic Librarianship*, *19*(3), 316-328. https://doi.org/10.1080/13614533.2013.829505

Anandhalli, G. (2018). Impact of information literacy skills on the academic achievement of the students: A case study of Anjuman degree college, Vijayapura. *International Journal of Research in Humanities, Arts and Literature*, *6*(3), 1-16.
Available at: http://impactjournals.us/index.php/download/archives/2-11-1520248287-1

Ansari, M. N. (2013). ICT skills proficiency of library professionals: A case study of universities in Karachi, Pakistan. *Chinese Librarianship: An International Electronic Journal*, *36*(1), 72-84.
Available at: https://d1wqtxts1xzle7.cloudfront.net/50244584/

Anwar, M. A., & Ullah, M. (2017). Developing an instrument for the validation of competencies: The case of medical librarians. *Libr Philosophy Pract*, *1533*, 1-24. Available at: http://digitalcommons.unl.edu/libphilprac/1533

Appiah, D.K., Kwaah, C.O. & Asiedu, N.K. (2023) 'Assessing Information Literacy Skills of Teacher Trainee Students: Experiences from a Ghanaian College of Education', *International Journal of Information Science & Management*, *21*(4),149–164. doi:10.22034/ijism.2023.1977943.0.

Banks, M. (2013). Time for a paradigm shift: the new ACRL Information Literacy Competency Standards for Higher Education. *Communications in Information Literacy*, *7*(2), 15. Doi: 10.15760/comminfolit.2013.7.2.151

Bird, N. J., Crumpton, M., Ozan, M., & Williams, T. (2012). Workplace information literacy: A neglected priority for community college libraries. *Journal of Business & Finance Librarianship*, *17*(1), 18-33.

Available at: https://doi.org/10.1080/08963568.2012.630593Abram, S. (2013). Workplace information literacy: It's different. *Library and Information Science*, *8*(December), 205–222. https://doi.org/10.1108/S1876-0562(2013)0000008017

Ahmad, K., JianMing, Z., & Rafi, M. (2020). Librarian's perspective for the implementation of big data analytics in libraries on the bases of lean-startup model. *Digital Library Perspectives*, *36*(1), 21–37. https://doi.org/10.1108/DLP-04-2019-0016

Bruce, C. S. (1999). Workplace experiences of information literacy. *International Journal of Information Management*, *19*(1), 33–47. https://doi.org/10.1016/S0268-4012(98)00045-0

Grassian, E., Lemire, S., Malafi, E., & Liu, G. (2017). *Business and Workplace Information Literacy Three Perspectives*. *57*(2), 79–85.

Hewitson, A. (2002). Use and awareness of electronic information services by academic staff at Leeds Metropolitan University - A qualitative study. *Journal of Librarianship and Information Science*, *34*(1), 43–52. https://doi.org/10.1177/096100060203400105

Hussain, B. A., Li, S., & Alsanad, A. (2022). Assessment of Information Literacy Abilities: A Case Study of Pakistan. *Sustainability*, *14*(7), 3807. https://doi.org/10.3390/su14073807

Iannuzzi, P. (2000). Information literacy competency standards for higher education. *Community and Junior College Libraries*, *9*(4), 63–67. https://doi.org/10.1300/J107v09n04_09

Jinadu, I., & Kaur, K. (2014). Information literacy at the workplace: A suggested model for a developing country. *Libri*, *64*(1), 61–74. https://doi.org/10.1515/libri-2014-0006

Martin, C. (2011). *An information literacy perspective on learning and new media*. *19*(4), 268–275. https://doi.org/10.1108/10748121111179394

Molopyane, J., & Fourie, I. (2015). A framework for workplace information literacy in academic contexts Central University of Technology , Free State (South Africa) as case study. *Library Hi Tech*, 1–22.

Paolini, A. (2015). Enhancing Teaching Effectiveness and Student Learning Outcomes. *The Journal of Effective Teaching an Online Journal Devoted to Teaching Excellence Enhancing*, *15*(1), 20–33.

Rafique, G. M. (2014). Information literacy skills of faculty members: A study of the University of Lahore, Pakistan. *Library Philosophy and Practice*, *2014*(1).

Sadioğlu, Ö., Ipek, N., & Derman, M. T. (2009). Determining the information literacy skills of teacher candidates for the sustainability of quality in education. *Procedia - Social and Behavioral Sciences*, *1*(1), 1455–1459. https://doi.org/10.1016/j.sbspro.2009.01.256

Tyagi, R., & Chawla, G. (2017). *Education through Information and Communication Technology : Student Education through Information and Communication Technology : Student Perspective on the Blended Learning*. *March*. https://doi.org/10.18178/ijssh.2017.7.4.822

Wu, M. S. (2019). Information literacy, creativity and work performance. *Information Development*, *35*(5), 676–687. https://doi.org/10.1177/0266666918781436