FACTORIAL VALIDATION OF SATISFACTION WITH HEC DATABASES: EVIDENCE FROM A PAKISTANI UNIVERSITY

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Abstract

This study validates the effects of four predictors on teaching faculty satisfaction with digital databases at the University of Peshawar. Using a quantitative survey approach with randomly selected participants, data were collected via a validated questionnaire. Four hypotheses were tested through regression analysis using SPSS. All hypotheses were supported, demonstrating significant impacts of the predictors on faculty satisfaction. Among them, perceived usefulness emerged as the strongest determinant of satisfaction. This is the first empirical study examining these constructs within the University of Peshawar context, offering valuable insights for enhancing digital database services.

INTRODUCTION

In the contemporary landscape of higher education and scientific inquiry, the strategic utilization of digital research databases has become indispensable. Globally, academic institutions and research professionals acknowledge the critical role these online platforms play in facilitating seamless access to peer-reviewed literature, scholarly journals, empirical studies, and a wide range of academic content (Mubeen et al., 2021). The breadth and immediacy of these resources not only enhance research productivity but also contribute to fostering a culture of academic rigour and innovation. Digital research databases serve as centralized repositories that provide timely access to cutting-edge developments across diverse scientific domains (Ewald et al., 2022). This real-time connectivity to the global research ecosystem is pivotal for maintaining scholarly relevance and driving forward evidence-based inquiry. As Haleem et al. (2022) emphasize, streamlined access to electronic resources significantly reduces the time and logistical burden associated with traditional information retrieval methods, thereby enabling researchers to allocate more cognitive bandwidth to analytical and theoretical work. In Pakistan, the Higher Education Commission (HEC) has taken substantive measures to augment the research infrastructure by provisioning institutional access to a wide array of subscription-based academic databases (Hussain & Parveen, 2021). These include but are not limited to, JSTOR, ScienceDirect, SpringerLink, and other high-impact content providers (Rafique et al., 2023). The availability of comprehensive materials such as journal articles, e-books, theses, dissertations, and conference proceedings has markedly empowered faculty members and postgraduate researchers in their scholarly pursuits (Shahzadi & Khurram, 2022). The

HEC's initiative represents a systematic attempt to mitigate disparities in research resource accessibility across institutions and to support a more equitable academic landscape. Nevertheless, the functional utility of these digital platforms is contingent upon their usability. As noted by Butt et al. (2022), the effectiveness of a digital research environment is directly influenced by its design architecture and user-centric interface. Critical usability parameters include ease of access, navigational efficiency, interface intuitiveness, and overall user satisfaction (Iqbal et al., 2023). For optimal integration into academic workflows, these systems must align with the cognitive and technical expectations of advanced researchers and faculty (Sultan & Rafiq, 2021). Optimizing the usability of digital research databases is a pivotal component in leveraging their full potential to support high-level academic inquiry. Usability, in this context, transcends mere functionality and directly impacts the efficiency with which faculty and researchers can access, retrieve, and apply scholarly information (Rafique et al., 2023). When digital platforms are intuitively designed and seamlessly navigable, they minimize user frustration and time expenditure, thereby allowing researchers to concentrate on critical analysis and knowledge production rather than on the operational complexities of the system itself (Antonietti et al., 2022). A rigorous usability evaluation is thus essential to ensure that these platforms are aligned with the cognitive demands and workflow patterns of academic users. This involves a multidimensional assessment of system architecture, including interface clarity, search precision, responsiveness, availability of instructional and support resources, and overall user satisfaction (Ahmad et al., 2021; Sharif et al., 2021). Such an approach not only enhances user experience but also ensures that digital information infrastructures contribute meaningfully to the advancement of scholarly research and innovation.

By addressing any usability issues, universities can ensure that their faculty members can fully leverage these valuable resources, ultimately enhancing the quality and efficiency of academic research and contributing to the overall advancement of knowledge and scholarship. Research databases are systematically curated digital repositories that aggregate a broad spectrum of scholarly content, including peer-reviewed journal articles, scientific reports, conference proceedings, and other academically vetted publications (Hsieh et al., 2019). These platforms are meticulously organized to support precise and efficient information retrieval, thus serving as indispensable tools for the academic and scientific communities. By centralizing access to high-quality research outputs, such databases facilitate comprehensive literature reviews, support evidence-based inquiry, and promote the generation of new knowledge (Rigden & Fernández, 2020). The digitization and advancement of these systems have fundamentally redefined the landscape of academic research, enabling scholars to engage with vast corpora of information through sophisticated search algorithms and metadata indexing. Modern digital research databases are equipped with robust retrieval mechanisms that allow users to execute targeted searches with high specificity, significantly improving the speed and accuracy of information discovery (Ullah et al., 2022). This evolution has markedly enhanced research efficiency, allowing scientists to allocate more effort to analysis and innovation rather than to the mechanics of information access. They also have large archives that can be accessed from anywhere with an internet connection. This means researchers no longer need to be physically present in a library to find the materials they need. Instead, they can access a vast amount of information remotely, making research more convenient and efficient (Jiao et al., 2023). Despite the central role that digital research databases play in advancing high-calibre academic inquiry, there exists a conspicuous paucity of systematic studies assessing their usability within university environments (Chirra & Madhusudhan, 2009). Although the Higher Education Commission (HEC) of Pakistan has made substantial investments to provide institutional access to globally recognized digital repositories, empirical evidence indicates persistent inefficiencies and inconsistencies in their utilization among academic staff (Tahir, Mahmood, & Shafique, 2010; Khan & Qutab, 2016). These shortcomings highlight an underlying disconnect between resource availability and practical engagement at the faculty level. The current body of literature is predominantly characterized by macro-

level analyses that overlook user-specific interactions and experiences, particularly from the perspective of individual teaching faculty. This methodological gap limits our understanding of how these resources are integrated into the daily research practices of academic professionals. For example, while faculty members at the University of Peshawar are institutionally mandated to utilize digital databases in their scholarly work, the actual extent and effectiveness of their adoption remain inadequately documented and poorly understood. This calls for targeted, user-centric investigations to evaluate the operational relevance and user experience of digital research platforms within the academic research ecosystem. This study aims to address this ambiguity by meticulously examining the multifaceted factors influencing the satisfaction of digital research resources among the teaching faculty. By probing into these complexities, the research seeks not only to fill existing research gaps but also to make a substantive contribution to the academic discourse.

2.   LITERATURE REVIEW

Digital research databases serve as invaluable resources, offering a broad spectrum of scholarly materials that are essential for advancing both research and pedagogy (Adhikari et al., 2020). These platforms facilitate access to the latest developments in various academic disciplines, thereby significantly enhancing the quality and impact of scholarly endeavours (Birkle et al., 2020). Furthermore, the availability of such databases empowers faculty to design curriculum content that is both comprehensive and engaging, contributing to an enriched educational environment that fosters deeper student engagement and knowledge acquisition (Zhu & Liu, 2020).   As universities advance their digital transformation efforts, digital research databases have become vital tools for faculty development and scholarly productivity (Aydın & Yıldırım, 2022). Despite their significance, there is limited empirical insight into how teaching faculty engage with these resources in their academic routines. Specifically, research on the use and perception of the HEC databases remains scarce. By 2023, the HEC offered access to over 20,000 e-journals, 45,000 e-books, and numerous academic databases. In addition to expanding access, the HEC actively promotes open access and digital literacy among researchers and students. As the central platform for academic content in Pakistan, the HEC plays a key role in strengthening national research capacity (Butt et al., 2022). This extensive digital repository is a crucial resource for the research and educational needs of faculty, students, and researchers within higher education institutions throughout the country. By facilitating access to an abundance of scholarly content, the library ensures that the academic community remains informed about the latest advancements and trends in various fields (Warraich & Tahira, 2009). One of the standout features of the HEC Digital Library is its extensive collection of peer-reviewed journals and research papers, covering a broad spectrum of disciplines. This diverse range of content enables researchers and academics to access cutting-edge findings and theoretical advancements, which are essential for producing high-quality research. The HEC provides access to a wide range of scholarly databases and indexing services that facilitate advanced literature discovery and retrieval (Iqbal et al., 2017). This robust digital infrastructure enhances the research capabilities and academic performance of higher education institutions across Pakistan. It also supports faculty development by offering essential resources for curriculum enhancement and pedagogical innovation (Shahzad et al., 2019). By integrating contemporary research into instructional content, faculty enrich the learning experience and ensure academic relevance (Jan et al., 2020), encouraging interdisciplinary inquiry and innovation. Digital research platforms are now essential in academia, offering immediate access to peer-reviewed journals, conference literature, and academic monographs (Kearney et al., 2022). Such access enables faculty to engage with current knowledge, thereby increasing research productivity and scholarly impact (Adhikari et al., 2020). Ultimately, these tools contribute to a more informed, collaborative, and research-oriented academic environment (Abi-Rafeh & Azzi, 2020).

2.1   Framework and Hypotheses Development

As depicted in Figure 1, the conceptual framework underpinning this study comprises four core

constructs. These include four independent variables namely, information quality (IQ), computer self-efficacy (CS), perceived usefulness (PU), and perceived ease of use (PEOU) while teaching faculty satisfaction is identified as the dependent or outcome variable.

Figure 1: Framework of the study
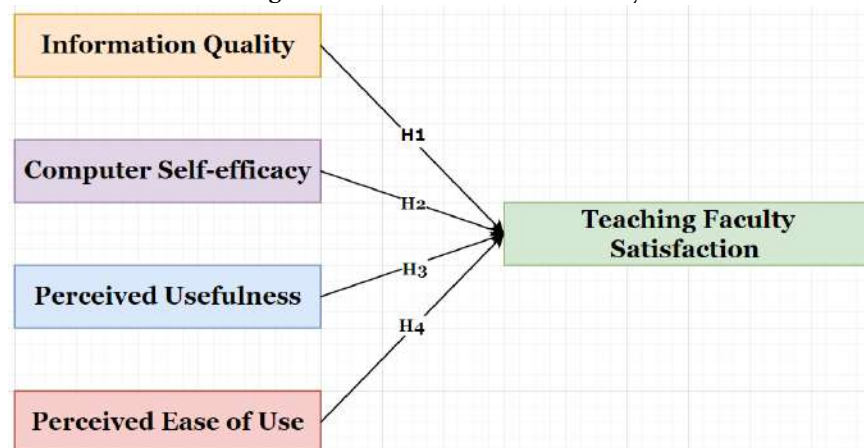
2.1.1 Users' Satisfaction

Users' satisfaction has emerged as a pivotal construct in evaluating the quality and effectiveness of services across various domains, including libraries, information systems, healthcare, and e-commerce. It is often defined as the extent to which users' expectations align with their actual experiences. In the context of library and information services, user satisfaction is influenced by several factors, such as service quality, accessibility, responsiveness, and the availability of resources (Koontz & Gubbin, 2010). Research indicates that higher levels of user satisfaction are closely associated with improved user retention, positive word-of-mouth, and enhanced organizational reputation (Parasuraman et al., 1988). In digital environments, system usability, information accuracy, and user support play crucial roles in determining satisfaction (Zhang & von Dran, 2000). Furthermore, the SERVQUAL model has been widely used to assess the gap between users' expectations and perceptions, highlighting dimensions (Zeithaml et al., 1990). In academic libraries, factors like ease of access to electronic resources, competence of library staff, and the overall user experience have a significant impact on satisfaction levels (Nitecki, 1996). As user needs change with technological advancements, continuous assessment of satisfaction is essential to ensure service alignment with changing expectations.

2.1.2 Information Quality (IQ) and Users' Satisfaction

IQ is one of the core determinants of system success, directly impacting user satisfaction and intention to use. They define information quality in terms of attributes such as accuracy, completeness, relevance, and timeliness. These dimensions have been validated across various domains of digital technology (DeLone & McLean, 2003). Lee et al. (2002) developed an instrument to measure information quality and emphasized that users' satisfaction with a system is significantly influenced by how well the information meets their needs. Their study found that higher perceived information quality increases trust and satisfaction in digital platforms. In the context of academic databases, Zhang and Dimitroff (2005) examined the effects of information quality on user satisfaction and found that the relevance and credibility of search results were the most influential factors. Users were more likely to reuse databases when the information retrieved met high standards of quality. Chen et al. (2014) investigated mobile health applications and reported that IQ influences satisfaction. They concluded that innovations in digital health technology are only successful if the content provided is accurate, useful, and up-to-date. Moreover, Park et al. (2011) explored user behaviour in digital libraries and found that perceived information quality was a primary driver of

satisfaction and continued use. The study suggested that maintaining high information quality is essential for user retention and technological adoption. Thus, the below hypothesis is formulated.

H_1: *Information quality of the DL predicts users' satisfaction*

2.1.3 Computer Self-Efficacy (CS) and Users' Satisfaction

CS has been extensively studied as a determinant of users' satisfaction with digital databases, technological innovations, and information systems. CSE is an individual belief in their ability to use computers effectively. It has a significant association with users' confidence, engagement, and satisfaction in the use of digital tools. Compeau and Higgins (1995) demonstrated that higher CSE has a positive impact on the adoption of technology and satisfaction. Venkatesh and Davis (2000) confirmed that CSE significantly impacts users' satisfaction. Liaw (2008) found that students' satisfaction with e-learning systems was strongly related to their levels of CSE. Durndell and Haag (2002) examined gender differences in CSE and internet use among university students and found a strong correlation between CSE and satisfaction with web-based learning environments. Torkzadeh and Van Dyke (2002) affirmed that CSE leads to increased user satisfaction and system utilization. Their study supported the inclusion of CSE as a critical factor in evaluating the success of technological innovations. Further, McCoy et al. (2007) tested a model incorporating CS concerning enterprise system success and found that CS significantly affects satisfaction, reinforcing its importance in modern digital environments. Thus, the below hypothesis is formulated:

H_2: *Computer self-efficacy predicts users' satisfaction*

2.1.4 Perceived Usefulness (PU) and Users' Satisfaction

Davis (1989), identified perceived usefulness as a direct determinant of both system use and users' satisfaction. He validated that users are more satisfied with systems they perceive useful. DeLone and McLean (2003) posited that perceived usefulness influences users' satisfaction and intention to use,

both of which are critical for system success. Seddon (1997) that perceived usefulness plays a mediating role between system quality and users' satisfaction. Roca et al. (2006) concluded that users who found e-learning systems useful reported higher satisfaction and were more likely to continue using the platforms. Wixom and Todd (2005) discovered that PU had a significant direct impact on users' satisfaction. Their results showed that even if a system is complex, users tolerate it if it is perceived as useful. Hung et al. (2003) found that perceived usefulness strongly influenced both users' satisfaction and behavioural intentions. Bhattacherjee (2001) emphasized that PU not only affects initial acceptance but also influences users' satisfaction during the continued use of information systems. This has implications for long-term technology engagement and retention. Thus, the below hypothesis is formulated:

H_3: *Perceived usefulness predicts users' satisfaction*

2.1.5 Perceived Ease of Use (PEOU) and User Satisfaction

Davis (1989) established that systems perceived as easy to use lead to higher satisfaction and greater adoption. Venkatesh and Davis (2000) further confirmed that PEOU significantly shapes users' satisfaction. Wixom and Todd (2005) found that ease of use directly influences satisfaction in data-intensive systems. Roca et al. (2006) emphasized that PEOU is a strong predictor of users' satisfaction. Similarly, Lee (2006) found that ease of navigation and system clarity enhanced satisfaction with online learning tools. In mobile environments, Liu and Li (2010) demonstrated that PEOU contributes positively to satisfaction by reducing cognitive effort and enhancing user experience. Sun and Zhang (2006) stated that PEOU is important for novice users because that increases confidence and satisfaction levels. Thus, the below hypothesis is formulated.

H_4: *Perceived ease of use predicts users' satisfaction*

3. METHODOLOGY

Using a quantitative approach, a survey method was adopted. Out of the total population of 496 teaching faculty, a sample size of 217 teachers was selected. A total of 230 questionnaires were randomly distributed both electronically and in person to the teaching

faculty at the University of Peshawar. Of these, 180 valid responses were received, yielding a response rate of 78%. Data were analyzed using SPSS, and all returned questionnaires were completed upon verification.

4. RESULTS AND DISCUSSIONS

To validate the integrity of the dataset and ascertain its appropriateness for inferential statistical procedures, a series of data screening and preparation techniques were applied. These included meticulous checks for potential questionnaire-related inconsistencies and the use of frequency analysis to detect anomalies. Assessment of data normality was conducted through both descriptive and exploratory statistical approaches. Although certain statistical techniques do not strictly require normally distributed data, compliance with normality assumptions generally enhances the robustness and generalizability of analytical outcomes (Tabachnick & Fidell, 2013). In this context, both visual and statistical diagnostic methods were employed to examine the distributional characteristics of the data. Following established guidelines (Tabachnick & Fidell, 2013), normality was evaluated through

metrics such as skewness and kurtosis. These indicators provide insights into the symmetry and peakedness of the distribution, respectively. As per the recommendations by Awang (2012), acceptable skewness values range from –3.0 to +3.0, with values between –1.0 and +1.0 considered optimal for parametric analyses. The empirical results in this study fell within these thresholds, thereby supporting the assumption of univariate normality required for subsequent parametric statistical modelling. To evaluate the distributional characteristics of the dataset comprising 217 observations, the Kolmogorov–Smirnov (K–S) test for normality was employed. As shown in Table 1, the outcomes of this test are reported in the subsequent section. Complementing the statistical assessment, graphical diagnostics were performed using Normal Q-Q plots to visually inspect deviations from normality. As presented in Figure 2, the Q-Q plots corresponding to the four independent constructs revealed data points that largely adhered to the diagonal reference line, with no substantial clustering or outliers. This visual conformity strongly supports the assumption of univariate normality across the examined variables.

Table 1: Results of Kolmogorov-Smirnov test

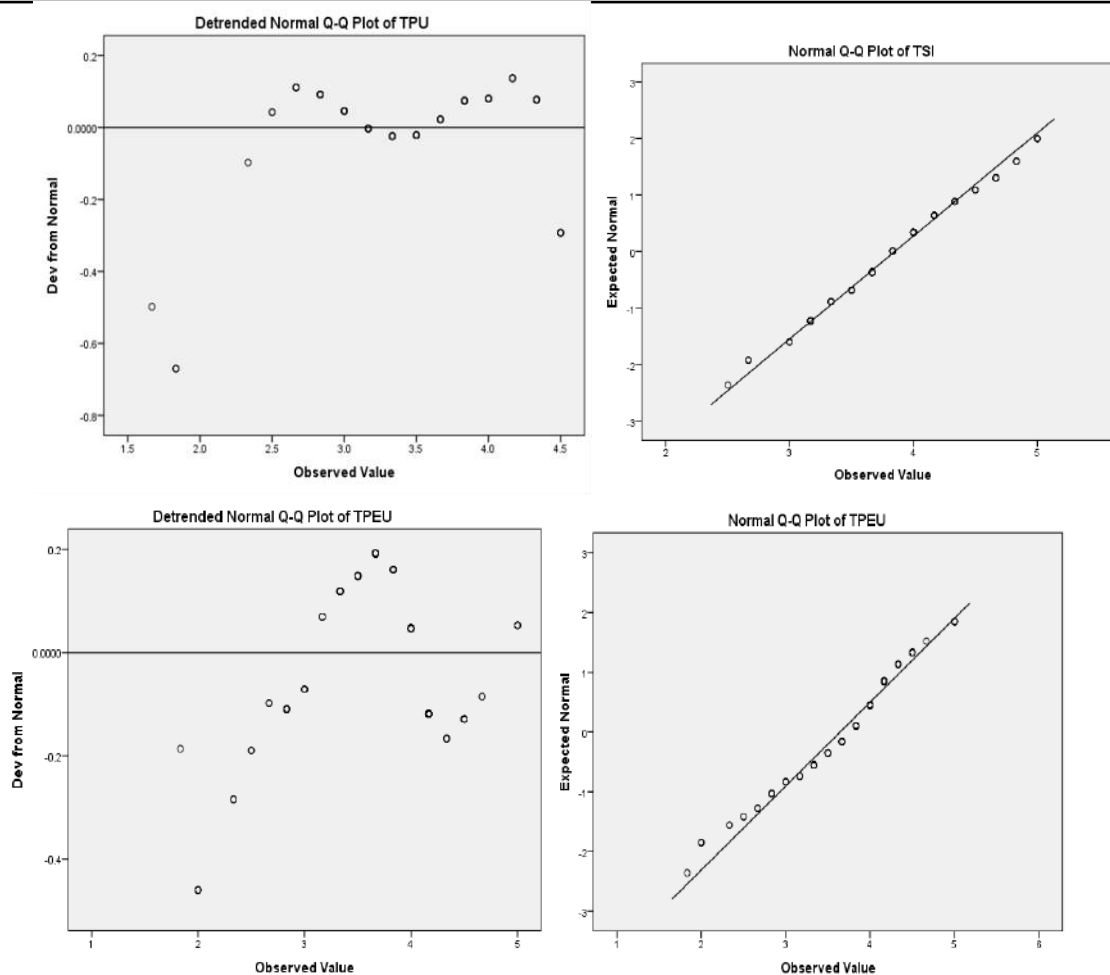| Constructs	Kolmogorov			Smirnov		
	Stat.	Df.	Sig.	Stat	Df.	Sig.
PU	.019	132	.000*	.554	124	.024
PEOU	.129	132	.010	.641	124	.032
IQ	.145	132	.001	.363	124	.043
CS	.131	132	.000	.531	124	.231

Figure 2: Normality graphs

To determine the internal consistency of each latent construct within the measurement model, Cronbach's alpha was employed as the reliability estimator. The computed alpha coefficients for all dimensions are reported in Table 2. Consistent with the psychometric standards proposed by Nunnally (1978), a Cronbach's alpha value equal to or exceeding 0.70 is considered acceptable for ensuring adequate reliability in the context of behavioural and social sciences. The reported values affirm the robustness and coherence of the measurement scale utilized in this study. Further, to assess the statistical association between paired variables and to determine the extent and directionality of their interrelationships, Pearson's product-moment correlation analysis was conducted. As delineated in Table 3, the findings indicate that the strongest statistically significant correlation emerged between perceived usefulness and user satisfaction ($r = 0.647$), signifying a substantial positive linear association. In contrast, the correlation between information quality and user satisfaction was markedly weaker ($r = 0.087$), implying negligible association. These differential correlation magnitudes emphasize the importance of discerning the relative influence of individual predictors, thereby offering nuanced insights into the underlying dynamics that shape user satisfaction.

Table 2: Cronbach's Alpha Estimates for Construct Reliability

#	Constructs	α values

1	PU	.811
2	PEOU	.722
3	IQ	.854
4	CS	.725
5	US	.816
Composite α value		.785

Table 3: Results of Correlation

No.	Predictors	I	II	III	IV	V
I	PU	1				
II	PEOU	.567**	1			
III	IQ	.252	.176*	1		
IV	SE	.457**	.635**	.366	1	
V	US	.647**	.645**	.087	.340**	

As demonstrated in Table 4, out of 180 librarians, 73.8% are male and 37.2% female. Likewise, the majority (73.8%) specified having a PhD degree followed by an MPhil/MS (26%). Out of the four categories of job titles, the highest number of respondents is Associate Professor (35%).

Table 4: Demographic Profile

Constructs	Category	ƒ	%age
Gender	Male	113	73.8
	Female	67	37.2
Academic Qualification	Master	0	0
	MPhil/MS	47	26
	PhD	133	73.8
Type of Library	Lecturer	29	16
	Assistant Professor	51	28.3
	Associate Professor	64	35.5
	Professor	36	20

The regression analysis was undertaken to model the predictive relationships among key independent variables and the outcome variable- user satisfaction. The analysis adhered to four essential assumptions commonly required for linear regression: adequacy of sample size, absence of multicollinearity, detection of multivariate outliers, and assessment of normality. All diagnostic evaluations were conducted using SPSS software. The sample size of 217 respondents was consistent with established thresholds for multivariate analyses. Multicollinearity diagnostics revealed variance inflation factor (VIF) values ranging between 1 and 5, with all tolerance levels exceeding the minimum criterion of 0.10. Additionally, the condition index remained within the acceptable bounds of 6 to 10, collectively indicating the absence of multicollinearity and affirming the suitability of the data for regression modelling. Regression outcomes, summarized in Table 5, assessed the influence of four independent variables that is PU, IQ, CS, and PEOU on teaching faculty satisfaction with HEC databases. The analysis identified PU as a significant factor of

user satisfaction (F (1, 140.376) = 13.53, p = .022), confirming H_1. The standardized coefficient (R = 0.629) indicated a strong positive relationship, while the adjusted R^2 value of .635 suggested that 63.5% of the variance in user satisfaction was attributable to perceived usefulness. These results supported Khodadadi et al. (2013), which also demonstrated the critical role of perceived usefulness in shaping user satisfaction. Although a marginal reduction in variance explained was observed (0.4% between R^2 and adjusted R^2), this does not diminish the strength or significance of the model. Similarly, PEOU exhibited a significant association with teaching faculty satisfaction, reinforcing prior empirical evidence linking usability perceptions to favourable user experiences. In contrast, the effect of information quality on user satisfaction was negligible. The correlation coefficient (R = .029) and the adjusted R^2

value of 0.022 indicate that information quality accounted for less than .02% of the variance in user satisfaction. While the relationship was statistically identifiable, its practical impact was minimal. This aligns with prior research by Cook (2008) and Appelbaum et al. (2013), who reported similar findings regarding the limited effect of information quality on overall user satisfaction. Computer self-efficacy emerged as a moderately influential predictor, with R = 0.344 and adjusted R^2 = 0.448, indicating that 44.8% of the variation in satisfaction levels could be explained by the digital competencies of faculty members. These findings are congruent with those reported by Attar and Sweis (2010), highlighting the pivotal role of users' technological self-confidence in shaping their engagement with digital academic platforms.

Table 5: Regression Analysis

Category	PU	PEOU	IQ	SE
R	.629	.522	.029	.344
R^2	.624	.531	.032	.039
Adj.R^2	.635	.525	.022	.448
Sig.	.022	0.00	0.03	0.020
B	.724	.425	.247	.454
Std. Error	.214	.156	.636	.244
β	.641	.529	.364	.465
T	12.124	7.541	1.355	3.754
Sig.	0.222	0.325	0.335	0.555
F	140.376	60.331	1.442	15.411
C. Index	12.354	10.154	13.343	11.274
Tolerance	1.2431	1.2431	1.2431	1.2431
VIF	1.211	1.211	1.211	1.211
Decision	H_1 approved	H_2 approved	H_3 approved	H_4 approved

Moreover, stepwise multiple regression analysis is executed to know the dominant and least effective determinants of the outcome by systematically incorporating variables based on their statistical contribution to the model. The analytical outcomes, detailed in Tables 6, 7, and 8, demonstrated that perceived usefulness independently accounts for

approximately 79% of the observed variance in user satisfaction. Furthermore, when PEOU is introduced alongside PU, the model explains approximately 65% of the total variance. These findings underscore the critical influence of both constructs particularly the dominant role of perceived usefulness in determining satisfaction with databases.

Table 6: Model Summary

Model	R	R^2	Adj. R^2	Std. Err Est
1	.782[a]	.559	.537	.34568
2	.653[b]	.593	.549	.35617

Table 7: ANOVA[a]

Model	Sum of Squares	Df.	Mean Square	F	Sig.
Regression	32.564	1	443793	138.62	.020[b]
Residual	20.534	102	.196		
Total	44.752	135			
Regression	26.462	2	11.544	45.226	.000[c]
Residual	18.731	135	.342		
Total	45.278	167			

Table 8: Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
	B	SE	Beta			Tolerance	VIF
(Constant)	1.544	.544		6.311	.011		
PU	.641	.420	.673	12.32	.022		1.000
(Constant)	1.267	.254		5.371	.041		
PU	.655	.291	.753	7.435	.032		2.430
PEOU	.376	.347	.633	2.204	.021	.542	2.437
a. Outcome: Users' Satisfaction							

The results of the simple regression analyses demonstrated statistically significant associations among the core constructs under investigation, thereby validating the hypothesized relationships. A central finding of this study is the substantial role played by **information quality** in determining **user satisfaction**. The empirical evidence suggests that the accuracy, relevance, completeness, and timeliness of information provided through digital databases significantly influence faculty members' overall satisfaction. Among academic staff at the University of Peshawar, high-quality information emerged as a principal factor contributing to positive user perceptions and enhanced research engagement. This highlights the critical need to prioritize the curation and provision of high-standard informational resources within academic digital infrastructures. In addition, **computer self-efficacy** defined as users' confidence in their ability to operate digital technologies effectively was found to be a significant predictor of satisfaction with databases. The data underscore the premise that users possessing higher levels of digital proficiency are more adept at navigating complex research databases, thereby experiencing greater utility and satisfaction. These findings align with the broader literature asserting that digital competency is instrumental in fostering the effective use of electronic information systems in academic contexts. The construct of **perceived usefulness** was also shown to exert a strong and statistically significant effect on user satisfaction. When faculty members perceive a database as instrumental to their research productivity and academic objectives, their overall satisfaction increases considerably. This aligns with technology acceptance theories, which posit that perceived utility is a critical determinant of system usage and satisfaction. In this case, faculty members appreciated the databases'

contributions to task efficiency, relevance of content, and support for scholarly output. Similarly, **perceived ease of use** was identified as a salient factor influencing satisfaction. The findings demonstrate that databases characterized by intuitive navigation, minimal learning curves, and user-friendly interfaces tend to elicit higher satisfaction ratings. Academic users expressed a strong preference for systems that streamline the information retrieval process and minimize technical barriers. These usability considerations are essential for fostering sustained engagement with digital resources and ensuring broad adoption across varying levels of technological proficiency. The broader implications of these findings are twofold. First, the validated research framework has demonstrated theoretical robustness and may be adapted for replication in different institutional settings to evaluate its generalizability. Second, the study provides actionable insights for academic policymakers and library administrators in Pakistan. Strategic investment in enhancing the quality, usability, and perceived utility of HEC Digital Library resources could significantly augment the research capabilities of higher education institutions. As academic libraries evolve into central research support units, their capacity to provide high-quality, user-centred digital services will be critical in elevating institutional research performance. From a methodological perspective, this study employed a context-sensitive and empirically grounded quantitative design. A structured questionnaire was specifically developed to assess faculty members' interactions with digital databases at the University of Peshawar. The application of rigorous statistical methods ensured the robustness of the findings and supported the replicability of the study in other academic environments.

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