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Impacts of Technology Skills on Generic Job Satisfaction, and Assessment of Training Needs: A Case of Pakistani Librarians

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Impacts of Technology Skills on Generic Job Satisfaction, and Assessment of Training Needs: A Case of Pakistani Librarians

Abstract

Since modern librarians are urged to acquire technological skills, thus objectives of this study are; 1) to examine whether or not the acquisition of such skills affects their generic job satisfaction (GJS) and; 2) to identify the training needs. To this end, twelve research hypotheses were formulated indicating the relationship of technology skills with GJS. The findings revealed significant effects of technology functional and professional skills on GJS and accordingly, all hypotheses (H₁-H₁₂) are supported. Further, Information Assurance and Security Skills were established as the principal predictor of GJS whereas Library Content Management System skills as the weakest. Additionally, training needs analysis established a 76.3 per cent deficit, 19 per cent surplus, and 21.2 per cent job-best fit. This study has diverse implications; 1) *practical implications*- national technology skills model is needed to enable librarians to acquire needed skills; 2) *social implications*- results emphasize librarians to enhance the current level of professional skills to perform contemporarily that perhaps augment their social image and; 3) *theoretical implications*- the integrated research model of this study can be utilized by future researchers either for cross-validation of findings of this study or to improve the topic scope.

Keywords: Technological Competencies, Technical Skills, Job Satisfaction, University Librarians, Technology adoption, Performance, Academic librarians

Introduction

A range of researchers has established that technology innovations have significantly augmented the basic principles of librarianship. Academic librarians are believed to acquire the technology functional as well as foundational skills and should learn how to utilize technologies at the workplace (Khan, Rehman and Rehman, 2013). Moreover, librarians are directed to envisage technologies and professional challenges as prospects of advancement (Khan, 2006). To manage such challenges, library associations have designed diverse competencies models, such as the Federal Library, and Information Center Committee's (FLICC) competency model. FLICC model defined technology skills as acquiring capabilities of dealing with technological innovations from kickoff to dispersal and execution. Abundant researchers think that the influence of technology skills on performance, satisfaction, and overall adoption of innovations is significant (FLICC, 2011). Long (1993) and Attar and Sweis (2010) indicated that the relationship of technology skills with the quality of work and job satisfaction is significant. However, Danziger and Dunkel (2005) reported a negative and insignificant correlation between technology skills and job satisfaction. Besides the fact that competencies are strongly associated with GJS, it is still unknown whether or not such a relationship is valid in the context of Pakistani academic librarians. As a response to fill this gap, the intended study was conducted to evaluate the relationship of different indicators of technology skills with GJS. Additionally, this study measured variance in the level of librarians' technology functional skills to identify the training needs. For this purposes deficit, surplus, and job-best fit were explored. Since deficits explored the areas where training is

required, thus training needs analysis (TNA) was conducted. However, surplus informed about skills under-utilization, for which top-down allocation of tasks was suggested to increase job-best fit.

In the intended study, the appraisal of TNA has two foremost justifications. Firstly, Pakistani universities are facing monetary limitations and a meagre portion of their budget is allocated to libraries which is not enough to adopt modern infrastructure of library services or to enhance the librarians' current professional skills. These libraries also have limited training opportunities and as a result, their performance is not contemporary (Khan and Begum, 2016). Some universities are struggling to organize training programs frequently but the outcome is not satisfactory due to trivial training contents, librarians' lack of interest, the absence of competent resources persons etc. Secondly, TNA may address the issue of what type of contents should be included in the training module.

Addressing the above two issues are critical because they have negative impacts on the generalized societal and organizational image of libraries and librarians in Pakistan. Low performance and incompetence of librarians are presenting librarianship as not only an unattractive profession but also regarded as a low paid, dull, stagnant, uncreative, and mediocre people job. Librarians are the people that have no work in their libraries. For the social image, self-protection, and professional survival, institutions have adopted escape policies such as the term "library" is being eradicated from the title "library and information science" in Pakistan. One of the possible intentions for such actions is to enhance their social, organizational, or institutional profile. Another possible justification may be to give the impression of being adopting modern innovative ideas which may not be true. Because their curriculum even though looks like "old wine in the new bottle". Such measures are humiliating the image of librarianship and that is why librarians and teachers of library and information science are not willing or feel shyness and reluctance in the use of the word "library" while interacting with people from the other disciplines. Besides the poor social image, Pakistani librarians are still dependent on traditional ways of managing their libraries and are not motivated to acquire the needed technology functional skills or augment the current levels of acquired competencies. Additionally, the curriculum currently taught in the schools of librarianship is not compatible with modern professional demands. The course contents are the assimilation of outdated concepts replicated from western countries. The resource persons are not well-equipped or trained in the use of the modern concepts and as a result, the graduates of these schools are not proficient in the use of moderns innovations and faces several professional issues. Thus, this study assumed the need for training on technological skills. Besides the above, TNA is important to recognize budget limitations, type of training required, training areas, cost, identify workers that need training, explore skills deficit, surplus, level of job-best fit and save time.

Research Objectives

The intended has the following research objectives:

1. To investigate the relationship between technology functional and professional skills and generic job satisfaction.
2. To analyze librarians' training needs on technology functional and professional skills.

Literature review

Generic job satisfaction

A substantial amount of research affirms that job satisfaction (JS) has significant effects on performance and is needed to be examined. According to Bowra and Nasir (2014), JS should be an important parameter of performance evaluation. General Job Satisfaction (GJS) refers to workers' generalized approaches towards the job, personal and professional abilities (Hart, 2010). It specifies the vision of abilities and emotional reactions to the work¹⁰. The concept of GJS is heterogeneous such as Ravari et al. (2012) found six diverse styles in the literature that explains GJS. Further, Somvir (2012) stated that GJS means either satisfied or unsatisfied workers. The indicators of GJS include a promotion, job setting, and salaries (Testa, 2001). Additionally, Luthans (1998) characterized GJS as intrinsic JS (abilities) and extrinsic JS (wages).

Technology functional and professional skills

Regardless of monetary restraints, organizations spend a major portion of their budget on procurement and management of technologies. However, productivity is not simply supposed to be because of employing technologies but also accredited to the ways of integrating such innovations in organizational setup, provision of needed technology functional skills and appraisal of acquired skills. In the context of librarianship, technology skills are the apparent, quantifiable configurations of technological competencies required at the workplace which may be foundational and/or functional.

Functional technology skills represent a cluster of identical or unified skills that signify the key practical job that designates the profession. It is noteworthy that skills are also viewed from professional and personal perspectives. Thus, it is assumed that technologies can be utilized for personal as well as professional purposes. To avoid any conceptual ambiguities, for this study we adopt the use of technology functional and professional skills. The FLICC competencies model operationally defined technology functional and professional skills as information and communication technologies, assistive technologies, enterprise information technologies, information assurance and security, library and content management systems, social media, collaborative and mobile technologies. Technology functional and professional skills play significant roles in successful organizational productivity (Ravari et al. (2012). Gera and Gu (2004) stated that the provision of technology skills ensures improved performance. Furthermore, technology is regarded as a challenge for organizational performance but is essential for competitive advantage. Unfortunately, organizations take little interest in the development of workers' skills and thus the outcome is poor performance. The advent of technological innovations and later on its rapid proliferation are the main drivers that increased users' information demands. Because of that library professionals are demanded to acquire the needed technology skills that ensure optimal performance.

Relationship of GJS with technology skills

Although technologies influence job satisfaction, researchers have paid little attention to it in the Pakistani context. However, findings from other fields have reported diverse types of relationships between these constructs. For example, Meyer (2006), Attar and Sweis (2010) and Ryding (2010) have established a positive relationship between technology skills and GJS. Besides the above, Aracil and Velden (2010) indicated that variation in the levels of the current and required professional and technology skills negatively influence GJS. Further, Hart (2010) stated that such variations have caused dissatisfaction among librarians. To eliminate job

dissatisfaction, Faraj and Badraghe (2013) suggested training for librarians that assist in managing gaps in the levels of professional and technology skills and further augment GJS and performance.

From the above discussions, it is deduced that librarians must be competent in the use of technologies. For that librarians must change their attitude from traditional librarianship to technology-based practices. Their approaches must be optimistic towards professional challenges and envisage them as opportunities. Since research findings are scarce on the effects of professional and technology skills on GJS, thus it is unknown whether or not the effects of professional and technology skills on GJS of Pakistani librarians are significant. The present study aimed to assess the relationship of technology functional and professional skills on the GJS of Pakistani university librarians. Further, this study identified the skills where training is needed.

Training needs analysis and skills development

Training means the determinations and struggle that offer employees the skills to attain the desired performance and organizational objectives. It describes organizational goals, augments job-best fit, improves self-reliance, produces optimism, facilitates policy-making, and explores problem handling strategies²⁰. Earlier researchers have recognized several benefits of training such as it improves the current level of professional skills, lessen skill deficits, supports the attainment of advanced abilities, and expands occupational perspectives, generates new employment opportunities and professional evolution. Training is dependent on workers' demand for needed skills or augmentation of the current skills. However, before organizing any training programs training needs analysis (TNA) is vital to identify workers that need training. TNA tells about what type of training is needed, where training should be carried out, how it should be conducted and managed when training is significant to be planned etc. Training will be successful if given to the right workers (workers who need training) and therefore necessitate the skills to identify the right workers. TNA is a method of finding a suitable employee for the training. It confirms the training participation of those workers that have deficiencies in the level of current skills. Workers deficient in skills always exhibit poor performance (Khan, Masrek and Nadzar, 2014). TNA describes the variance in the current and needed skills and therefore assist in the evaluation of workers' performance and their contributions towards the attainment of organizational goals. Another important benefit of TNA is that it is cost-effective, avoids skill reiteration, and impedes the inclusion of trivial training contents in the training module. Moreover, TNA is significant and mandatory if an organization faces financial constraints.

The above discussions showed that skills variance affects GJS and performance. Besides, research on skills variance may define skills deficit, surplus and person-job matching or mismatching. To this end, the significance of technology and professional skills variance and the need for training were evaluated.

Research model and hypotheses development

Since this study is based on two central research objectives, thus integrated theoretical model of the study as shown in Fig. 1, is composed of two parts; 1) relationship study and; 2) difference study for training needs analysis. In this study, GJS is used as a dependent variable that captures Pakistani university librarians' overall attitude or feelings towards their job.

Numerous earlier researchers such as Kessler (2007) have used GJS as the dependent variable. The research framework has six technology skills as predictors.

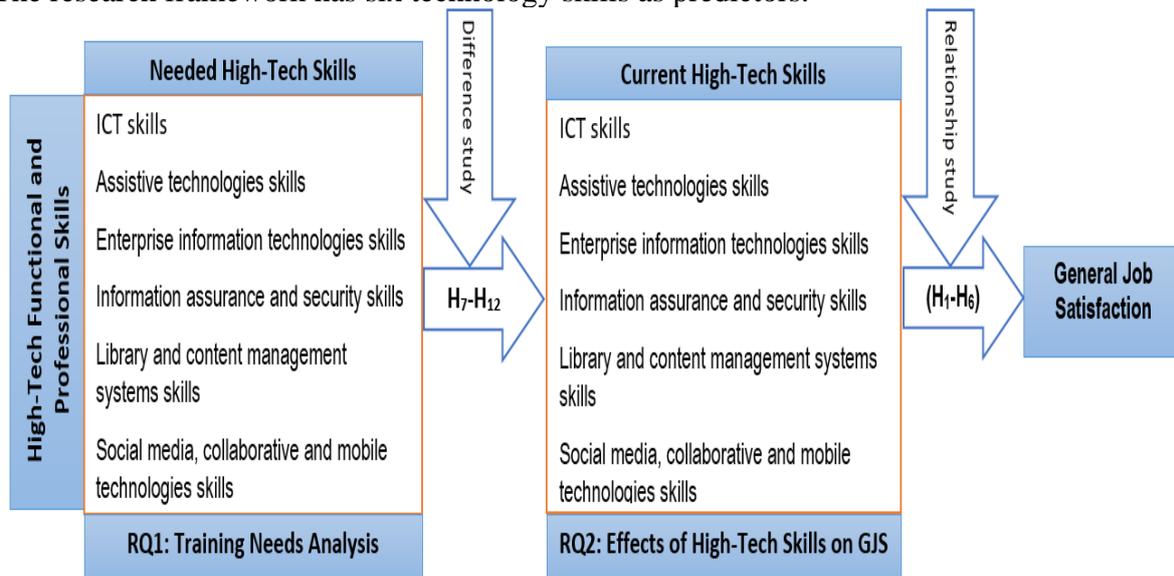


Fig. 1- Study framework

In terms of Pakistan, the below research hypotheses (H₁-H₁₂) are formulated:

- H₁. Information and communication technologies skills are significant predictors of GJS.
- H₂. Information assurance and security skills are significant predictors of GJS.
- H₃. Library content management skills are significant predictors of GJS.
- H₄. Social media, collaborative and mobile technology skills are the significant predictor of GJS.
- H₅. Enterprise information management skills are significant predictors of GJS.
- H₆. Assistive technology skills are the significant predictors of GJS.

To accomplish the second research objective, this study designed a model that measures skills variance in the context of technology skills. The difference study is composed of three steps; a) examining the significance of skills variance; b) exploration of skills' deficit/skills overutilization, surplus/skills underutilization, and person-job matching and; c) analysis of training requirements. Hence, the following six hypothetical relationships are assumed in the context of Pakistan librarians:

- H₇. Statistical variance in the current and needed levels of ICT skills is significant.
- H₈. Statistical variance in the current and needed levels of information assurance and security skills is significant.
- H₉. Statistical variance in the current and needed levels of library content management skills is significant.
- H₁₀. Statistical variance in the current and needed levels of social media, collaborative and mobile technology skills is significant.
- H₁₁. Statistical variance in the current and needed levels of enterprise information technology skills is significant.
- H₁₂. Statistical variance in the current and needed levels of assistive technology skills is significant.

Research methodology

This study has six stages i.e.; 1) questionnaire building; 2) reliability and validity tests; 3) gathering of data; 4) hypotheses testing; 5) difference study and; 6) training needs analysis. All these steps are discussed in the following sections.

Questionnaire construction

For the intended study, a questionnaire was constructed. This data collection tool was composed of multiple sections. The first section gathered data on the demographic characteristics of the study participants. The second section was related to the items describing the technology management skills identified from the related literature and FLICC competency model. At this level, all skills identified from the previously validated scales were matched with the skills described in the FLICC competency model. The process helped in the removal of skills' elusiveness in terms of construct operationalization, inferred explanation, and paradigms grouping that further demonstrated consistency in skills statements. As shown in Fig. 2, the skills developments process started with reviewing the related literature and terminates with a single cluster of technology management competencies. All scale items in this section were validated through pretesting. All pretesting experts examined the accuracy, relevancy, and appropriateness of the scale items in terms of Pakistan. According to the feedback of these experts, a final version of the questionnaire was generated where scale items were measured through a five-point Likert scale. Likewise, to measure GJS, an adapted form of the Michigan Organizational Assessment Questionnaire (MOAQ) was utilized. The past researchers have recommended the use of MOAQ to evaluate the GJS because of its high-reliability value ranging from 0.77 to 0.87.

The study constructs

To develop constructs, exploratory factor analysis (EFA) was used. For GJS, PAF and varimax rotation were further utilized. The KMO value (0.655) was > 0.6 and Bartlett's Test of Sphericity is significant at $X^2 = 91.267, p < 0.00$. This justified the factorability of correlation and supported sample appropriateness for the use of EFA. The determinant value (0.445) was found greater than 0.00001, confirming the absence of multicollinearity. Further, the same procedure was carried out for all twenty-four technology skills items and all the above requirements were found within the range ($r = 0.498$ and above; $KMO = 0.939 > 0.6$; Bartlett's Test of Sphericity $X^2 = 2704.101, p < 0.00$). As exhibited in Tables 1 and 2, the reliability values were found higher than 0.7 (between 0.719 and 0.818).

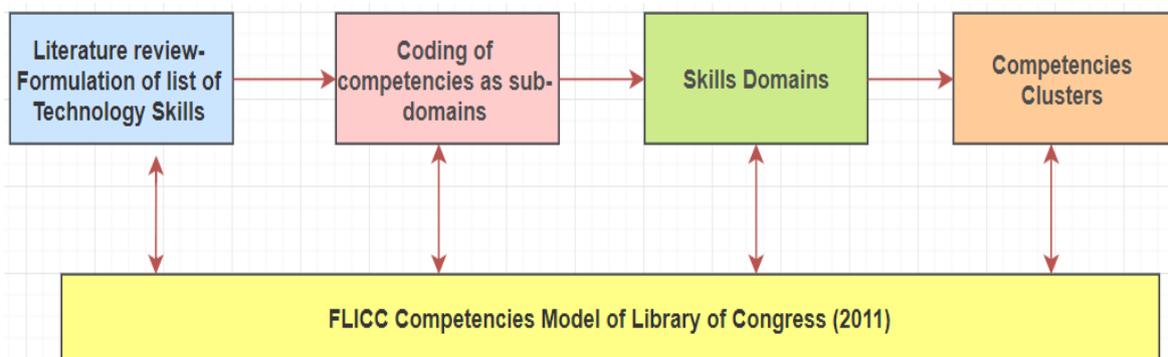


Fig. 2- Technology skill statements clustering techniques

Table 1- Factor loading for GJS

Items	Factors	Cronbach Alpha value
GJSq1	.873	.855
GJSq2	.762	
GJSq3	.546	

Table 2- Factor loadings for technology functional and professional skills

Items	Factors						Reliability values
	1	2	3	4	5	6	
ICTq1	.761						.719
ICTq2	.783						
ICTq3	.849						
ICTq4	.702						
IASq1		.719					.811
IASq2		.839					
IASq3		.682					
IASq4		.561					
LMq1			.520				.745
LMq2			.773				
LMq3			.745				
LMq4			.710				
SCTq1				.677			.810
SCTq2				.788			
SCTq3				.647			
SCTq4				.551			
EITq1					.753		.899
EITq2					.860		
EITq3					.688		
EITq4					.812		
ATq1						.818	.817
ATq2						.861	
ATq3						.725	
ATq4						.811	

Sample and data collection

To collect the data on the study construct, 300 self-administered survey questionnaires were distributed to a randomly chosen sample (n=225; N=540). Only 252 duly filled survey were returned (response rate=84%). Preliminary data editing procedures identified 227 questionnaires as the ultimate data set.

Results of demographic characteristics

The Figures 3,4,5,6 and 7 demonstrate that in the intended study 142 (63%) respondents are male and 85 (37.4%) are female; 196(86%) respondents are serving in public universities whereas 31(13.7%) respondents in private universities. Furthermore, age distributions showed maximum participation (n=92, 41%) from the librarians in the age group of 21-30 years whereas the minimum participation (n=15, 7%) was observed from the librarians having age above the fifty years. Data on qualification indicated the maximum participation of librarians with a master degree in LIS (n=217, 96%). However, only one participant with a PhD degree in LIS participated in this study (n=1, 0.4%). Likewise, data on

job status indicated that the majority of the study participants (n=173, 76%) are serving as permanent employees in the university libraries of Pakistan.

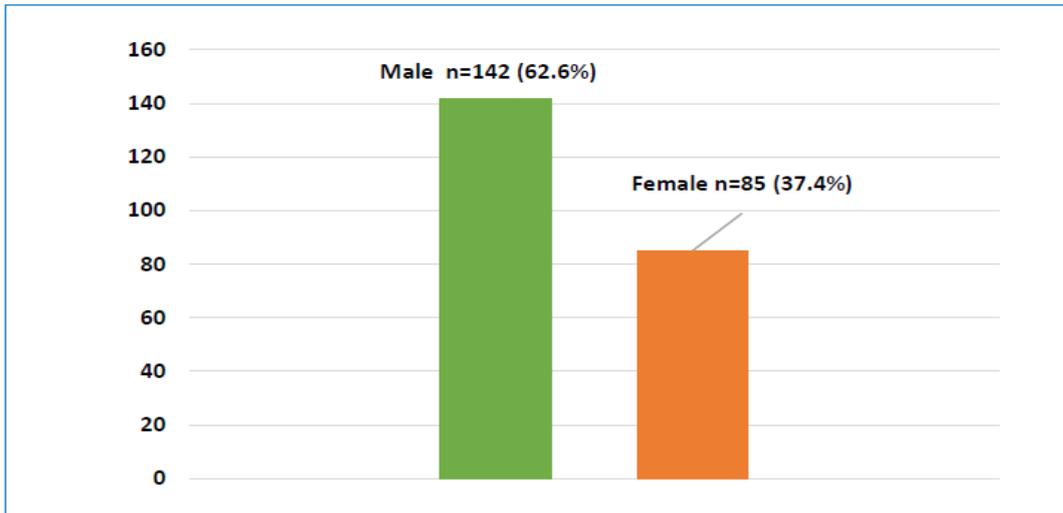


Fig. 3- Participation by gender

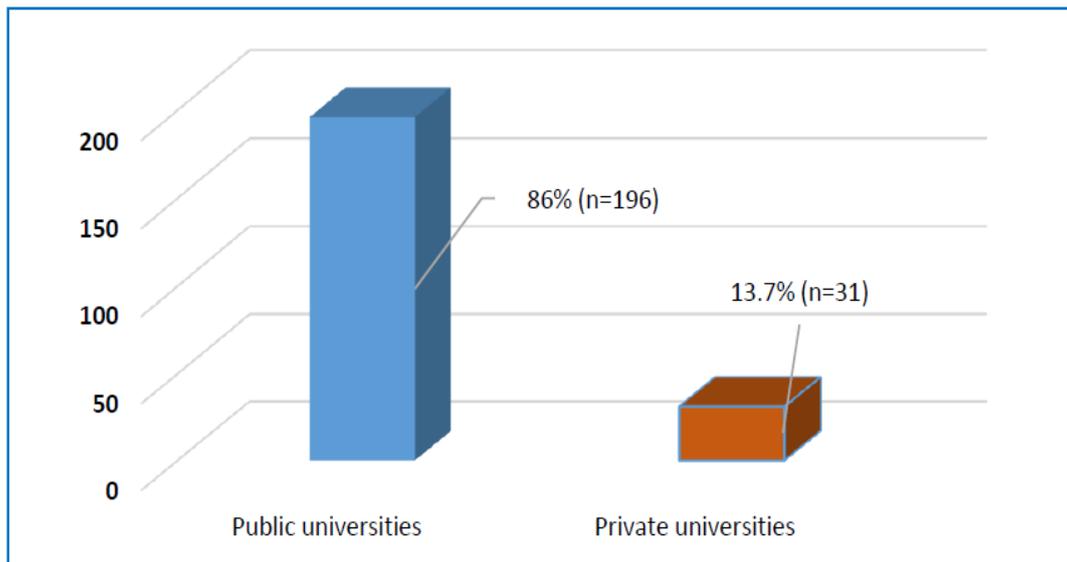


Figure 4: Data distribution by type of university

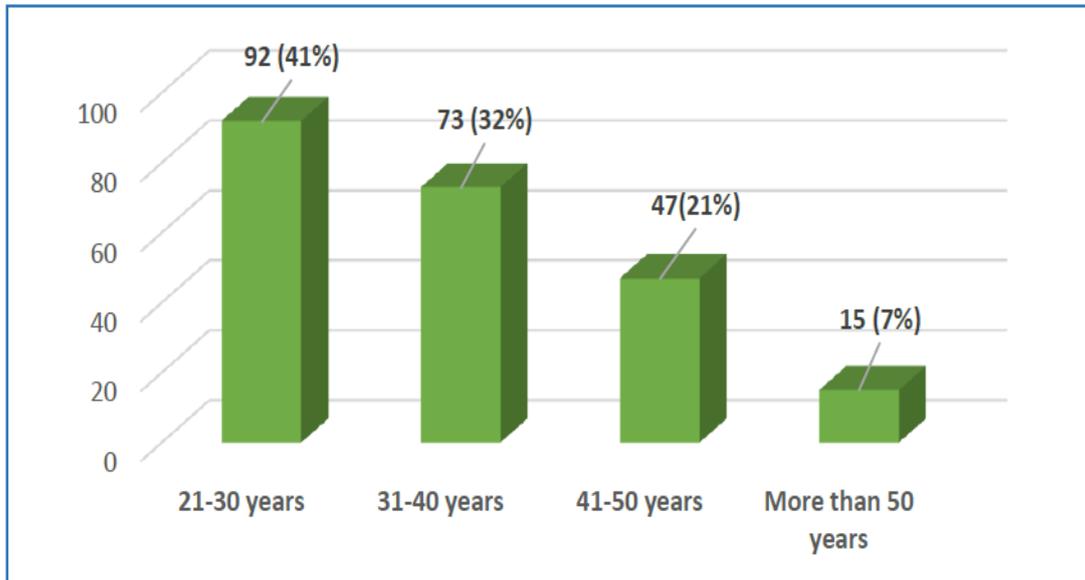


Fig. 5- Participation by age

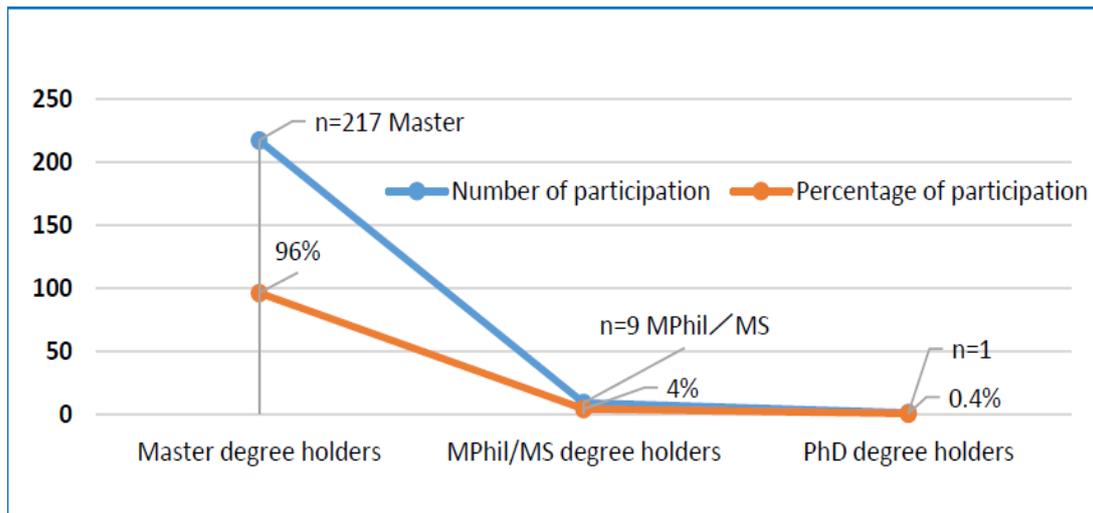


Figure 6: Data distribution by respondents' qualification

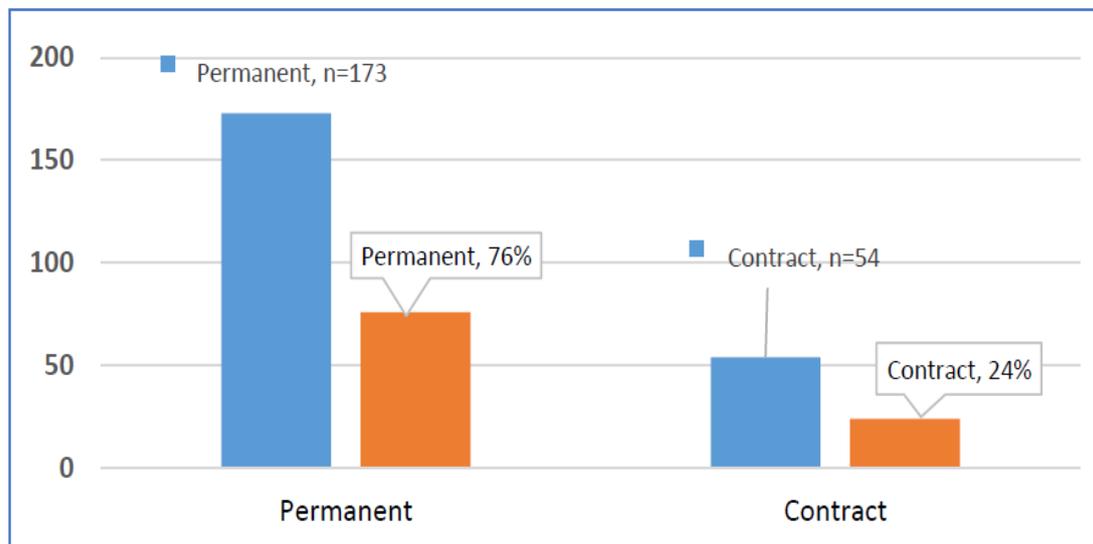


Figure 7: Participation in the study by employment status

Correlation analysis

For the measurement of correlation of technology functional and professional skills with GJS Pearson's correlation test was used and found significant at the level of an alpha score of 0.01. The correlation magnitude was recorded between the range of 0.216 and 0.379, indicating medium correlation strength as exhibited in Table 3.

Table 3- Results on correlations of GJS with technology skills

Tag	Constructs	M	SD	1	2	3	4	5	6	7
1	GJS	2.91	0.39	1						
2	ICT	3.45	0.78	.369**	1					
3	IAS	3.27	0.88	.379**	.573**	1				
4	LM	2.98	0.68	.216**	.565**	.584**	1			
5	SCT	2.78	0.67	.333**	.546**	.500**	.526**	1		
6	EIT	3.88	0.47	.312**	.521**	.521**	.519**	.521**	1	
7	AT	3.71	0.76	.361**	.546**	.519**	.571**	.543**	.565**	1

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

Multiple regression analysis

The Table 4 and 5 exhibit the findings of the regression analysis. The regression model was composed of six indicators yields $R^2 = 0.268$, $F(1,222) = 14.715$, $p < .000$. Findings indicated that technology skills predict GJS ($F(1,222) = 14.715$). Additionally, there is a linear association between technology skills and GJS ($F > 4$; $P < .005$). According to the R-value (0.457), the regression model showed a moderate outcome on the prediction of GJS. Likewise, 27% ($R^2 = 0.268$) of variance has been observed by indicators with the outcome. Conversely, $\text{adj. } R^2 = 0.245$ condensed 1.4% of difference. Moreover, the influences of technology skills on the variance of GJS is also significant ($\beta = 0.453$) which implies that improvement in the level of technology skills leads to enhance GJS. According to individual beta value, the highest contribution was made by the information security and assurance skills while the least was produced by assistive technologies skills. Hence the regression equation is $Y = a + b_1X + b_2X + b_3X + b_4X + b_5X + b_6X$ read as $Y = 2.758 + 0.211(\text{ICT}) + 0.281(\text{IAS}) + 0.179(\text{LCM}) + 0.182(\text{SCT}) + 0.173(\text{EIT}) + 0.121(\text{AT})$, where Y stands for GJS. Since results are significant, thus all hypotheses are supported.

Table 4- Overall Model Summary

Model	R	R ²	AdjR ²	F	F change	Sig, F change	Sig
1	.457	.268	.245	14.715	17.607	.000	.000

Table 5- Relationship of technology functional and professional skills with GJS

Constructs	Unstructured coefficients		Standardized coefficients	t	Sig.
	B	Std. Error	Beta		
Constants	2.758	.170	.000	16.683	.000
Info. & Com. technology skills	.141	.057	.211	2.454	.015
Info. Assur. & sec. skills	.173	.054	.281	4.227	.011
Lib. Cont. management skills	.084	.042	.179	2.814	.012
Soc. Med., coll. tech. skills	.117	.050	.182	2.320	.021
Enter. Info. technology skills	.136	.054	.173	3.141	.011
Assistive technology skills	.163	.053	.121	2.152	.025

a. Dependent variable: GJS

Paired sample T-test

To assess training needs in terms of technology skills, the significance of variance among the variables was examined. Results based on paired sample t-test were found significant as indicated in Tables 6 and 7 respectively. Since the difference between all constructs is significant, thus training needs analysis was performed. However, as indicated in Table 8 and Fig. 8 and 9, the results of TNA have three major portions namely surplus, deficit and job-best fit in term of high tech functional skills. In this study, training analysis was performed only for the deficit because surplus and job-best fit do not need training. Based on the average scores under each category of technology functional skills, the overall average was calculated as 76.3 per cent of the deficit, 19.1 per cent of surplus and 21.2 per cent of job-best fit. It shows that 76.3 per cent of the university librarians perceive their current level of technology functional skills less than the needed levels and therefore indicated the need for training.

Table 6- Paired Samples Statistics

Constructs	Mean	N	Standard Deviations	Standard Errors
ICT (current level)	3.363	227	0.931	0.059
ICT(needed level)	2.938	227	1.337	0.085
IAS (current level)	3.105	277	0.921	0.048
IAS (needed level)	2.911	277	0.311	0.081
LCM (current level)	3.211	277	0.942	0.034
LCM (needed level)	2.817	227	1.401	0.041
SCM (current level)	3.272	227	0.914	0.058
SCM (needed level)	2.998	227	1.301	0.083
EIT (current level)	3.177	227	0.813	0.042
EIT (needed level)	2.821	227	1.341	0.071
AT (current level)	3.188	227	0.837	0.032
AT (needed level)	2.931	227	1.361	0.086

Table 7- Findings of paired samples t-test between technology skills and GJS

variables	Differences				t	df	Sig.		
	M	SD	SDM	95% Confidence Interval of the Difference					
								L	U
ICT	.425	2.092	.133	.162 .688	3.182	227	.002		
IAS	.312	1.811	.143	.025 .531	2.411	227	.013		
LCM	.451	2.733	.125	.142 .631	2.619	227	.001		
SCM	.274	1.999	.127	.022 .525	2.146	227	.033		
EIT	.361	1.905	.152	.146 .504	3.241	227	.041		
AT	.241	1.842	.127	.022 .525	2.146	227	.021		

Table 8- Results of the difference in technology skills

Competencies	Indicators	Deficit		Surplus		Job-Fit best	
		f	%age	f	%age	f	%age
Technology Functional and Professional skills	ICT	102	44.9	110	48.4	15	6.7
	IAS	170	74.8	50	22.0	7	3.0
	LCM	156	68.7	49	21.5	22	9.6
	SCM	162	71.3	48	21.1	27	11.8
	EIT	224	98.6	3	1.3	0	0
	AT	226	99.5	1	0.4	0	0
	Total			76.3		19.1	

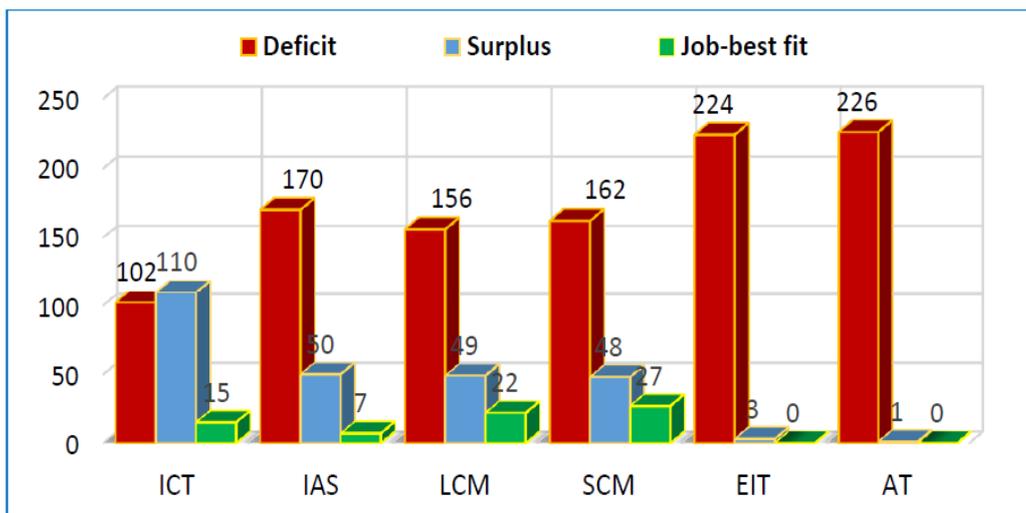


Fig. 8- Training needs analysis: deficit, surplus, and job-best fit

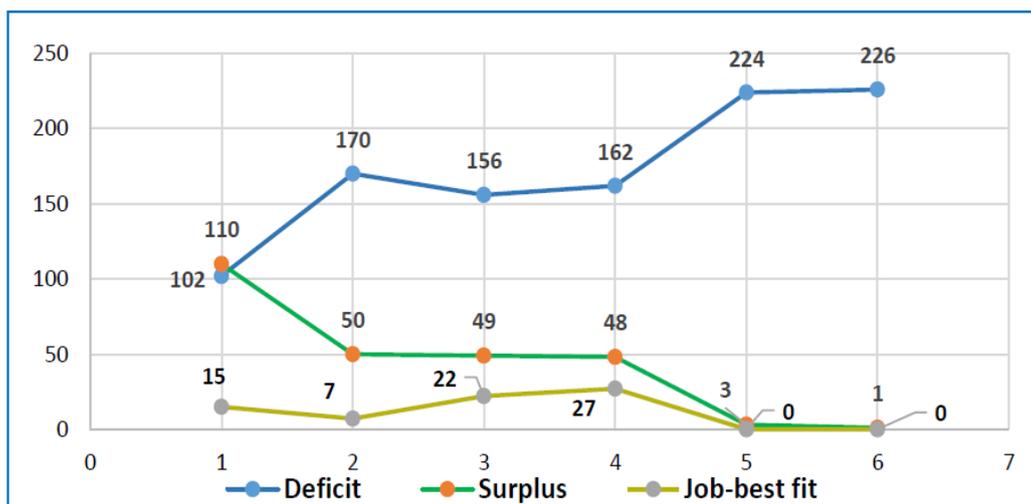


Fig. 9- Scatter plot of variations in the current and needed skills

Discussions

This study found a positive association of all indicators of the technology functional and professional skills with GJS. Further, results showed that the difference between the study constructs is significant. As a result, all hypothetical relationships (H₁-H₁₂) are supported.

Additionally, information assurance and security skills are established as the major indicator of GJS whereas library content management system skills were found as the minor ones.

The findings established several prior results, for example, Meyer (2006), Khan, Masrek and Nazdar (2015a), Khan, Masrek and Nazdar (2015b), Khan and Ullah (2015) and Safahieh and Asemi (2010) that established a significant association among the study constructs. Also, other studies have established a significant relationship between technology professional skills and GJS. For example, Attar and Sweis (2010) have also recognized a significant impact on technology skills on GJS. Conversely, this study could not establish the results reported by Danziger and Dunkle (2005) that described technology skills as non-predictor of GJS (Khan, Masrek and Nazdar, 2017).

Based on the findings of this study, it is inferred that an adequate level of technology functional and professional skills is essential for achieving GJS. For effective performance, librarians should acquire adequate levels of skills in the use of technologies. To attain GJS, librarians should an adequate level of technology skills that will also help them in managing professional challenges and in the adoption of information security policies and the best professional practices. The provision or acquisition of needed technology functional skills may enable librarians to comprehend library content management system, its implementation, professional use of social media, and digital information and knowledge products. In other words, librarians may infuse and diffuse social media, collaborative and mobile technologies for library effective functioning and facilitate them to diminish their dependence on traditional library management practices. This further demonstrates that technologically competent librarians can perform up to the entire satisfaction of their organization that further enhance their performance and level of job satisfaction. It is further inferred that the higher the level of current technology skills, the more will be GJS, performance will be effective, organizational image and library utilization will be higher.

After establishing that difference between the skills is significant, this study further performed TNA to explore the training need. Results showed that 76.3 per cent of the university librarians need training in different areas of technology skills. Thus, to manage mismatch or gaps in the level of current and needed skills, training programs on different indicators of technology skills are strongly suggested. Probably, skill deficits may be an indicator of job dissatisfaction in the context of Pakistani university librarians. Numerous researchers such as Khan and Masrek (2017) and Khan and Begum (2017) established that librarians in Pakistan are moderately happy with their level skills and have no or limited in-service training opportunities. Their study findings strongly suggested training programs to manage skills deficiencies. Likewise, to manage surplus under each indicator of technology functional skills, evaluation of job descriptions is suggested to augment job best-fits. To attain such goals, the top-down distribution of responsibilities will be a better option. It entails that allocate difficult jobs to the skilled librarians, while easy should be given to the one having low technology functional skills. In anticipation, findings of this study are significant to facilitate librarians to manage skills disparity, strengthen professional collaborations, stimulates workers toward espousal of innovative skills, cope with work anxieties, and manage organizational behaviours. Furthermore, the study suggests the provision of optimistic, contented, and dedicated librarians that ensure to achieve organizational goals.

Conclusion

This study found a significant relationship between technology skills and GJS in terms of Pakistani university librarians. However, their acquired status of technology skills is low. To ensure that librarians are satisfied workers and effective performer, their technology skills must be enhanced. Further, the provision of technology skills is essential to ensure professional existence and achievement of organizational goals. It is assumed that skilled and gratified librarians will be loyal and effective performers. The university authorities in Pakistan are recommended to organize training programs for librarians on technology skills to make them effective performer and augment their level of job satisfaction. Librarians and the university authorities are suggested to realize the importance of the acquisition of technology skills and its significant impacts on GJS.

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